



Rialtas na hÉireann
Government of Ireland

Draft River Basin Management Plan for Ireland

2022 - 2027

Prepared by the Department of Housing, Local Government and Heritage
www.gov.ie/housing

The Right Measure, in the Right Place

Supported by



An increased level of ambition



Integrated Catchment Management



Multiple benefits for our water, biodiversity and climate



Collaboration between stakeholder and clear roles for implementation

Total Number of Water Bodies: 4,842

Status of our Waters

(% in Good Status or Better)



Rivers



Lakes



Canals



Coastal & Transitional Waters



Groundwater

People, nature, and our economy all rely on clean rivers and lakes, groundwater and coastal waters.

Characterisation of water bodies



1,603

'At Risk' - Restoration measures required to ensure they achieve WFD objectives



1,256

Currently in 'Review' and require ongoing protection and further assessment



1,983

'Not at Risk' - require measures to protect from deteriorating

Changes in the Significant Pressures Impacting our Waters

(Total number of water bodies impacted in brackets)



- ⬆️ Agricultural pressures has increased by 223 (1,000)
- ⬆️ Hydromorphological pressures (physical alterations) has increased by 100 (442)
- ⬆️ Pressures from Forestry have decreased by 5 (233)
- ⬆️ Pressures from Urban Waste Water have decreased by 83 (208)
- ⬆️ Urban Surface Water Run-off pressures have increased by 60 (196)
- ⬆️ Pressures from Peat and Industry have decreased by 20 (195)
- ⬆️ Pressures from Domestic Waste Water Treatment Systems have increased by 23 (188)

Key Measures required to



- ✅ Reduce the loss of fertilisers and soil from farmland into water
- ✅ Reduce the physical impacts on water bodies – caused by the drainage of lands and rivers and the presence of barriers (weirs, dams, etc.)
- ✅ Ensure continued investment in urban and rural water services
- ✅ Protect water bodies from future deterioration

Foreword

Ireland has made substantial progress in how we manage our water services and how we work together to protect and improve water quality. We have seen some areas and aspects of water quality improve. Nevertheless, Ireland's waters are now subject to mounting environmental pressures. After years of steady improvement, overall water quality is again in decline. This is primarily due to nutrient pollution. The EPA has set this out, in stark terms, in the most recent Ireland's Environment Report. The situation is urgent and requires our collective action to halt and reverse the deterioration. These environmental pressures are putting Ireland's clean and green image at risk – as well as the livelihoods that depend directly on this image.

We need to collaborate and work well together

We can meet the challenge of protecting and improving our water quality. However, this will be a difficult task and we cannot continue a 'business-as-usual' approach. We must have a sincere collective effort as the causes and the answers to protecting and restoring our water catchments are not within the grasp of a few individual groups. Everyone needs healthy and well protected water catchments. This will drive a sense of collaboration and coordination to the benefit of everyone.

In response – a strengthened River Basin Management Plan

The Programme for Government committed to producing a new, stronger River Basin Management Plan in 2022. This draft text will continue the collaborative dialog towards producing the new Plan. Over the next six months of consultation, there will be opportunities at all levels: local, regional and national to hear and to contribute towards a new and strengthened programme of measures for water quality. The draft measures are based on three principles that emerged during our review of the second cycle:

An increased level of ambition: the third cycle plan will need a high level of ambition in response to water quality trends. **Integrated Catchment Planning:** local catchment management plans, which will be sub-plans to the national Plan, will be put in place in the next cycle for each of the 46 catchments. Building over time into fully integrated catchment management plans, these will eventually provide a

continuing opportunity for greater public participation and engagement of key stakeholders and sectors at a local and regional level in the ongoing management of catchments and water bodies. **Multiple benefits:** Many of the measures needed to protect and improve water quality can also deliver benefits for biodiversity and climate change.

With the publication of this draft plan our Department will now engage closely with all stakeholders over the coming months and throughout the consultation period. We look forward to engaging in that process and to hearing the views of all those interested in protecting and enhancing our treasured natural water heritage.



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Appendix 1 – Correlation table with Directive text, including Annex VII.

Appendix 2 – Full list of Proposed Measures.

Appendix 3 – List of Proposed Areas for Action.

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- Inland Fisheries Ireland
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- Commission for Regulation of Utilities
- Office of Public Works
- Electricity Supply Board
- Waterways Ireland
- Bord na Móna
- Coillte
- Teagasc
- Health Products Regulatory Authority
- Dairy Sustainability Ireland
- Irish National Accreditation Board
- National Standards Authority of Ireland
- National Federation of Group Water Schemes
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Thanks to all.

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Introduction

This draft River Basin Management Plan sets out the measures that are necessary to protect and restore water quality in Ireland. The overall aim of the plan is to ensure that our natural waters are sustainably managed and that freshwater resources are protected so as to maintain and improve Ireland's water environment.

1.1 The Importance of Water

Water is the foundation of sustainable rural and urban life, the core of a thriving society. Well managed and protected water catchments provide vital public goods: reliable, clean water to drink; sanitation; protection against flooding; support for biodiverse ecosystems and climate mitigation. However, water is a fragile resource that needs to be protected. Water protection is multifaceted and so needs a holistic management approach. This draft plan sets out how Ireland will manage its water resources and catchments between 2022 and 2027.

After many years of steady improvement, Ireland is now experiencing a sustained decline in water quality. Stronger measures are now required in response. In addition to improving overall water quality, sustainable water management is important to addressing and adapting to the impacts of climate change, with many of the required measures having co-benefits for climate mitigation and biodiversity. Protecting and restoring water quality in Ireland will most of all need measures to address the loss of agricultural nutrients to water, continue to improve waste water treatment and to re-establish natural free-flowing conditions in more rivers. Ireland's water resources and services face challenges on a number of fronts including a continued need for investment in infrastructure and an ever increasing demand for water services due to urbanisation, population and economic growth all set against a backdrop of widespread, rapid, and intensifying climate change.

Ireland has abundant natural water resources in rivers, lakes and groundwater. These water resources have an inherent and indisputable value themselves, but also provide very significant ecosystem services to our lives and businesses. Clean, abundant and well-protected water is important for the continuing success of Ireland's society and economy. Ireland's drinking water relies primarily on rivers and lakes which must be protected from pesticides, excess nitrogen and from discharges of pollutants of concern (including micro-pollutants). Groundwater must be protected from chemical pollution and especially from excess nitrates. Our food industry trades on Ireland's image as a clean and green source of sustainable food production. Ireland's tourism industry relies on our image as a green island with well stocked, healthy fisheries; with unpolluted estuaries without green algae; and with clean beaches next to good quality bathing waters. Each of these requires our water catchments to be well protected.

Policy landscape

Stronger measures are now needed to deliver genuine sustainability. The European Union's European Green Deal is a comprehensive response to similar challenges at the EU level. As a result of the Green Deal, the EU Commission is reviewing water legislation including directives on urban waste water; bathing water; environmental quality standards for water; industrial emissions, and sewage sludge. The 2020 Programme for Government contains a significantly more ambitious programme for the environment. Under the 'Green New Deal' Mission a comprehensive range of actions is outlined including for; water, natural heritage and biodiversity, climate and environmental emissions. The need for an integrated approach to these issues is recognised, including the potential to deliver integrated measures, which benefit all environmental objectives.

United Nations Sustainable Development Goal 6

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet. At its heart are the 17 integrated Sustainable Development Goals (SDGs). SDG 6 is to '*ensure availability and sustainable management of water and sanitation for all*'. To achieve this goal, the UN has set the following targets by 2030;

- Achieve universal and equitable access to safe and affordable drinking water for all
- Achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated waste water and substantially increasing recycling and safe reuse globally
- Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity
- Implement integrated water resources management at all levels, including through transboundary cooperation as appropriate
- Protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

The UN has also included targets to expand international cooperation and capacity-building

support to developing countries in water as well as to support and strengthen the participation of local communities in improving water and sanitation management.

These goals have been integrated into the measures and the governance arrangements for the proposed River Basin Management Plan.

Working together

Meeting the challenge of protecting and improving Ireland's water quality will continue to be a complex undertaking. There is also a significant challenge in cross-sectoral coordination and to exploit potential co-benefits for climate change and for biodiversity. To meet the challenge, there must be a sincere collective effort as well as the time and space given over to collaborative activities. Everyone needs healthy and well protected water catchments and this will encourage collaboration and coordination. Building on the work of the second-cycle river basin management plan, this draft plan will again describe the main pressures and activities affecting water status and set out the environmental objectives to be achieved up to 2027 and identify the measures needed to achieve these objectives. Implementing these policies and measures will require ongoing collaborative participation of stakeholders at national, regional, sectoral and community levels.

1.2 What is the Water Framework Directive?

The Water Framework Directive ('the Directive') was adopted by member states across Europe in 2000. It requires, in summary terms, that all waters (rivers, lakes, groundwater, estuaries, coastal water, canals and reservoirs) are protected and that measures are put in place to ensure quality of these waters is restored to at least 'good' status or good potential (with some narrow exceptions) by 2027 at the latest. The Directive governs all activities that may have an impact on this objective or on the quality or quantity of water.

The Directive 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.

The River Basin Management Plan sets out the measures necessary to protect and improve the quality of our waters (See Appendix 1 for elements to be covered in river basin management plans as per Annex VIII of the Directive). These plans are prepared in 6-year cycles, during which a programme of measures must be implemented so as to achieve water quality objectives. Good water quality contributes to protecting human health by improving the quality of drinking water sources and bathing waters.

The Directive is linked to, and reinforces, other EU environmental directives including 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 also forms an integral part of the Directive and is one of the key instruments in the protection of waters against agricultural pressures.

Figure 1: WFD interaction with other EU legislation



Integrated Catchment Management

A water catchment (or 'river basin') is an entire area of land from which surface water run-off flows until it reaches a river, lake, groundwater or the coast. There are various catchment types and sizes. In Ireland the development and implementation of the River Basin Management Plan is achieved through an Integrated Catchment Management approach and uses the catchment, sub-catchments and water bodies as the functional areas and units of the plan.

Using catchment, sub-catchments and water bodies to examine the pressures on our water resources at an appropriate scale allows us to effectively manage our waters. It is also used as a means to bring together all public bodies, communities and businesses that have a connection with these catchments. The process involves;

1. Gathering the best available information to understand the catchment - where the water comes from, how it flows through the landscape and the activities that may be causing pollution.
2. Looking at all the uses of water - drinking, agricultural, industrial and recreational, and also the ecosystems that depend on water to survive.
3. Engaging local communities and involving them in the management of their catchment.
4. Adopting appropriate measures to ensure that activities that represent a significant threat to water resources are effectively managed.
5. Applying the scientific and local knowledge of how the catchment operates to protect and improve water, providing a healthy, resilient, productive and valued resource that supports vibrant communities.

1.3 Have your say: the river basins management plan process and public consultation

Planning Cycles

Ireland prepares a River Basin Management Plan every six years which sets targets to address water quality issues including the protection, improvement and sustainable management of the water environment. Launched in 2009, Ireland's first plans covered the period from 2009-2014. The second cycle plan was due for publication in 2016. However, due to reforms of the water sector at the time, publication of the second plan was significantly delayed. Published in 2018, the second plan covers the period 2018-2021.

The Significant Water Management Issues consultation was published in December 2019. The third cycle RBMP will be published in 2022 and will cover the period from 2022 to 2027. The Plan aims to build on the progress made during the previous cycles to ensure the long-term delivery of water quality improvement. The third plan and further cycles every six years will involve the ongoing protection of water bodies.

Opportunities for Public Participation

Public participation is an integral part of the River Basin Management Planning process. This is an opportunity for anyone to comment on, and influence the outcome of the planning process. Public consultation is an important part of the successful implementation of the Water Framework Directive. In accordance with the requirements of the Directive the Department is engaging in public consultation at three critical stages in the river basin management process as follows:

1. Outlining the draft timetable and consultation arrangements for development of the RBMPs,
2. Identification of the significant water management issues to be addressed, and
3. Publication of draft river basin management plans.

For the third cycle plan, public consultation started in December 2018 when the draft timetable and work programme was published for a six month consultation period. The work programme set out the main steps and milestones in the three year process of preparing the RBMP.

Since 2018, public participation and stakeholder engagement have been among the core drivers in preparing this plan, and have shaped the priorities for the forthcoming cycle. During 2020 the Department concluded the second phase of consultation on the significant water management issues in Ireland. An analysis of the responses received has now been published along with this draft plan and can be found under the consultation website at www.gov.ie/draftRBMP.

Both the feedback received from the consultation process and extensive engagement with stakeholders has directly shaped the new and revised policies which are outlined in this draft plan. Learning from the experiences of the first and second cycles of river basin management planning resulted in detailed consideration of the work to date to ensure better on-the-ground delivery of measures. Improved governance and implementation structures will drive co-ordinated delivery and give people and representative groups a voice and influence on policy development and delivery.

This draft RBMP is subject to public consultation up until **31 March 2022** and the responses received will feed into the preparation of the final plan which is due for publication in 2022. Further details in relation to the department's approach to preparing the third-cycle plan is outlined in Table 1 below.

Table 1. River Basin Management Plan Preparation

 Stage	 Timeline	 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	“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	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	September 2021 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	April 2022	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	Q4 2022	“Final Plan to address issues.” This plan will be used as a framework to direct planning and specific measures to meet our WFD objectives.

2

Ireland's River Basin

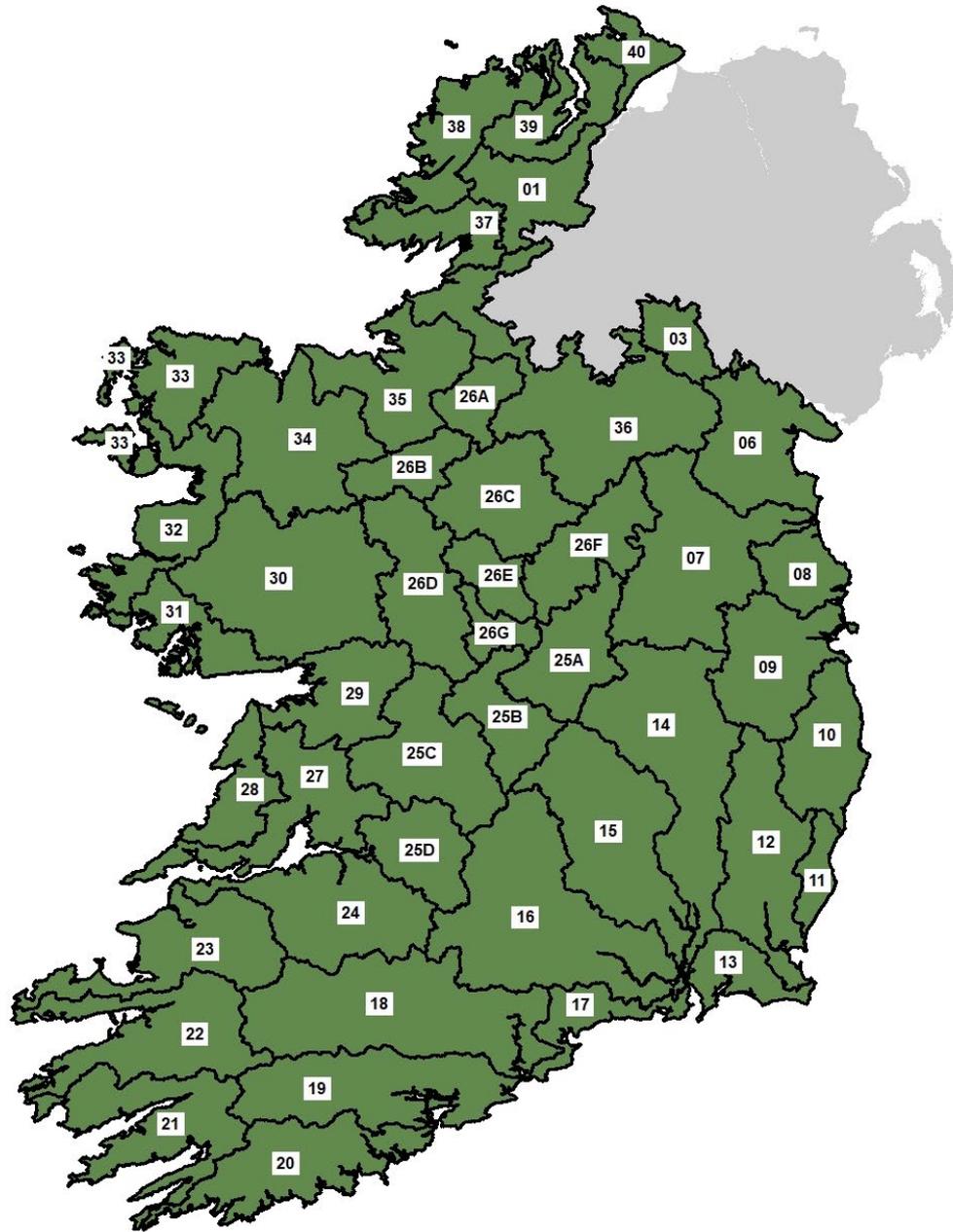


2.1 Introduction to Ireland's River Basin

Ireland's river basin management planning process is based on a single national River Basin District. This covers an area of 70,273 km² and is broken down into 46 catchment management units. The 46 catchment management units have been broken down further into 583 sub-catchments. These 583 sub-catchments contain a total of 4,842 waterbodies, ranging from 3 to 15 waterbodies in each sub-catchment.

What is a "water body" – a water body is an individual unit of a water feature used for monitoring and planning purposes. For example in groundwater this is part of an aquifer. For surface water, this is a discrete and significant element of surface water, such as part of a stream, river or canal, a transitional water or a stretch of coastal water. There are various types including a body of surface water, a body of groundwater and artificial water bodies. Finally, there is a particular type of water body called '*heavily modified water body*' which is a surface water which has been significantly altered by human activity and so must be considered in a different way to an 'unmodified' water body.

Figure 2 – Ireland’s Catchment Management Units



Catchment No.	Catchment Name	Catchment No.	Catchment Name	Catchment No.	Catchment Name
01	Foyle	20	Bandon-Ilen	26G	Upper Shannon
03	Lough Neagh & Lower Bann	21	Dunmanus-Bantry-Kenmare	27	Shannon Estuary North
06	Newry, Fane, Glyde and Dee	22	Laune-Maine-Dingle Bay	28	Mal Bay
07	Boyne	23	Trálee Bay-Feale	29	Galway Bay South East
08	Nanny-Delvin	24	Shannon Estuary South	30	Corrib
09	Liffey and Dublin Bay	25A	Lower Shannon	31	Galway Bay North
10	Ovoca-Vartry	25B	Lower Shannon	32	Erriff-Clew Bay
11	Owenvorragh	25C	Lower Shannon	33	Blacksod-Broadhaven
12	Slaney & Wexford Harbour	25D	Lower Shannon	34	Moy & Killala Bay
13	Ballyteigue-Bannow	26A	Upper Shannon	35	Sligo Bay & Drowse
14	Barrow	26B	Upper Shannon	36	Erne
15	Nore	26C	Upper Shannon	37	Donegal Bay North
16	Suir	26D	Upper Shannon	38	Gweebarra-Sheephaven
17	Colligan-Mahon	26E	Upper Shannon	39	Lough Swilly
18	Blackwater (Munster)	26F	Upper Shannon	40	Donagh-Moville
19	Lee, Cork Harbour and Youghal Bay				



0 15 30 60 Km

Data Source: EPA /OSi
Date: 20/05/2021

 Catchment Boundaries

These 4,842 waterbodies are made up of six waterbody types, as shown in Table 2 and Figure 2. Rivers account for 66% of all waterbodies, followed by lakes (17%), groundwater (11%), transitional waterbodies (4%), coastal waterbodies (2%) and canals (>1%).

Catchments data website

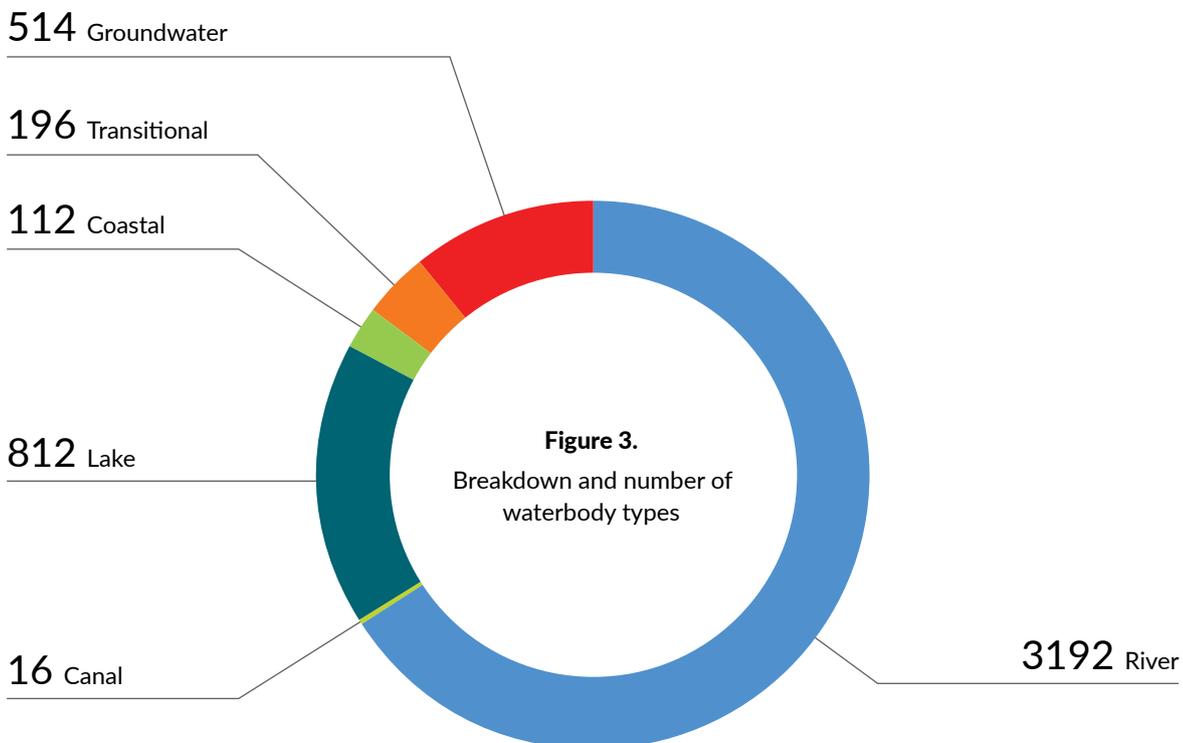
Full details and supporting information for this River Basin Management Plan in relation to each water body and maps of their location within Ireland’s River Basin District are published and available at www.catchments.ie. A collaboration between the Department of Housing, Local Government and Heritage, the Environmental Protection Agency, and the Local Authority Waters Programme, this website provides substantial background information for this plan and the most current and up-to-date information on the status of your local rivers, lakes and waterbodies. Information on how these valuable resources are being used and the environmental pressures they are subject to, is also provided through specific Catchment and Sub-Catchment Assessments that are available for download on the site.

The data on waterbodies also include those which are currently designated as Heavily Modified. There were 33 water bodies designated as heavily modified in the second-cycle plan. Further details on these water bodies and the proposed review for the third-cycle is outline in Section 3.3. A review of ‘heavily modified water bodies’ is currently underway and will take account of improved knowledge and technical assessment methods.

Table 2. Breakdown and number of waterbody types

Waterbody Type	No. of Waterbodies
River	3192
Canal	16
Lake	812
Coastal	112
Transitional	196
Groundwater	514
Total	4,842

Figure 3. Breakdown and number of waterbody types



Definition of types:

Canals: Artificial water bodies that are used primarily for recreation.

Coastal waters: Waters that extend one nautical mile from a baseline defined by the land points where territorial waters are measured and has not been designated as transitional water.

Transitional: The term used to describe estuaries and coastal lagoons.

Groundwater: Subdivisions of large geographical areas of aquifers so that they can be effectively managed in order to protect the groundwater and linked surface waters.

Land use in Ireland

The most significant influence on water quality management, and any risk to water status, is the land use within the water catchment. Land use across Ireland’s River Basin District is dominated by agriculture. Compared to many other European countries, Ireland also has a high proportion of our population living in rural areas. A breakdown of the types of land use seen in Ireland is outlined in Figure 4.

In terms of the number of people that rely on our water resources, according to the 2016 Census Ireland’s population was 4.74 million. Under most projected scenarios this is expected to grow up to 2051, leading to increased demands on Ireland’s water resources. Figure 5 below illustrates the projected population at 5 year intervals using a moderate scenario from 2016 – 2051 and shows a population increase of 1,290,900 (+27.2%) over the period to 6.03 million persons, equivalent to a 0.69 per cent annual average increase.

Figure 4. Land Use in Ireland

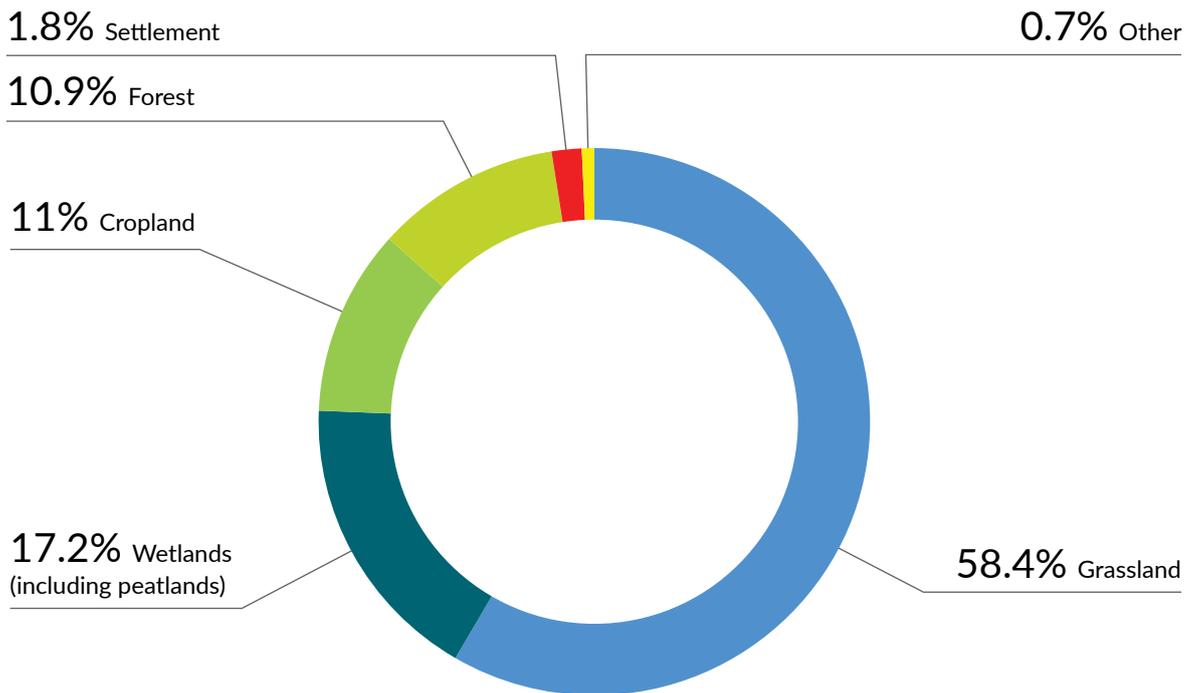
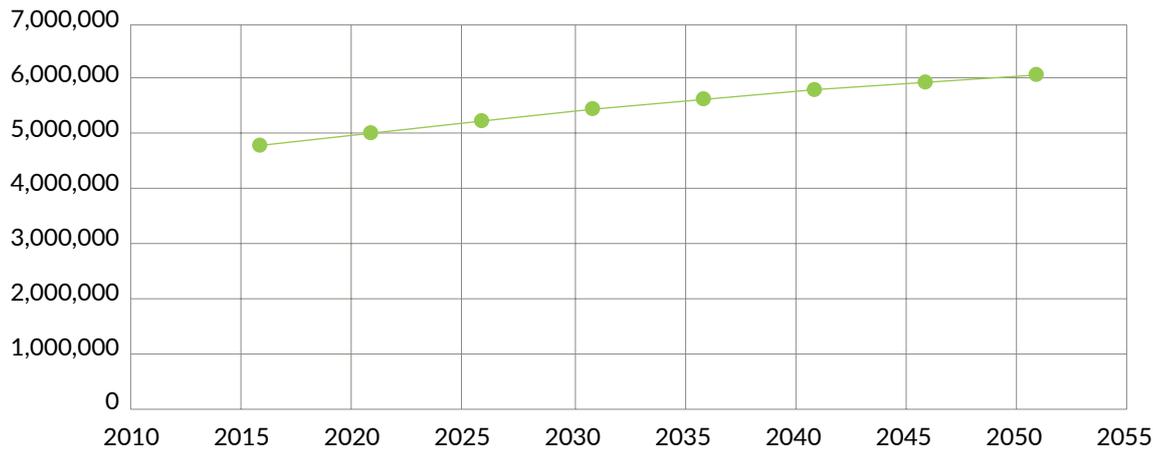


Figure 5. Projected Population, 2016 - 2051



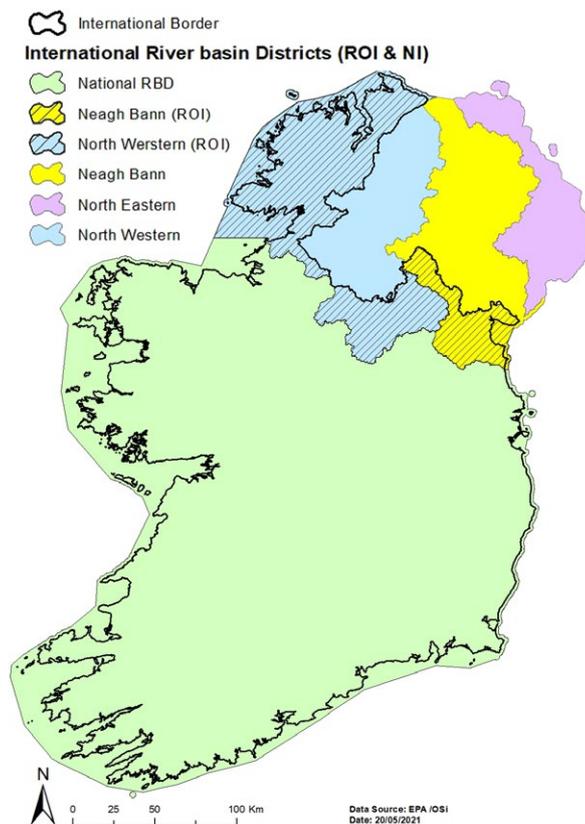
2.2 Shared River Basins between Ireland and Northern Ireland

The island of Ireland is a single environmental unit, with shared waters. The Governments of Ireland, Northern Ireland and the United Kingdom each cooperate on transboundary environmental management issues. However, following Brexit challenges will remain with potential regulatory divergence and more complex arrangements for cross-border cooperation and consultation.

Both jurisdictions continue to adopt similar approaches to addressing and tackling environmental issues including but not limited to water quality, atmospheric pollution, invasive species, the effects of climate change, coastal resilience, migratory species, marine litter, marine protected areas (MPAs) and protecting habitats and species native to the island and its waters.

Ireland shares two river basin districts with Northern Ireland. The Neagh Bann International RBD has 35 shared waterbodies from a total of 407. The North Western International RBD has 85 shared waterbodies from a total of 1,232. Substantial areas lie within cross-border river basins in Ireland, with waters in each jurisdiction flowing into or through the other jurisdiction. Both jurisdictions carry full responsibility for ensuring implementation of all measures in their national territory, including any part of an International River Basin District that lies within their national territory. The waterbodies from these River Basin Districts that are located in Ireland are managed as part of the single national River Basin District.

Figure 6. International River Basin Districts



The first-cycle RBMPs (2010-2015) were developed separately but in close co-operation with the relevant authorities in Northern Ireland and as a result all the water environments in Ireland plus those shared with Northern Ireland were assessed in unison. The second-cycle (2016-2021) plans for Ireland and Northern Ireland were produced under differing timelines, however coordination still occurred in terms of the implementation of the plans. Coordination is ongoing during the development and implementation of the third-cycle (2022-2027).

With regard to the withdrawal of the United Kingdom from the European Union (commonly known as Brexit), bilateral relations are now principally governed by the terms of the Good Friday (or Belfast) Agreement. Relations between the EU and the UK are governed presently by The Withdrawal Agreement. With the withdrawal of the UK from the EU, other international instruments will take on greater importance.

The Good Friday (Belfast) Agreement includes the establishment of a North-South Ministerial Council that covers the consultation and cooperation on an all-island basis. One of the areas listed for cooperation is the Environment and includes environmental protection, pollution, water quality management and waste management. Overall co-ordination for the implementation of the WFD with Northern Ireland is still undertaken on a bilateral basis through the Department's North South Water Framework Directive Coordination Group. In addition, cooperation at a technical level between agencies both north and south is ongoing, with details briefly outlined below.

The National Technical Implementation Group (NTIG) oversees technical implementation of the RBMP at a national level and provides a forum to ensure coordinated actions among all relevant Agencies and other State actors. It also addresses any operational barriers to implementation that may arise. The Northern Ireland Environment Agency (NIEA) attends the group's meetings to provide updates on progress within Northern Ireland and also contributes to any discussions on cross border catchment issues.

NIEA and the Loughs Agency are members of the Border Region Operational Committee, which provides a forum to enhance interagency networking, develop relationships and work together to help achieve objectives set out in our river basin management plans to benefit both the local community and the environment. In terms of cross border catchments this committee provides an opportunity for operational staff to share knowledge and experience and seek opportunities to maximise outcomes for cross-border waters.

NIEA attends meetings of the North West Water Forum which is chaired by Donegal County Council and attendees include the Lough's Agency, the Local Authority Waters Programme (LAWPRO), Members of the project board of Source to Tap (Interreg project), Inland Fisheries Ireland, Members of the project board of CatchmentCARE (Interreg project), Teagasc, Coillte and the National Parks and Wildlife Service (NPWS). The aim of this forum is to discuss emerging issues, existing projects, share information and help build better working relationships within interested groups on either side of the border.

The North South Rivers and Lakes Group is a technical group that covers the detail of all our freshwater monitoring, classification and reporting in shared water bodies. It includes attendees from EPA, NIEA, the Agri-Food and Biosciences Institute (AFBI), the Loughs Agency and Inland Fisheries Ireland. The key purpose of the group is to ensure proper alignment and consistent reporting for the classification of cross-border waterbodies.

There are a number of cross-border projects ongoing which focus on delivering water quality improvements in water bodies on the border. The INTERREG VA Programme (2014-2020) was agreed by the Government, the Northern Ireland Executive, the Scottish Government and the European Commission. The EPA and NIEA have worked closely on the projects through representation at Steering Group meetings and Advisory Committees.

A new EU cross-border PEACE PLUS programme will contribute to a more prosperous and stable society around the Border Region of Ireland. This will provide opportunities to build on successful projects for the water environment commissioned under INTERREG VA using the same collaborative approach to delivery of environmental objectives.

High level themes in the new PEACE PLUS programme are expected to recognise the importance of managing our water resources properly to ensure that the needs of society, the economy and wildlife are met long-term. This will also help to reduce the costs associated with water pollution and drought. Catchments and their water resources are therefore a key environmental and economic asset within the PEACE PLUS Programme area, and deliver significant benefits to society through the ecosystem services that they provide. These include drinking water, waste water assimilation, angling, tourism and cultural heritage.

A number of investment areas have been proposed for inclusion in the draft programme development for PEACE PLUS, including projects and proposals which support the aims and objectives of the draft third-cycle RBMP. The main pressures acting on our water environment in our cross border catchments are related to excess nutrients and runoff. Proposed investment priorities are therefore to reduce inputs into our water bodies through nature-based solutions and sustainable catchment solutions. Investment is also required to address problems with raw water which is fundamental to sustainable catchment management, including facilities for treatment of waste water and drinking water.



Action: In cooperation with our northern colleagues, DHLGH will prepare a “shared waters” document that will outline the water bodies that flow into or through both jurisdictions and the work to be undertaken to ensure they meet their environmental objectives as reported in the River Basin Management Plans for Ireland and Northern Ireland.

While the working arrangements are set out formally to ensure successful implementation of the plan, key to success is the development of an integrated and co-operative working relationship between stakeholders. Adopting an ethos of actively participating and working together, Figure 8 outlines the interactions of the various implementation bodies, with the aim of developing and delivering integrated catchment management on the ground.

2.3 Implementation Structures in Ireland

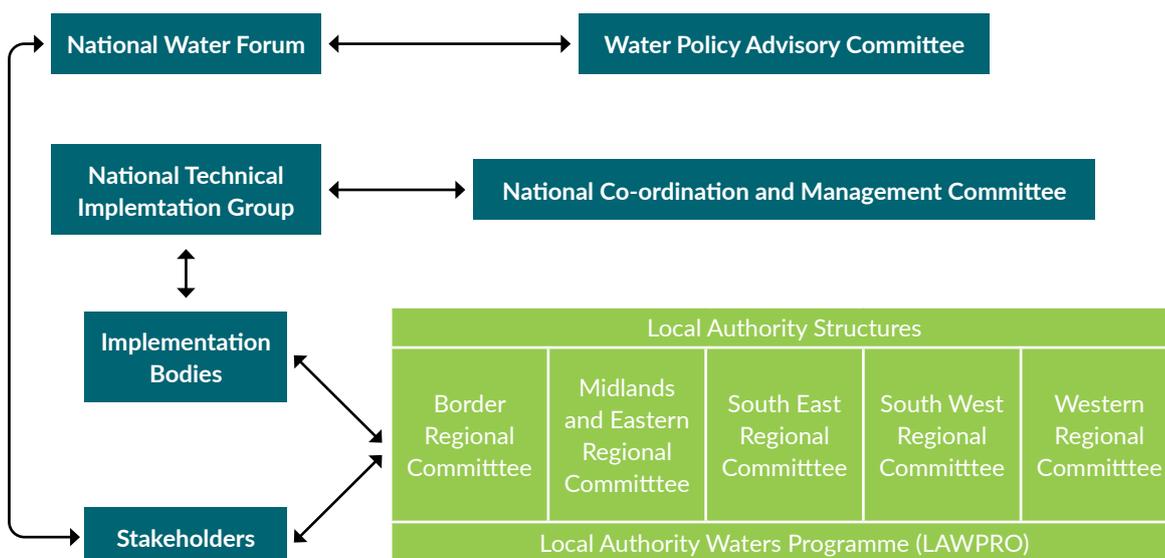
The current RBMP entailed a complete change of approach to the overall river basin management planning process compared to the first cycle. In basic terms the following three-tier structure (Figure 7) was adopted across the relevant implementation bodies.

The Water Policy Advisory Committee (WPAC), established as part of the structures for the preparation of this RBMP, provides high-level policy direction and oversight of implementation. The WPAC will also advise the Minister with regard both to progress of the plan and to the preparation of programmes of measures necessary to achieve the environmental objectives. The WPAC will continue to be chaired by a representative of the Minister,

Figure 7. High Level Implementation Structures

Tier 1 National Management and Oversight	Minister for Housing, Local Government and Heritage	Policy, necessary legislation and resourcing the Plan. Supported by the Water Policy Advisory Committee which has been established to assist the Minister.
Tier 2 Technical implementation and reporting	Environmental Protection Agency (EPA)	The catchment characterisation process, overseeing the national monitoring programme, chairing the National Technical Implementation Group and assisting and advising the Minister.
Tier 3 Regional Implementation	Local Authorities / LAWPRO	Co-ordinating the implementation of measures on the ground, and the local knowledge required for successful delivery of many potential measures.

Figure 8. WFD Implementation Structures and their Interactions



currently an Assistant Secretary of the Department of Housing, Local Government and Heritage (DHLGH).

An Fóram Uisce (the Water Forum), established in 2017, is an independent entity with broad functions that include advising the WPAC in relation to river basin management plans, on matters pertaining to the objectives of the WFD, and on related matters concerning the management of Ireland's water resources. The Forum provides an interface between science, citizen/stakeholder engagement and water policy.

A National Co-ordination and Management Committee (NCMC) has been set up under the WPAC to ensure that the measures necessary to achieve our objectives are implemented in an efficient, effective and co-ordinated way. The NCMC provides the necessary interface between science, policy and programme delivery. It was established to oversee the overall work programmes and report to the WPAC on progress. The NCMC is chaired by the DHLGH and comprises representatives of the DHLGH, the Environmental Protection Agency (EPA) and the chairs of the regional committees.

A National Technical Implementation Group (NTIG) oversees technical implementation of the RBMP at a national level and provides a forum to ensure co-ordinated actions among all relevant State actors. It also addresses any operational barriers to implementation that may arise. Chaired by the EPA the membership includes all the relevant implementation bodies for the WFD. Providing the NCMC with updates on the implementation and effectiveness of measures, the NTIG reviews progress on an on-going basis. This group is also being used as a forum for knowledge sharing.

As the body that is statutorily responsible for reporting on the WFD, the EPA co-ordinates the ongoing tracking of the implementation of actions and, in conjunction with others and by means of the monitoring programme, undertakes the assessment of the effectiveness of those actions in terms of water quality outcomes. The NTIG group will continue to have the structures and resources of NIECE (Network for Ireland's Environment Compliance and Enforcement) available to it, as well as the Catchment Management Network.

The regional local authority structures, with five local authority regional committees, are to drive delivery of supporting measures at local level. This work is further supported by the Local Authority Waters Programme (LAWPRO). The five regional committees are chaired at Chief Executive Level, with active participation and technical advice from the EPA. Each committee is supported by an Operational Committee with membership drawn from all the relevant public and implementing bodies and chaired

at Director of Service level. The local authority structures are central to tracking the progress and effectiveness of implemented measures and have a vital role in supporting national policy development and implementation through their participation in the WPAC and the NCMC.

LAWPRO also has an important role in these structures by ensuring public and stakeholder engagement with the implementation of measures at local level and in providing further scientific analysis of pressures in the priority catchments.

Many of the measures under the second-cycle structures are still being established and it is likely that only a limited number of the outputs and outcomes will be reflected in water quality outcomes at catchment level during the final preparation for the third-cycle Plan. It is for this reason that the third-cycle Plan should be seen as an evolution of the current RBMP in terms of implementation structures. Further details of changes and enhancements are set out in section 5.3.1 Implementation / Governance Measures, including the clarification of roles and responsibilities.

2.4 What we want to achieve

This plan must include a programme of measures to protect and where necessary restore each one of the 4,842 bodies of water so that they are at least reaching 'good' status or 'good' potential by 2027 (with some limited exemptions). In the most recent assessment by the EPA, slightly more than half (54%) of Ireland's waterbodies are considered to be 'at risk' of not meeting mandatory environmental objectives by 2027. It is now unlikely that Ireland will achieve all of these objectives without urgent, substantial and persuasive measures.

The principal causes of the decline in Ireland's water quality are the increasing loss into water of polluting phosphorus and nitrogen from farmland; inadequately treated waste water and physical impacts on water bodies (for example, the interruption of river continuity due to river barriers, and drainage of lands and rivers). Climate change, population growth and urbanisation are each adding to the pressures on water resources and water services infrastructure. Strong and targeted action is now needed to protect water from further decline and to restore water quality where past activities have caused damage.

Much has been achieved during the second river basin planning cycle (See Section 4.1 – Progress to Date). In particular, the new governance and implementation structures have been maturing. The establishment of Irish Water, An Fóram Uisce, the Local Authority Waters Programme (LAWPRO) and the Agricultural Sustainability Support and Advisory

Programme (ASSAP), represented innovative and significant steps forward in water management in Ireland. These will continue to strengthen over time as experience grows and needs change. Furthermore, the research programmes led by the Institute of Public Administration (IPA) in relation to water governance and the Economic and Social Research Institute (ESRI) in relation to the impact of river basin management strategies on human attitudes and behaviours will help to draw lessons from our experience of implementation. This will inform the future evolution of water governance structures and the implementation of measures for the protection of waters.

Despite the fundamental changes made to the river basin management approach in Ireland, progress in restoring impacted waters and protecting waters from deterioration has been unexpectedly slow. But the changes made will deliver results in the long run, so long as there is sustained commitment and follow through.

The Programme for Government commits to launching a new revised and strengthened River Basin Management Plan in 2022, drawing on a collaborative approach between all stakeholders. While existing water protection measures must continue to be implemented and accelerated, new targeted and effective measures are also necessary. Many of these measures will deliver co-benefits for climate mitigation and will help to enhance biodiversity. Implementing these policies will require ongoing and adequate financing, resources and must be fully integrated across sectoral areas especially into land use management and in agriculture. This work will be reinforced by collaborative participation of stakeholders at national, regional and sectoral levels.

Proposed themes for the third river basin management cycle

The proposed themes for the next Plan are set out below. The overall premise will be “the right measure, in the right place” supported and delivered by:

An increased level of ambition: the third cycle plan will have a high level of ambition encompassing all waterbodies with clear strategies to protect those that are still at good status or above and to improve water bodies that are at less than good status.

Integrated Catchment Planning: catchment plans will be put in place for each of the 46 hydrometric catchments as sub-plans to the national Plan. Building over time into fully integrated catchment management plans, the initial level of detail to be included in these plans will be decided based on templates produced by LAWPRO, in consultation with stakeholders. It is envisaged that each Local Authority will also prepare a County level Implementation Plan as part of this process to give action to the objectives

of the national and catchment plans. These plans will also provide a basis against which to assess implementation of measures through annual reports.

Multiple benefits: Many of the measures needed to protect and improve water quality can also deliver benefits for nature, air quality and climate change. The Water Framework Directive with its catchment-based planning approach is perfectly positioned to capture these multiple benefits to contribute to climate change mitigation and to enhancing biodiversity.

Role Clarity and Collaborative Implementation: there will be an increase in the level of coordination and collaborative work by all implementing bodies at national, regional and catchment levels, making optimal use of existing and enhanced governance structures and resources. Local government has a key leadership role in the stewardship of water catchments and of particular importance is clarity about the respective roles of the Local Authority Waters Programme and to put in place appropriate resources to support individual local authorities in fulfilling their role in water quality protection and restoration.

Key actions for delivering the increased level of ambition

For the first time, since the river basin management process began in cycle 1 (2010-2015), we now have detailed estimates of the scale of mitigation measures required to significantly improve water quality and most importantly where those measures should be deployed. These estimates are based on detailed technical evidence generated by the EPA, local authorities, Inland Fisheries Ireland and other state agencies over the first two management cycles. They are also based on the principle of identifying the optimum locations to target measures. Referred to as the ‘right measure in the right place’, these are based on the most up to date scientific information. This has taken time to deliver but will ultimately represent an effective and efficient means of deploying mitigation measures. The estimates of the scale of the key mitigation measures needed include;

- 2,500km of riverside interception measures (e.g. 12,500 hectares of native woodlands). This is a cumulative length representing 3% of all river channels.
- Minimum of 20,000 hectares of organic soil rewetting that could be prioritised to deliver water, climate and biodiversity benefits.
- At least a 50% reduction in nitrogen losses to waters from agriculture. Modelling work is underway to determine what this means for chemical nitrogen fertiliser reductions and, very importantly, where those reductions need to take place.

- Potentially between 2,000 and 7,000 structures/barriers on rivers requiring removal or modification
- A sustained high level of investment by Irish Water in waste water infrastructure to address deficits and future growth needs.

In addition, the continued gradual decline in water quality needs to be halted. Key actions in preventing further deterioration include; increased compliance through enhanced environmental enforcement and awareness as well as policies that embed water protection, in areas such as planning policy. The planned review of the local authority environmental function and LAWPRO, as well as enhanced planning guidance and legislation will contribute to the goal of preventing future water quality deterioration.

However, managing our natural assets cannot be at the cost of accommodating development growth and the needs of our expanding population. Nature Based Solutions, such as Green and Blue Infrastructure can help to address many of the complex challenges that are associated with balancing urban development and its impact on the environment. Investing in nature can bring multiple benefits, with Nature-based Catchment Management Solutions ('nature-based solutions') improving water quality, reducing flood risk and creating habitats. In carrying out these functions these measures can also provide multiple co-benefits such as climate regulation, climate change adaptation, improved soil management, and the creation of amenities. Due to their multi-functional nature, the successful implementation of nature-based solutions requires multi-agency co-operation and engagement to fully realise their potential benefits. A working group established to advise the National Technical Implementation Group on nature-based solutions, recently made a number of recommendations, including that a multiagency group under the NTIG continue as a forum to co-ordinate efforts for implementation of nature-based solutions during the third plan.

Ireland's towns and cities generally have good quality, reliable water services. However, there are risks arising from climate change (including flooding and droughts); from pollution of source waters; from aging infrastructure and from potential competition with other water uses. There is a need to bring existing water assets up to the required standard, to invest in renewing asset and also investing in new capacity to accommodate urban growth and development. This requires careful management of water use/demand, water-sector finance, robust governance arrangements fostering innovation and careful future planning.

The final programme for the third cycle will take into account (1) the scale of the measures required,

(2) the technical capacity available to implement the measures, (3) the practical steps and legislative processes involved in delivering measures on the ground, (4) the feedback from the river basin consultation process and (5) the financing strategy for implementing measures. Taking all of these factors into account will ultimately dictate the timeline over which measures can be delivered sustainably.

As the availability of finances is an essential aspect of delivering WFD objectives, the development of a comprehensive financing strategy is proposed. As the delivery of this strategy will require coordination across multiple government departments and agencies, to achieve this it is proposed to:

- Explore the feasibility of establishing a high level interdepartmental group to develop a financing strategy to support the implementation of measures to deliver on the ambitious Water, Climate and Biodiversity objectives committed to in the Programme for Government, and
- Evaluate the options for accessing appropriate EU funding sources for achieving both WFD and protected area objectives.

As mentioned, it is unlikely that all our objectives will be met by 2027. Our water bodies are all complex, natural systems and an ongoing cycle of assessment and planning must continue in tandem with the implementation of measures to protect and improve water quality. In building an iterative approach to the implementation of these measures, with strong monitoring and review processes throughout the third cycle, we are putting Ireland on the right path to achieving water quality objectives.

Work will continue over the coming months, led by the EPA, to model various management scenarios so that the optimum programme of measures for the third-cycle can be identified. The level of ambition will be high, taking all of the factors above into account. However, it is likely that the implementation of measures and the time required for them to take effect will extend beyond the third-cycle (after 2027). Therefore, the use of the exemption provisions under Article 4 of the Water Framework Directive for extended deadlines will be required.

As part of this process, some examples of scenarios where dates beyond 2027 will be considered for achieving their environmental objectives include;

- Those where historic mining activities are a significant pressure. These include, for example, groundwater bodies associated with Tynagh Mines, Glendalough and Glenmalure, where it is not technically feasible to remediate the impact on water bodies by 2027 given the extent/nature of the contamination.

- Where certain lakes are likely to have a slow response to measures. For example, if measures are implemented late in the third cycle, it is unlikely that the lake's environmental objective can be achieved by 2027. These lakes are most commonly located in the Cavan/Monaghan area and are in waterbodies with poorly draining soils and legacy phosphorus issues.
- Where groundwater bodies are associated with contaminated land on industrial facilities. While these facilities have management plans in place and it is recognised that improvements will take some time due to natural attenuation processes.

In addition, all registered abstractions and associated water bodies will also be assessed to determine if they are meeting WFD objectives under Article (4). Some of these existing abstractions may be causing water bodies to not meet default WFD objectives but will need to be maintained because there are no alternative sources and due to the overriding public interest of the provision of drinking water. In these instances, the setting of alternative objectives under Article (4) may be required to be applied. Several processes are underway which will inform the extent to which exemptions may be required for waterbodies impacted by abstractions. These include the abstraction licensing process, the review of the heavily modified water body designation process, and the National Water Resources Plan.



Action: LAWPRO, in consultation with stakeholders, to produce templates for the catchment management plans that will be put in place for each of the 46 hydrometric catchments.



Action: Carry out a review of Local Authority Resources to put in place appropriate resources to support individual local authorities in fulfilling their role in water quality protection and restoration.



Action: The Department along with the governance groups (WPAC, NCMC and NTIG) will continually review the progress in the implementation of the programmes of measures and the distance to the 2027 target.



Action: Explore the feasibility of establishing a high level interdepartmental group to develop a comprehensive financing strategy to support the implementation of measures to deliver on the ambitious Water, Climate and Biodiversity objectives committed to in the Programme for Government.



Action: Irish Water to review and update their Water Services Strategic Plan that covers a 25 year period of water services management.



Action: The Department, together with the Department of Rural and Community Development, will develop and publish in 2024 a Rural Water Services Strategic Plan for the period 2025 to 2050.



Action: Irish Water and relevant stakeholders will work together to implement mitigation measures for abstractions determined to be significant pressures through the abstraction licensing process.



Action: The need for exemptions will be reviewed as the abstraction licensing process is rolled out.



Action: A multiagency group under the NTIG to continue a forum to co-ordinate efforts for implementation of Nature-based Catchment Management.

2.5 Other Plans and Programmes

In addition to the existing policies and plans in the water sector, such as the Water Services Policy Statement (2018-2025) and Irish Water's Water Services Strategic Plan that are to be reviewed, an important part of developing the RBMP has been to identify and understand the links to other policy areas across government, and the key plans and programmes either currently in place or planned. This has been informed by the Strategic Environmental Assessment (SEA) process, which details the plans and programmes that interact with and influence the river basin management planning process. The relevant policy areas include land use and spatial planning, climate change, flooding protection, water services policy, waste management, agriculture, fisheries, forestry and peatlands.

Ensuring consistent policy integration between the RBMP 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 are addressing in the third cycle Plan. This involves linking the third cycle plan objectives with the Climate Adaptation Plans, Marine Spatial Planning, Flood Risk Management

Plans, Biodiversity Action Plans objectives and also seeking to have WFD objectives included in future plans as they are developed. It also includes links to agricultural policy, spatial planning policy, etc. In this way it will help us to gain multiple benefits from the measures implemented under all inter-related policy areas.



Action: Strengthening water protection provisions where necessary in relevant sectoral policies. These include; water services policy, spatial planning policy, agricultural policy and aquaculture policy.



Action: Identifying and embedding measures that will deliver multiple policy objectives (e.g. water, biodiversity and climate adaptation/mitigation) into sectoral policies.

2.6 Environmental Assessments (SEA/AA)

In accordance with European and national legislation, the DHLGH is undertaking Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) of the draft RBMP. These processes have been and continue to be iterative in terms of informing a robust final RBMP which fully integrates wider environmental considerations into water management planning.

Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is a process by which environmental considerations are integrated into the plans and programmes during their preparation and prior to their adoption. The objective of the process is to provide for a high level of protection of the environment and to promote sustainable development by contributing to the integration of environmental considerations into the preparation and adoption of certain plans and programmes, as well as to help inform decision-making in terms of issues such as alternatives to be considered and the inclusion of mitigation.

SEA of the RBMP in Ireland is governed by the European Communities Environmental Assessment of Certain Plans and Programmes Regulations (S.I. 435 of 2004 as amended by S.I. 200 of 2011). This requires that certain plans and programmes, prepared by statutory bodies, and public authorities which are likely to have a significant impact on the environment, be subject to the SEA process. A screening of the RBMP for SEA was undertaken by the DHLGH and it was determined that an SEA would be required. In recognition of this, the SEA process is being applied

to the development of the RBMP and has included the preparation of an Environmental Report which accompanies the draft plan for consultation.

Appropriate Assessment

The EU Habitats Directive places strict legal obligations on member states to ensure the protection, conservation and management of the habitats and species of conservation interest in all European Sites. Article 6 of the Directive obliges member states to undertake an 'appropriate assessment' (AA) for any plan or project which may have a likely significant effect on any European Site. The outcomes of such AAs fundamentally affect the decisions that may lawfully be made by competent authorities in relation to the approval of plans or projects. AA of the RBMP in Ireland is governed by the European Communities (Birds and Natural Habitats) Regulations, 2011 (SI 477/2011), as amended.

The Habitats Directive has clear links to the Water Framework Directive through the Register of Protected Areas, which includes Special Areas of Conservation (SAC) designated under the Habitats Directive, and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (Directive 79/409/EEC as codified by Directive 2009/147/EC), collectively referred to as 'European Sites'. Article 6(3) establishes the requirement for an AA of plans and projects likely to affect such European Sites.

In compiling the draft plan, the DHLGH has screened the plan for AA and has concluded that full AA is required. As such a Natura Impact Statement (NIS) has been prepared to further inform the development of the draft Plan. The content of the NIS and submissions made in relation to the draft plan and any other relevant information will be considered prior to a final determination in relation to the AA.

Both the SEA and AA processes have been carried out in parallel with the drafting of the plan and will continue to inform the plan prior to its finalisation and adoption.

3

Our Water Resources

The following sections provide an overview of how water quality in Ireland is monitored and assessed, and provides details of the most recent water quality results. The changes in status that have taken place over the period of the second cycle are also considered. The situation with regard to our protected areas, including water dependant special areas of conservation, is also set out, again including the most recently available information. Finally, our approach to artificial and heavily modified water bodies and the impacts of climate change is addressed.

Overall, 53% of surface waters are in good or high ecological status while the remaining 47% are in unsatisfactory ecological status. For groundwater bodies, 92% are in good chemical and quantitative status. A percentage breakdown of status for each waterbody type is shown in Figure 10. The next status reporting period will be based on data from 2016-2021 and will be published in 2022.

3.1 The current condition of our Waters

Surface Water and Groundwater Status

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. In total 2,718 surface waterbodies are monitored for ecological status and 514 groundwater bodies are assessed for groundwater status. The following analysis is based on the assessment of water bodies over the period 2013-2018.

The numbers of surface waterbodies achieving high, good, moderate, poor and bad status in each waterbody type are outlined in Table 3 below. The location of these water bodies and their corresponding status can also be seen in Figure 9.

Unlike surface waterbodies that are assessed in terms of ecological status, groundwater status is determined using five chemical and four quantitative tests, resulting in either a classification of good or poor status. The numbers of groundwater bodies achieving good or poor status is also outlined in Table 3 below.

Table 3. Summary of status for each waterbody type

Waterbody Type	Status					Total per waterbody type
	High	Good	Moderate	Poor	Bad	
Groundwater	-	474	-	40	-	514
Coastal	10	26	9	-	1	46
Transitional	7	23	30	14	6	80
Lake	17	96	72	28	11	224
Canal ¹	-	14	1	1	-	16
River	196	1052	653	442	9	2352
Total	230	1685	765	525	27	3232

1 In the 2nd Cycle RBMP canals were considered as a subset of river but have now been separated out and a significant pressure assessment has been undertaken for the third cycle in conjunction with Waterways Ireland.

Figure 9. Surface Water Bodies and their Ecological Status

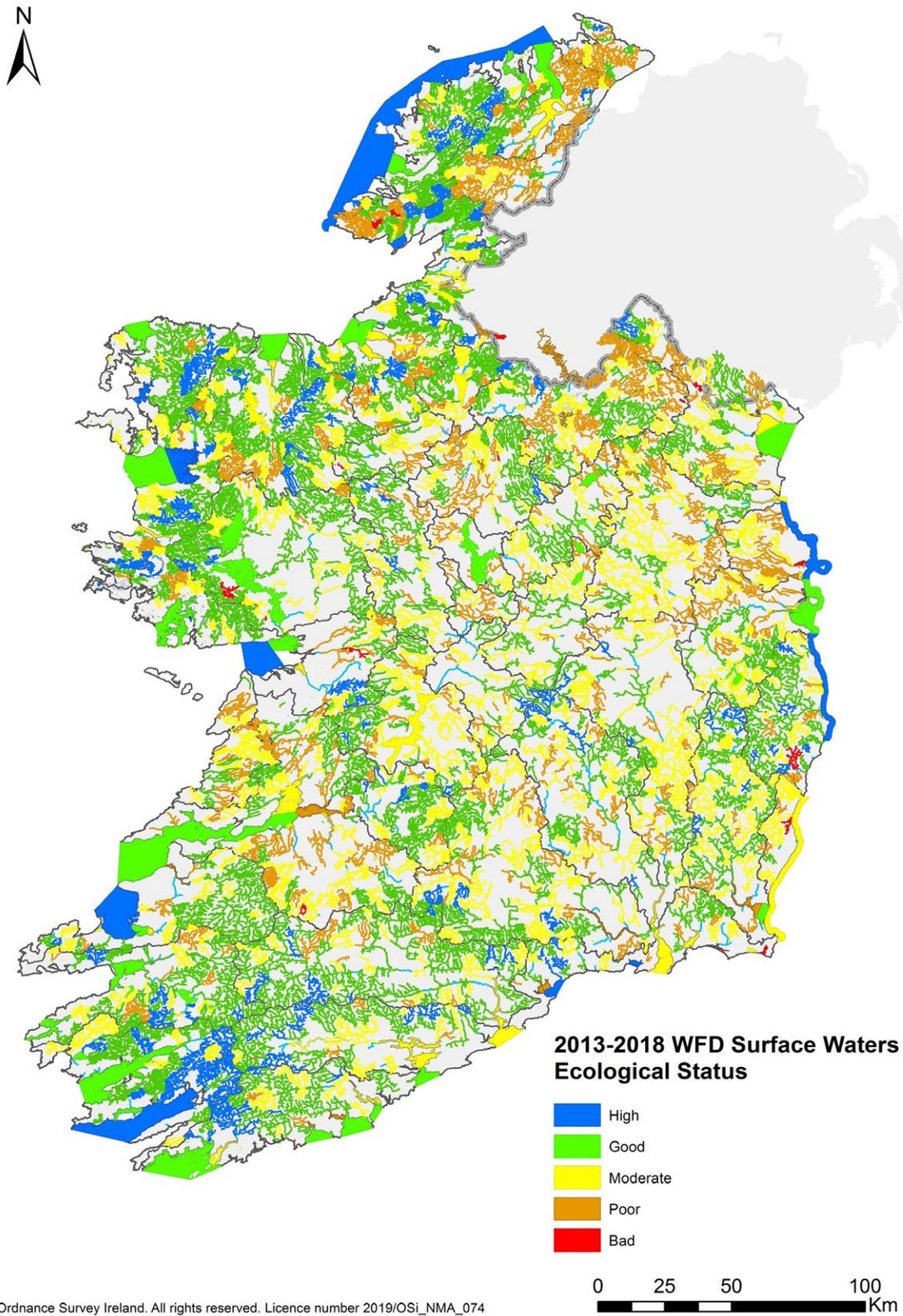
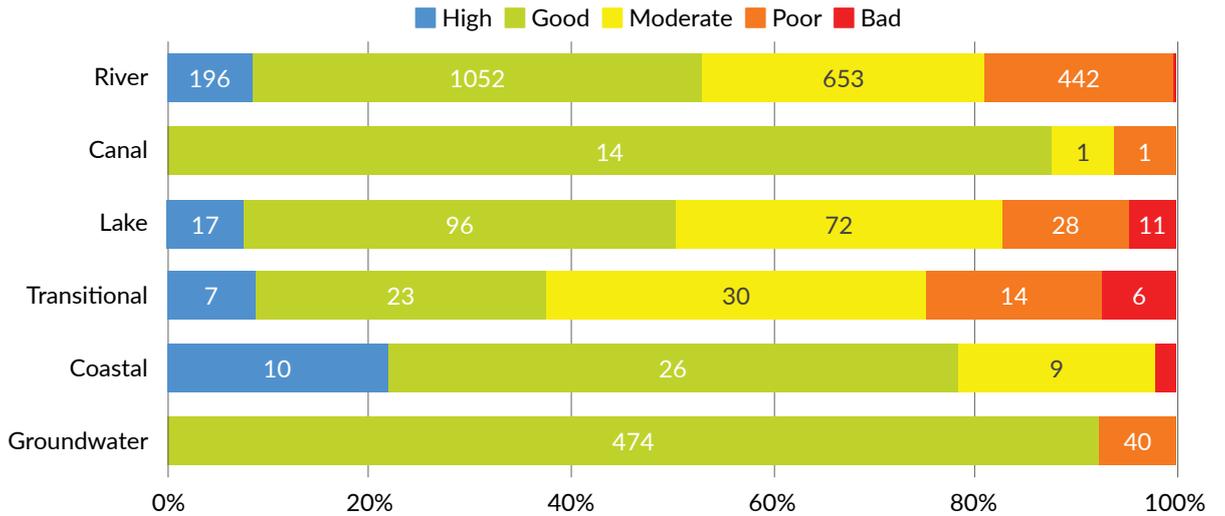


Figure 10. The percentage of waterbodies achieving each status class for each waterbody type



Further details on waterbody status can be found in the Water Quality in Ireland 2013-2018 report (www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-in-ireland-2013-2018.php).

Chemical Status

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.

322 waterbodies are monitored for chemical status. While 75% of those assessed are in good chemical status, this increases to 99% when ubiquitous substances are omitted from the assessment.

Ubiquitous substances can persist in the environment for many years, or decades, even after production has ceased or dramatically decreased. For example, PCBs (polychlorinated biphenyls) are still found in the aquatic environment even though their manufacture declined drastically in the 1960s. These substances are often referred to as uPBTs (ubiquitous, persistent, bioaccumulative and toxic substance).

In presenting information on chemical status, results can be presented with or without ubiquitous substances. This is done to ensure that improvements

achieved with other substances, which can be addressed through local and national programme of measures, are not obscured by including ubiquitous substances. In Figure 11 the status is shown on the upper bar without ubiquitous substances while the lower bar includes ubiquitous substances.

Further information on the second-cycle monitoring programme, which provides details on the monitoring undertaken to support the status assessment, is available at: www.epa.ie/publications/monitoring--assessment/freshwater--marine/irelands-national-water-framework-directive-monitoring-programme-2019-2021.php

Change in status between the first and second cycles

When comparing the change in surface water status based on monitoring results during the first and second cycles, 68.4% (1,831) of water bodies did not change in status, 18% (481) declined and 13.6% (364) improved. This resulted in an overall 4.4% net decline in water quality which was mostly driven by the decline in the status of river water bodies. The overall change in status over the three assessments periods for all surface waters is outlined in Table 4 and Figure 12.

Figure 11. Chemical Status summary including and excluding ubiquitous substances

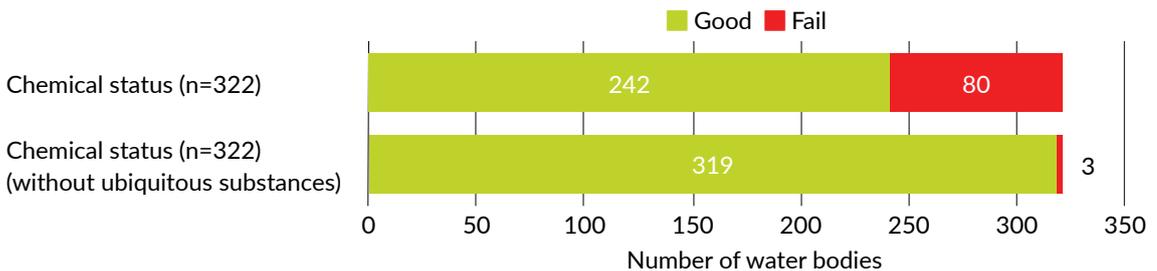
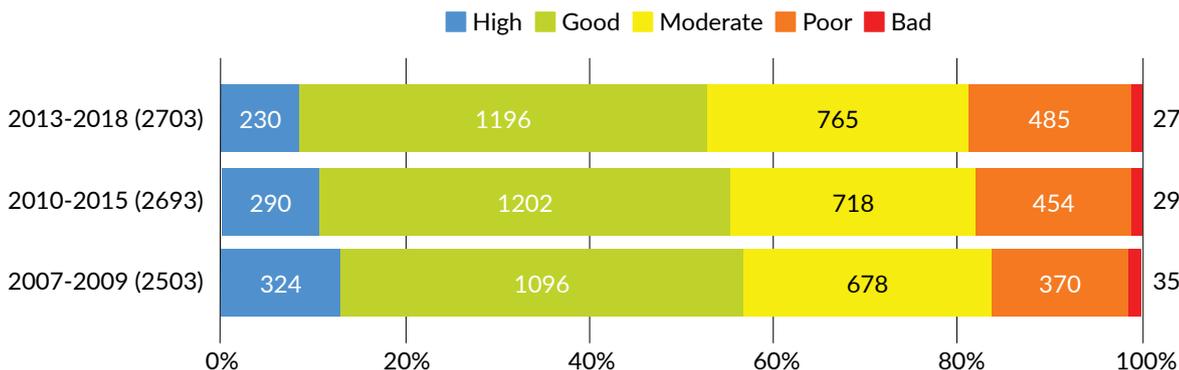


Table 4. Change in surface water ecological status between the first and second cycle.

Category	Stable	Declined	Improved	Net Change
Rivers	1,612	429	301	-128
Lakes	150	30	42	12
Transitional	47	13	10	-3
Coastal	22	9	11	2
Total	1,831	481	364	-117
Percentage	68.4%	18.0%	13.6%	-4.4%

Figure 12. Change in status categories over three assessment periods for all surface waters.



Assessment of biological river water quality in 2019 and 2020 indicates some recovery in water quality with more rivers showing improvements (345) than declines (230). Provisional results also show that the proportion of rivers improving in quality in the Priority Areas for Action at 21% is higher than the proportion improving outside of these areas at 13%, indicating that the targeting of actions is helping to improve water quality. Nevertheless, a large number of river waterbodies are still declining and unless this is addressed, sustained and progressive improvements in water quality will be difficult to achieve.

Characterisation

The catchment characterisation assessment focuses on identifying the waterbodies that are at risk of not meeting the Water Framework Directive environmental objectives of achieving at least good status. The assessment also identifies the significant pressures on each waterbody that is At Risk of not meeting its objectives. Once pressures are determined, measures can then be identified and targeted specifically at these pressures. Local Catchment Assessments are an essential tool in helping to target resources and the selection and implementation of “the right measure in the right place”. For example, as can be seen in Figure 13. below, the areas impacted by nitrogen (N) and phosphorus (P) from agriculture as a significant pressure can vary and so a different approach may be required for specific areas to address the relevant pressure.

The third Cycle Characterisation assessment was undertaken by the EPA, with input from the Local Authority Waters Programme/local authorities and members organisations of the five Regional Operational Committees.

Risk

Carried out across 4,842 waterbodies, the outcomes of the third cycle characterisation assessment show that:

- 1,983 (41%) are within the Not at Risk category; they are meeting their environmental objective of good or high-status.
- 1,603 (33%) are At Risk of not meeting their environmental objective of good or high-status, with the Significant pressures also identified for these At Risk waterbodies (see figure 14).
- 1,256 (26%) are currently in Review, which means that either (1) the measure is in place but the water quality improvement has not yet been realised or that there is some improvement but not enough yet to put it at Not at Risk, or more commonly, (2) that there is currently inadequate evidence to determine whether or not the water body is At Risk. Review of the available evidence, and collection of new evidence is ongoing, so this number will reduce over time.

A further breakdown of waterbodies per risk category is outlined in Table 5.

Figure 13. Location of Significant Pressures from Nitrogen (N) and Phosphorus (P) in Ireland

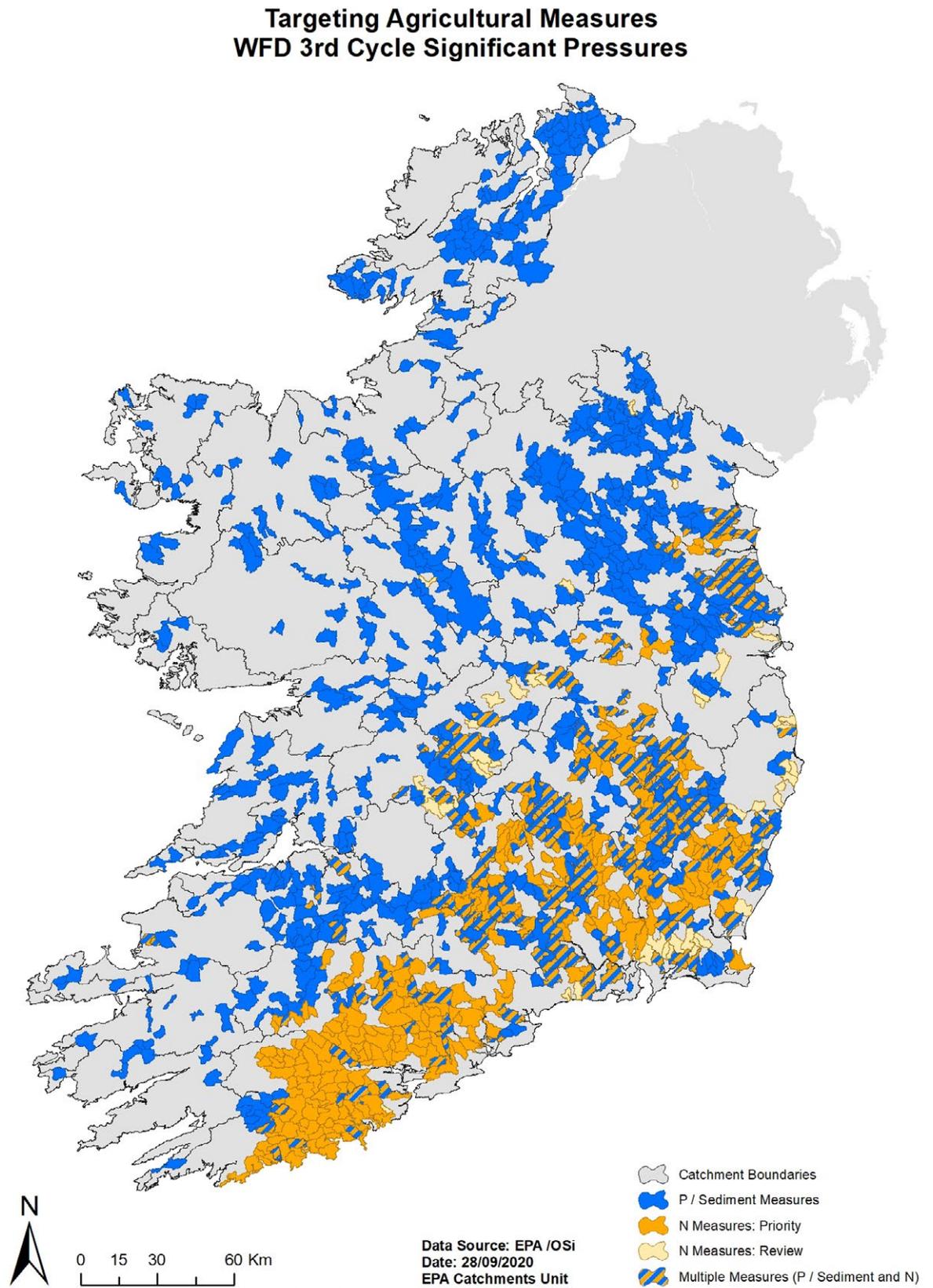


Figure 14. Water bodies identified as "At Risk"

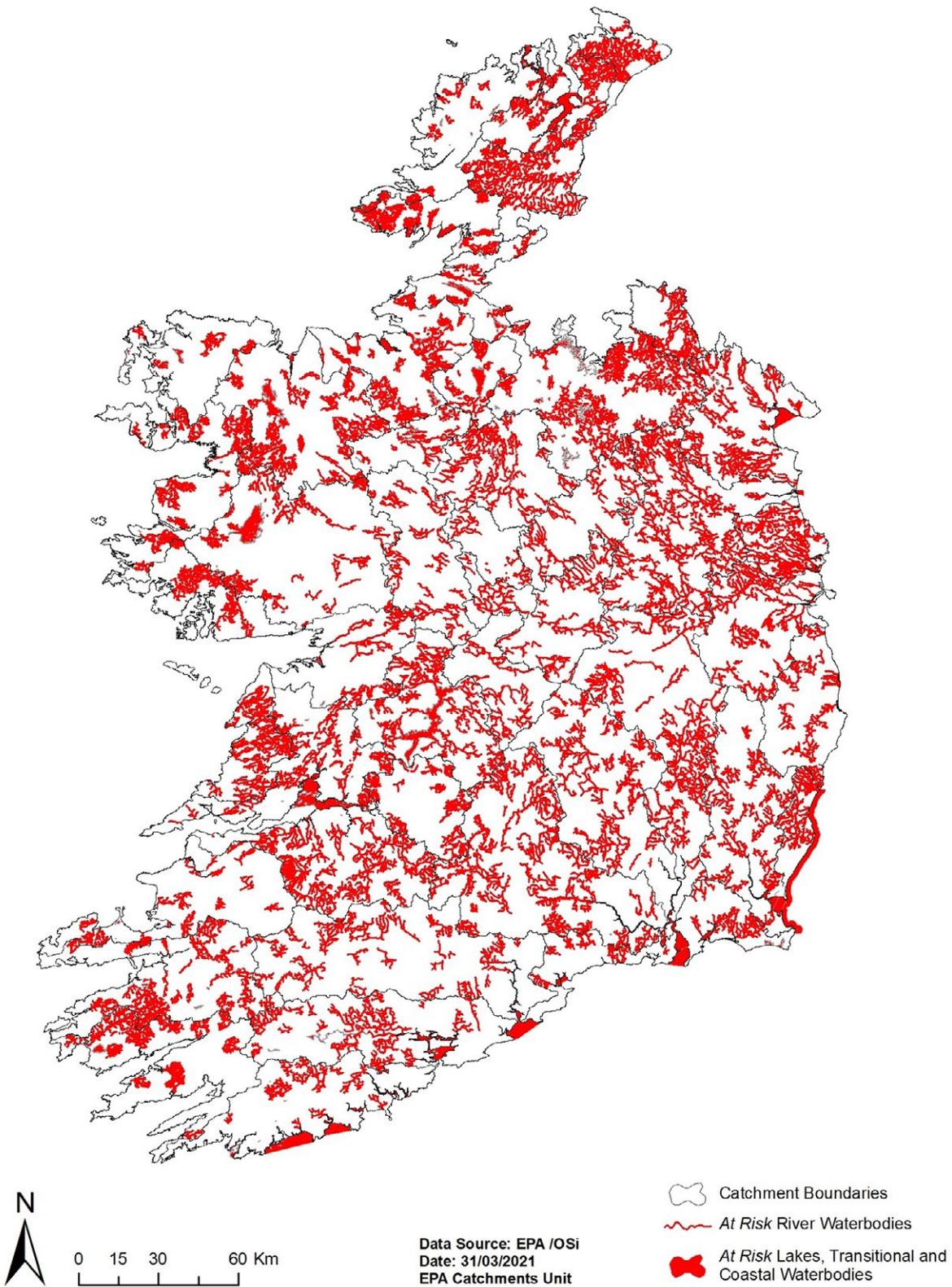
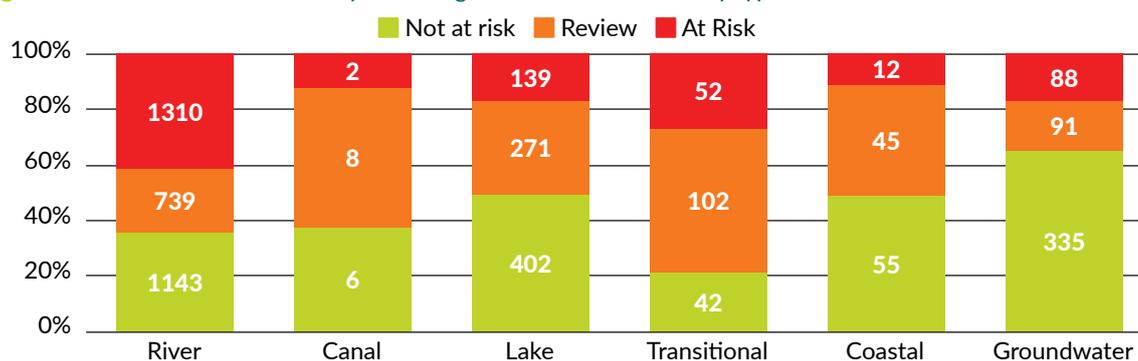


Table 5. Breakdown of Waterbody Risk Categories

Waterbody Type	Risk Categories			Total
	Not at Risk	Review	At Risk	
River	1143	739	1310	3192
Canal	6	8	2	16
Lake	402	271	139	812
Transitional	42	102	52	196
Coastal	55	45	12	112
Groundwater	335	91	88	514
Grand Total	1983	1256	1603	4842

Figure 15. Breakdown of waterbody risk categories for each waterbody type

Significant Pressures

Having identified those waterbodies At Risk of not meeting their environmental objectives, detailed assessments were undertaken to identify the significant pressures preventing the waterbodies from achieving the required environmental objectives. Significant pressures are those that either cause or are likely to cause an unsatisfactory water body status and measures therefore need to be taken in order to mitigate the impact(s) of these pressures. These assessments are based on over 140 national datasets comprising information on pressures, impacts and physical settings and consider the linkages and dependencies between the sources of environmental pressures, and the pathways linking those pressures to the receptors, such as rivers, lakes or groundwater.

For the 1,603 At Risk waterbodies the significant pressures have been broken down into 11 categories shown in Table 6, along with the number of waterbodies in each water body by pressure type. The number of significant pressures impacting on waterbodies is shown in Figure 16.

For the third cycle, of the 1,603 water bodies that are At Risk, 46% are impacted by a single significant pressure, while the remaining 54% are impacted by more than one significant pressure. The outcomes of the assessment are summarised as follows:

- Agriculture is the most common significant pressure impacting 1,000 water bodies, followed by hydromorphology (physical changes to habitat

conditions) (442), forestry (233) and urban waste water (208).

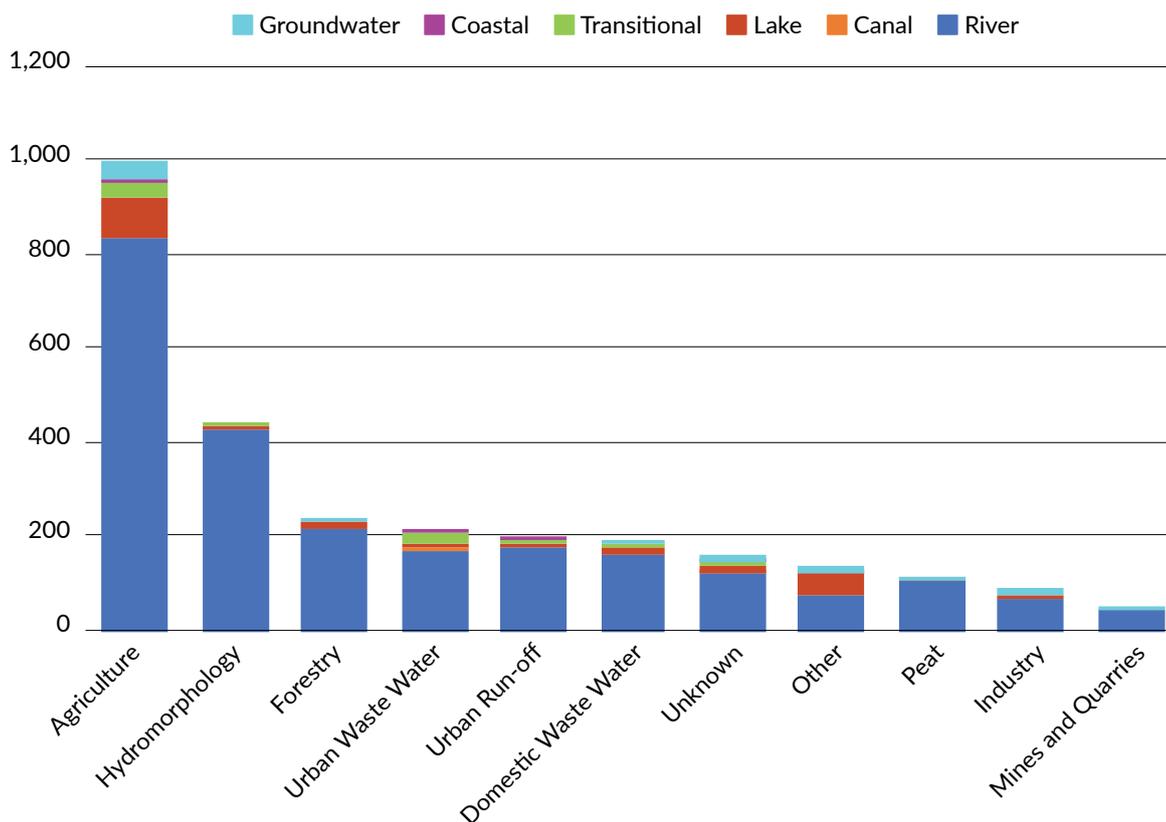
- The overall number of waterbodies impacted by agriculture **has increased by 223**, since the start of the second cycle and this represents the greatest increase in any individual significant pressure type.
- The number of waterbodies impacted by changes to hydromorphology, urban surface water run-off and domestic waste water treatment systems (DWWTS – including septic tanks) has increased by 100, 60, 23 respectively since the second cycle. It should be noted that improved methods of assessment for hydromorphology have contributed to the increase.
- The number of waterbodies impacted by urban waste water **has decreased by 83 waterbodies** since the second cycle and this represents the greatest decrease in any individual significant pressure type.
- The number of waterbodies impacted by peat, industry and forestry have decreased by 10, 10 and 5 waterbodies, respectively since the second cycle.
- While there are 1,603 waterbodies at risk from significant pressures, it is important to note that Table 6 outlines a total of 2,810 waterbodies, as an individual waterbody may be included under a number of significant pressure categories. Hence there are 2,810 significant pressures in 1,603 At Risk waterbodies.

Table 6. Number of waterbodies in each waterbody type per significant pressure category.

Significant pressure category	Waterbody Type						Total
	River	Canal	Lake	Transitional	Coastal	Groundwater	
Agriculture	831		84	35	6	44	1,000
Hydromorphology	424		14	4			442
Forestry	215		14			4	233
Urban Waste Water	172	1	10	22	3		208
Urban Run-off	179		3	11	3		196
Domestic Waste Water	163		13	6		6	188
Unknown	118	1	22	2	3	18	164
Other*	75		45	2	1	16	139
Peat	103		2			1	106
Industry	70		1			18	89
Mines and Quarries	41					4	45
Total Significant Pressures	2,391	2	208	82	16	111	2,810

*Includes a range of other smaller pressures such as aquaculture, historically polluted sites and invasive species.

Figure 16. Number of waterbodies per significant pressure category.



Measures required

All waterbodies require further action. Some waterbodies require measures to ensure they are protected and do not deteriorate, some require more robust restoration measures to achieve at least good status while a significant proportion of waterbodies require further assessment to determine what the next steps are in terms of implementing measures. A breakdown of the number of waterbodies where these different measure types are needed is provided in Table 7 and Figure 17 and summarised as follows:

- Where a waterbody is At Risk, restoration measures addressing the significant pressures outlined above will be required to ensure that the waterbody achieves its environmental objectives. This type of measure will be required in the 1,603 waterbodies identified At Risk.
- Measures to protect a waterbody from deteriorating will also be required for the 1,983 waterbodies that are currently Not at Risk.
- For the 1,256 waterbodies that are currently in Review, these waterbodies require further assessment. There are two components to this

category in terms of action and measures as follows:

- » In approximately 25% of waterbodies in Review, measures are in place but the water quality improvement has not yet been realised, or there has been some slight indication of improvement but not enough yet to categorise them as Not at Risk. Therefore, these waterbodies require further monitoring and assessment and this action is already accounted for in the EPA monitoring programme.
- » In the remaining 75% of waterbodies in Review, there is currently inadequate evidence to determine whether or not the water body is At Risk and measures should be put in place to ensure this additional evidence can be obtained.

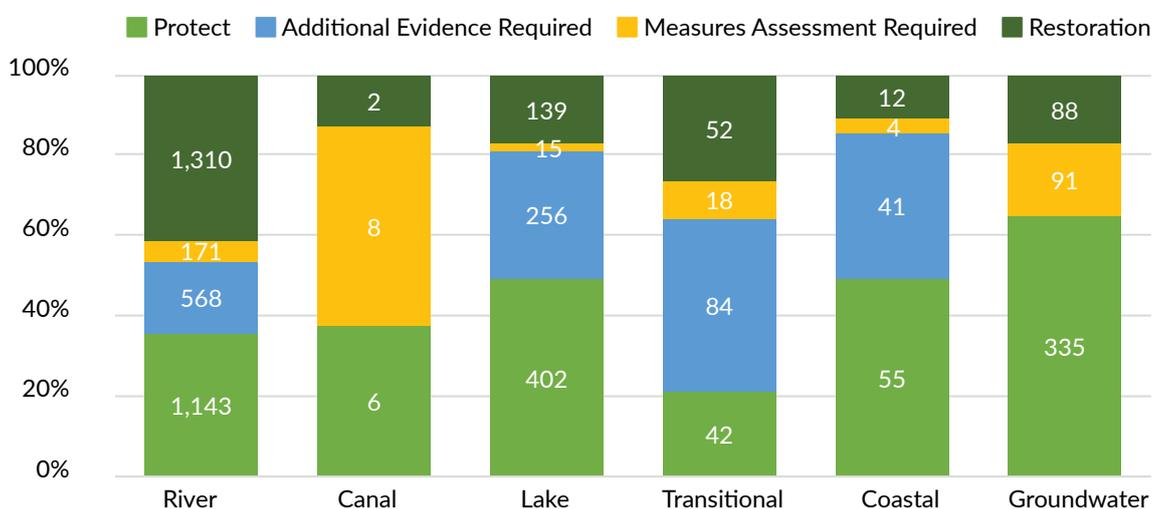


Action: Measures to be put in place to ensure the additional evidence required to determine if waterbodies are 'At Risk' can be obtained.

Table 7. Breakdown of type of measures required for each waterbody type

Waterbody Type	Type of measures required				Total
	Protect	Additional Evidence Required	Measures Assessment Required	Restoration	
River	1,143	568	171	1,310	3,192
Canal	6	-	8	2	16
Lake	402	256	15	139	812
Transitional	42	84	18	52	196
Coastal	55	41	4	12	112
Groundwater	335	-	91	88	514
Total	1,983	949	307	1603	4,842

Figure 17. Breakdown of type of measures required for each waterbody type



3.2 Protected Areas

Protected areas are areas that have been designated as requiring special protection because of their particular importance. These areas include bathing waters, sources of drinking water, areas in which shellfish are grown or harvested, locations with sensitive habitats and species, or areas that are particularly affected by eutrophication due to excessive inputs of phosphorus and/or nitrogen from urban waste water. Maps identifying the location of each of these areas are available online at www.catchments.ie. The water-related condition of these protected areas is set out below.

Bathing Waters

Assessed under the 2008 Bathing Water Quality Regulations, the latest published Bathing Water Quality Report for 2020 [www.epa.ie/publications/monitoring--assessment/freshwater--marine/bathing-water-quality-in-ireland-2020-.php], identified 148 bathing waters across Ireland, an increase from 135 in 2011. 96% (142) of these met or exceeded the minimum required standard of Sufficient, with 89% (132) of bathing waters classified as either Excellent or Good. Only 4 bathing waters were classified as Poor. Two new bathing waters were identified in 2020 and will be classified following the 2021 bathing season.

While improvements are continuing to be seen year on year, work is still required to ensure issues at those bathing waters not meeting the required standard are addressed. In terms of 'Poor' bathing waters, the most frequent pressure found to be impacting on these waters was urban waste water, including misconnections from domestic plumbing that flows directly into streams. While diffuse pollution from agriculture was impacting one Poor bathing water site, issues with septic tanks, dog fouling and birds can also be found in places.

Drinking Water Protected Areas

The WFD requires the identification of Drinking Water Protected Areas (DWPAs). These are surface waters and groundwater bodies from which water is abstracted for people to drink. In most cases this raw water is treated to the required drinking water standards.

The 2019 EPA report on the quality of drinking water across 1,164 Public Water Supplies (Irish Water Supplies and Public Group Schemes) and 1,835 Private Water Supplies (Private Group Schemes and Small Private Supplies), highlighted that;

- 99.9% of samples in public supplies were free of *E. Coli*, an indicator of pollution in the water supply and a harmful bacteria. However, 108 private supplies had samples that failed the microbial standard.
- 33 public supplies had samples that failed the pesticides standard. The main contaminant found was MCPA (2-methyl-4-chlorophenoxyacetic acid), a widely utilised herbicide that is used for rush control in grassland and for other weed control purposes.
- Two public supplies and 24 private supplies had samples failing the nitrate standard. The main nitrate sources in Ireland include chemical fertiliser, organic manures, and domestic and urban waste water.
- 46 public supplies and 12 private supplies had samples failing the trihalomethanes (THMs) standard. THMs are chemical compounds that can occur when chlorine, which is used to disinfect the water, reacts with natural organic matter in the water.

Shellfish Waters

Although the Shellfish Waters Directive (SWD) has been repealed, areas used for the production of shellfish that were designated under the SWD, are protected under the WFD as 'areas designated for the protection of economically significant aquatic species'. The requirement from a WFD perspective is to ensure that water quality does not impact on the quality of shellfish produced for human consumption. In Ireland, 64 areas have been designated as shellfish waters (S.I. No. 268 of 2006, S.I. No. 55 of 2009, S.I. 464 of 2009).

Waterbodies containing designated shellfish waters are considered to be meeting their Protected Area objectives where a water quality parameter is below the concentrations given in the Regulations or where there is at least 75% compliance with the microbial guide value for shellfish based on quarterly sampling. Assessed by the Marine Institute, the average dissolved concentrations for metals in shellfish waters for the period 2016-2019 all complied with the environmental quality standards. In terms of the microbial quality in shellfish flesh against the *guide E. coli* value, the Marine Institute's assessment for 2018 indicated that 82.5% of shellfish waters were compliant. This was an improvement from 75% in 2015.

In addition to the assessment of other pressures on impacting on shellfish waters, Urban waste water discharges in the vicinity of shellfish waters are being assessed to determine if they are contributing to failures and whether more stringent waste water treatment standards are required.

Water Dependent Habitats and Species

Many of the habitats and species listed for protection in both the Birds and Habitats Directives are water dependent. In total, approximately 88% or 385 of the 439 Special Areas of Conservation (SACs) have water dependent habitats or species, with 90% or 149 of the 165 Special Protection Areas (SPAs) having water dependent bird species.

While maintenance and restoration of these features to favourable conservation status is the responsibility of the National Parks and Wildlife Service, waterbodies were assessed to see if they met the supporting water quality requirements for habitats and species using their assessed status for the period 2013-2018.

With the exception of the freshwater pearl mussel, the minimum standards for the supporting conditions for protected habitats and species are not well defined. In the absence of detailed supporting conditions for other species, Good ecological status is set as the objective. The exception to this is the freshwater pearl mussel, which has additional requirements for supporting conditions set out in the Freshwater Pearl Mussel Regulations (S.I. No 296 of 2009). Results of the overall assessment are outlined in Table 8.

For the Freshwater Pearl Mussels (FWPM), of the 97 river waterbodies with designated FWPM habitats, 20 (20.6%) had achieved the required standard as set out in the FWPM Regulations.

Of the 44 Groundwater Dependent Terrestrial Ecosystems delineated and assessed, three associated groundwater bodies were at Poor status and 41 (93.1%) were at Good status for the assessment period 2013-2018.

Nutrient Sensitive Areas

EU member states are required under the Urban Waste Water Treatment Directive (91/271/EEC) to identify nutrient-sensitive areas. These have been defined as “natural freshwater lakes, other freshwater bodies, estuaries and coastal waters which are found to be eutrophic or which in the near future may become eutrophic if protective action is not taken”.

The EPA recently carried out a review of nutrient sensitive areas downstream of large urban waste water discharges, with 76 waste water discharges identified for assessment. On completion, a total of 66 areas downstream of 51 of these discharges were identified as nutrient sensitive. This is an increase from the previous assessment in 2016, which identified 64 nutrient sensitive areas downstream of 48 discharges.

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

3.3 Artificial and Heavily Modified Water Bodies

Artificial waterbodies

Artificial waterbodies are surface waterbodies which have been created in a location where no water body existed before, and which have not been created by the physical alteration, movement or realignment of an existing water body. There are 16 artificial waterbodies at present, all of which are canals. As outlined on Table 2 and Figure 2 above, fourteen canal waterbodies are at Good status. Grand Canal Basin is at Moderate status, and the Shannon-Erne canal is at Poor. Canals are monitored and managed by Waterways Ireland.

Table 8. Assessment of supporting requirements for habitats and species (including the freshwater pearl mussel)

Water Body Type	Total No.	Meeting the Requirements	Did not meet the Requirements	Unknown*
Lakes	424	362 (85%)	42 (10%)	20 (5%)
Rivers	1,199	510 (43%)	352 (29%)	337 (28%)
Transitional and Coastal	144	62 (43%)	77 (54%)	(3.5%)

*As the waterbody status was unassigned.

Heavily modified waterbodies

Heavily modified waterbodies are bodies of water which have been substantially changed in physical character as a result of alterations by human activity for the purposes of a specified use. In this context, physical alterations mean changes to the hydromorphology of the waterbody, for example, the size, slope, form, shape and function of a river bed and its banks, and its flow or water level regime. The specified uses include water storage and regulation for drinking supply and power generation, navigation, flood protection, drainage for protection of agricultural lands, and urban development.

In heavily modified waterbodies the hydromorphological or physical character of the waterbody cannot be restored sufficiently to support Ecological Status, without impacting on the specified use. As a result, these water bodies are set an environmental objective of 'Good Ecological Potential', which allows for the fact that their hydromorphology has been modified to facilitate the specified use.

However, **heavily modified waterbodies are still expected to meet the required standards for all the other water quality elements**, such as physico-chemical conditions, nutrients, specified pollutants and chemicals. Measures are also required to mitigate the hydromorphological impacts to the greatest extent possible given the specified use.

In the first and second cycle river basin management plans, there were 33 waterbodies designated as heavily modified (see Table 9). These included 5 rivers used for water storage and flood protection; 16 lakes used for water supply and power generation; and 12 transitional and coastal waters modified for ports or harbours. Of these, 13 had achieved Good Ecological Potential, 10 required additional measures, and there were insufficient monitoring data available to determine the condition of the remaining 10 waterbodies.

Review of the heavily modified waterbody designations

With the current list of designated heavily modified waterbodies being in place since the first river basin management planning cycle, the second cycle river basin plan committed to reviewing the basis for designating HMWB's and setting ecological potential based on improved knowledge and assessment tools. Supported by new guidance on designations published during the second cycle by the European Commission, along with a stronger evidence base, the EPA is in conjunction with DHLGH and the National Hydromorphology Working Group currently undertaking this review.

Initial evidence indicates that there are more waterbodies that have been heavily modified than has previously been designated to date, both within the specified use categories included in the first cycle, and in some of the other specified use categories not previously considered. For example, the number of waterbodies that have been significantly altered in physical character as a result of arterial drainage schemes is significant. Depending on the outcome of the review process, there may be significantly more waterbodies designated for the third cycle.

The main steps in this review process are:

1. Technical review of the evidence and engagement with specified use owners
2. Review by the Hydromorphology Working Group, a subgroup of the National Technical Implementation Group chaired by the EPA
3. Public consultation on the proposed list of candidate heavily modified waterbodies
4. Inclusion of the final list of heavily modified waterbodies designated by the Minister in the final river basin management plan.

Step 2 is close to completion. Once complete, a public consultation on the proposed candidate list of heavily modified water bodies will be undertaken. This consultation will be separate but in parallel to the river basin planning consultation. However, the outcome of the consultation and the final designations by the Minister will be set out in the final RBMP.

Table 9. Condition of the second cycle heavily modified waterbodies

Waterbody type	At Good Ecological Potential	Less than Good Ecological Potential	No monitoring data	Total
River	1	3	1	5
Lake	7	2	7	16
Transitional and Coastal	5	5	2	12
Total	13	10	10	33



It is important to reiterate, that waterbodies with a heavily modified designation are still expected to meet the required standards for all the other water quality elements, with measures to mitigate to the greatest extent possible the hydromorphological impacts also required.

As our understanding of the role of hydromorphology in supporting good ecosystem health continues to evolve over time, this will further inform the future reviews as required by the Directive.



Action: Undertake a technical review and public consultation on the designation of Heavily Modified Water Bodies.

3.4 Impacts of Climate Change

While water is at the heart of adaptation to climate change, serving as the crucial link between the climate system, human society and the environment, it is a finite and irreplaceable resource. Only if well managed is water renewable. Managed efficiently, water can play a key role in strengthening the resilience of social, economic and environmental systems.

As we aim to achieve good status for all our water bodies, new challenges in the form of impacts from climate change will emerge. As outlined in the latest United Nations Intergovernmental Panel on Climate Change (IPCC) Report, Climate change is already affecting every region on Earth, in multiple ways. But it not just about temperature. Climate change is bringing multiple different changes in different regions – which will all increase with further warming. These include changes to wetness and dryness, to

winds, snow and ice, coastal areas and oceans. In terms of water, while Ireland has abundant water resources, the impacts of climate change are already being felt and are expected to continue and intensify in the years and decades to come. This is in addition to the increasing demand on our water resources from population change and an economy which is expected to grow strongly over the coming years.

As seen in some of the responses to the consultation on the Significant Water Management Issues, while acknowledged as a significant issue, Climate Change should be considered the driver of environmental factors that impact on water quality and quantity as opposed to a significant management issue itself.

An assessment of key future climate risks to the water quality and water services sectors is outlined in the Government's Climate Adaptation Plan for the Water Quality and Water Services Infrastructure Sectors. Published by DHLGH in October 2019, the plan marked an important first step in climate change adaptation planning for Ireland's water industry, bringing together multiple sectors to develop a set of priority actions and adaptive measures. The assessment showed that Ireland's future climate is expected to witness;

- Increasing temperature resulting in more heatwaves, more drought and fewer frost days
- Changes in precipitation levels, intensity and distribution (drier summers, wetter winters)
- Increase in intensity of storm events (including heavy precipitation, wind, hail, lightning)
- Increasing sea level rise and storm surge levels.

The challenges faced by water quality and water services Infrastructure due to this projected change in climate include;

Water Quality Impacts

- High rainfall and flooding leading to mobilisation of pollutants
- Reduced dilution of contaminants in water bodies at low flow
- Drying of peatland resulting in the reduction of natural filtration of pollutants
- Increased spread and viability of pathogens, such as livestock waste and slurry
- Changes in the distribution and viability of native, non-native and invasive flora and fauna

Water Services Infrastructure Impacts

- Increased surface and sewer flooding leading to pollution, water and waste water service interruptions.
- Reduced availability of water resources.
- Hot weather increasing the demand for water.
- Increased drawdown from reservoirs in the autumn/winter to provide greater flood capacity, leading to resource management issues.
- Business continuity impacts or interruptions for water services providers.

The plan also outlines the adaptive measures available to build resilience to the effects of climate change and weather related events, and other Socio-Economic developments in both sectors. Many of the adaptation measures identified in the plan, which should be considered by organisations and stakeholders in their plan making processes, are already underway.

As a result of the potential impacts of climate change on water resources, the planning for droughts and water scarcity is increasingly crucial. In this regard Irish Water is developing the National Water Resources Plan (NWRP). The NWRP will outline how Irish Water will move towards a safe, secure, reliable and sustainable public water supply over a 25-year timeframe. Enabling Irish Water to transform our water supplies at a national level, the plan will look for resilient solutions across all of our water supplies in terms of reducing leakage (lose less), promoting water conservation (use less) and developing resilient supplies (supply smarter).

To ensure our water resources remain resilient to the effects of climate change, they will also require investment. Supported through our National

Development Plan, Ireland is currently providing an unprecedented investment of €8.8 billion in public water and waste water infrastructure over a ten-year period up to 2027, underlining the strength of the Government’s commitment to investment in this key area.

Critical to helping to improve the understanding of climate change impacts and the development of appropriate measures and solutions is research and innovation. For example, recent research carried out by the EPA (High-resolution Climate Projections for Ireland²) that attempts to localise global and regional climate models into a high resolution prediction for Ireland (at 4km grid resolution), will be an important input into our future policy work and identification of appropriate measures.

In terms of the programme of measures for the third-cycle plan, there is a need to consider the possible effects of climate change when selecting and implementing measures. These measures will need to be resilient to climate change impacts, especially expensive and long-term investments such as large infrastructure projects.

As a result, a climate change sensitivity analysis or “climate check” will be required for all measures carried out under this plan to test their ability to perform under future climate conditions. This is to ensure that the actions selected are effective, sustainable and cost efficient under changing conditions.

Additional measures for inclusion in the final plan are included below.

-  **Action:** To ensure that the actions selected are effective, sustainable and cost efficient under changing conditions, a “climate check” will be required for all measures carried out under this plan.
-  **Action:** Update the Climate Adaptation Plan for the Water Quality and Water Infrastructure Sectors.
-  **Action:** Examine opportunities in the monitoring programme to improve our understanding of climate change trends.
-  **Action:** Support additional research and pilot projects in the area of climate change.

2 High-resolution Climate Projections for Ireland – A Multi-model Ensemble Approach by Dr Paul Nolan and Dr Jason Flanagan www.epa.ie/pubs/reports/research/climate/researchreport339/

4

Implementation of Second Cycle Plan

4.1 Progress to date

In July 2010, the first-cycle River Basin Management Plans (RBMPs) for Ireland were published, covering the period up to 2015. Moving away from multiple River Basin Districts to just one National River Basin District, the second RBMP process was radically different to the first RBMP.

The second cycle plan should have been finalised by December 2015, covering the period 2016-2021. However, delays in preparation of the second cycle plan occurred due to the extent of reforms in the water services sector in Ireland at the time. As a result, Ireland was two years behind the timelines stipulated in the WFD for delivering the second cycle of RBMPs. The second cycle plan was finally published in April 2018 and covers the period 2018-2021.

Building on the lessons learned from the first planning cycle, the second plan delivered new approaches to governance, river basin management planning and catchment management. It put in place a much-improved evidence base to underpin the decision-making both nationally and locally, along with a stronger and more integrated approach to public consultation and engagement. It set out a strong suite of both national measures, and prioritised supporting local measures, all of which are having a significant effect on the management and protection of water resources.

The Plan's key measures included:

- **Investment of €1.7bn by Irish Water** in waste water projects and improvements to collection systems over the period 2017-2021.
- **Water Conservation and leakage reduction:** Aiming to achieve sustainable and efficient use of water by addressing (i) the high levels of leakage in water distribution networks and the associated unaccounted-for water and (ii) the very high levels of water use by the top 1% of domestic users (16%).
- New legislation and improved controls for **the management of water abstractions:** A water abstractions authorisation system to be established.
- **Extension of Domestic Waste Water Treatment Systems grant scheme** to assist with costs of domestic waste water treatment system / septic tank remediation in high status water areas and in Priority Areas for Action where defective systems are posing a risk to waters.
- **Deployment of 43 specialist local authority investigative assessment personnel**, under the expanded work programme of the Local Authorities Waters Programme (LAWPRO), to

carry out scientific assessments of water bodies and drive the implementation of measures at a local level.

- **A new collaborative Sustainability and Advisory Support Programme** between the State and the dairy industry, consisting of 30 Sustainability Advisers promoting best agricultural and environmental practices in the 190 'areas for action'.
- **The development of water and planning guidance for local authorities** to help with the consideration of risks to river basin objectives in planning and development decision-making.
- **The development of a collaborative approach to protecting drinking water sources** between stakeholders to effectively manage and protect drinking water sources at risk from activities in the catchment area.
- **Protection of high-status waters:** the creation of a 'blue dot catchments programme' for the protection of high-status water bodies, which will focus attention and resources across agencies.
- A new **Community Water Development Fund** to enable and support community water initiatives. This entails a commitment of €360,000 *per annum*.

Overall, the second-cycle plan contained some 86 individual measures. Every one of these measures are currently in progress. While a full report on the 86 measures will be published in the final plan, an interim assessment of the expected outcomes to be achieved by the end of 2021, which was published in the second-cycle plan, is outlined in Table 10.

Table 10. Interim assessment (end of 2020) of the Expected Outcomes from the Second RBMP

	255	Urban waste water treatment projects progressed	127 of the 255 projects are still to be completed. However, a number are at construction or planning for construction stage. It was also not deemed necessary to carry out works at two sites upon completion of feasibility studies.
	€73m	Invested to reduce water leakage by 61million m ³ per annum. Reduce leakage from 45% to 38%	Totalling 46% in 2018, Irish Water's rate of leakage nationally now stands at 42% and is on course to meet the target of 38% by 2021. This will result in 166m litres of water being saved daily by the end of 2021.
	30	Sustainability advisors in place to deliver the Agricultural Sustainability Support and Advisory Programme	Advisors in place since 2018, with approximately 2,100 farm visits record.
	43	Technical personnel deployed to regionally based Local Authority Water support and Advisory Teams	Following staffing review, a need for 38 positions was identified, with staff currently in place as part of LAWPRO's Catchment Assessment Team.
	23,000	18,000 Farmers will receive sustainability advice through the Dairy Sustainability Initiative (DSI) and 5,000 Farmers under the Agricultural Sustainability Support and Advisory Programme (ASSAP)	<ul style="list-style-type: none"> • 2,100 farm visits by ASSAP advisers. • 16,000 engagements with dairy farmers through Teagasc/DSI initiatives. • DSI's SWITCH programme and other advisory services providing 18,000 farmers with information on good practices and sustainable dairying.
	4,000	Inspections under the National Inspection Plan for Domestic Waste Water Treatment Systems	3,222 inspections completed.
	3,000+	Water abstractions registered and an authorisation system implemented	1,843 registered abstractions at July 2020, including all public abstractions, with approval issued by Government for the drafting of legislation to provide for the registration and licensing of water abstractions.
	1	Guidance for planning authorities on physical planning and the Water Framework Directive	Public consultation on the draft guidance is expected in Q3 2021
	726	Water bodies to achieve general water quality improvements	To be confirmed on publication of next water quality report – See explanation below
	152	Water bodies to experience improved water quality status	To be confirmed on publication of next water quality report – See explanation below



Due to the delay in producing the second-cycle plan, the majority of measures were implemented after the latest set of full EPA monitoring data was produced. As a result, it is difficult to accurately report on the success of the measures in terms of water quality at this point in time. A clearer picture will emerge by the time the final RBMP is adopted.

However, as part of their indicators series of monitoring data, the EPA does report that there has been a net improvement in water bodies that were prioritised in the second-cycle River Basin Management Plan. This is an encouraging trend and perhaps an early indication that the chosen measures are beginning to work.

For example, in terms of rivers, of the 1836 (out of 2,355) river water bodies assessed in 2019 and 2020, there was a net improvement in quality overall (115 river water bodies), although in some catchments there were overall net declines. This overall net improvement was also seen in the Priority Areas for Action (57 water bodies) which builds on the improvements reported previously. The number of river water bodies in bad biological condition has reduced to two.

While it is too early to assess the full outcomes from the current RBMP, the Plan's structures, methods, outputs and interactions can certainly be considered and adjustments made to the measures where appropriate for the third-cycle.

4.2 Ongoing work

A number of key new measures initiated during the second-cycle will continue into the next cycle. These will be continually reviewed and improvements made where considered necessary. These measures are briefly outlined below.

Regional Local Authority Structures and the Local Authority Waters Programme (LAWPRO)

The five local authority regional committees, supported by LAWPRO, have responsibility for the co-ordinated delivery of measures at regional and local levels and ensuring a consistency of approach across the regions. The five regional committees are chaired at Chief Executive level, with active participation and technical advice from the EPA. Each committee is supported by an Operational Committee with membership drawn from all the relevant public and implementing bodies and chaired at Director of Service level.

The local authority structures are central to tracking the progress and effectiveness of implemented measures, providing progress reports on the Priority Areas for Action. The local authority structures also have a vital role in supporting national policy development and implementation through their participation in the WPAC and the NCMC. LAWPRO also has an important role in these structures, not

least in terms of ensuring public and stakeholder engagement with the implementation of measures at regional and local level.

Agricultural Sustainability Support and Advice Programme (ASSAP):

The Agricultural Sustainability Support and Advice Programme (ASSAP) provides farmers with sustainability advice and support where LAWPRO identify potential risks to local water quality. This advisory service is critical to supporting efforts to improve water quality and reduce agricultural impacts in the Priority Areas for Action.

High Status Water Bodies:

The ongoing issue of the loss of our high-status waters and the need to protect and restore them is a priority. The “Blue Dot Catchments Programme” was established in the second cycle, led by local authorities, with the aim of protecting and enhancing high status waters, many of which are located in headwaters in upland areas. This programme is intended to deliver multiple benefits, including awareness-building and education regarding pressures, the initiation of small-scale projects within communities and the improvement of water quality and biodiversity.

In support of the Blue Dots Catchment Programme an application was made for funding under the EU LIFE programme. In 2020, the EU Commission awarded LIFE co-funding for the ‘Waters of LIFE’ project. This project with an overall investment of €20m focuses on reversing the long-term trend of decline in the number of high-status river and lake sites. After some delays due to the COVID pandemic, the project has commenced with the appointment of a project manager in August 2021.

Domestic Waste Water Treatment:

Introduction of a new funding support scheme for domestic waste water treatment systems (commonly known as septic tanks) that meet the following criteria;

- The Environmental Protection Agency (EPA) has developed a National Inspection Plan to help identify domestic waste water treatment systems that are not meeting the expected standard. The treatment system must have been inspected under this inspection plan and an advisory notice issued by the local authority under the Water Services (Amendment) Act 2012. The relevant Regulations are Housing (Domestic Waste Water Treatment Systems Financial Assistance) Regulations 2020 (SI No. 184 of 2020).

- The treatment system serves a house that is situated in a Prioritised Area for Action in accordance with the River Basin Management Plan 2018-2021, and a letter has been issued by the Local Authority Waters Programme Office on behalf of the relevant local authority, confirming eligibility to apply. The relevant Regulations are Housing (Domestic Waste Water Treatment Systems Financial Assistance for Prioritised Areas for Action) Regulations 2020 (SI No. 185 of 2020).
- The treatment system serves a house that is situated in a High Status Objective Catchment Area in accordance with the River Basin Management Plan 2018-2021. This can be checked by inputting an EIRCODE in the online map. The relevant Regulations are Housing (Domestic Waste Water Treatment Systems Financial Assistance for High Status Objective Catchment Areas) Regulations 2020 (SI No. 186 of 2020).

Water Abstractions Bill:

The second-cycle plan included a commitment to improve controls on abstractions. The preparation for a new legislative framework for the sustainable management of water abstractions is continuing. The General Scheme of the Water Environment (Abstractions) Bill is now approved by Government and was subject to pre-legislative scrutiny by the Joint Oireachtas Committee on Housing, Local Government and Heritage in October 2020. The Bill is currently being drafted with a view to publication as soon as possible.

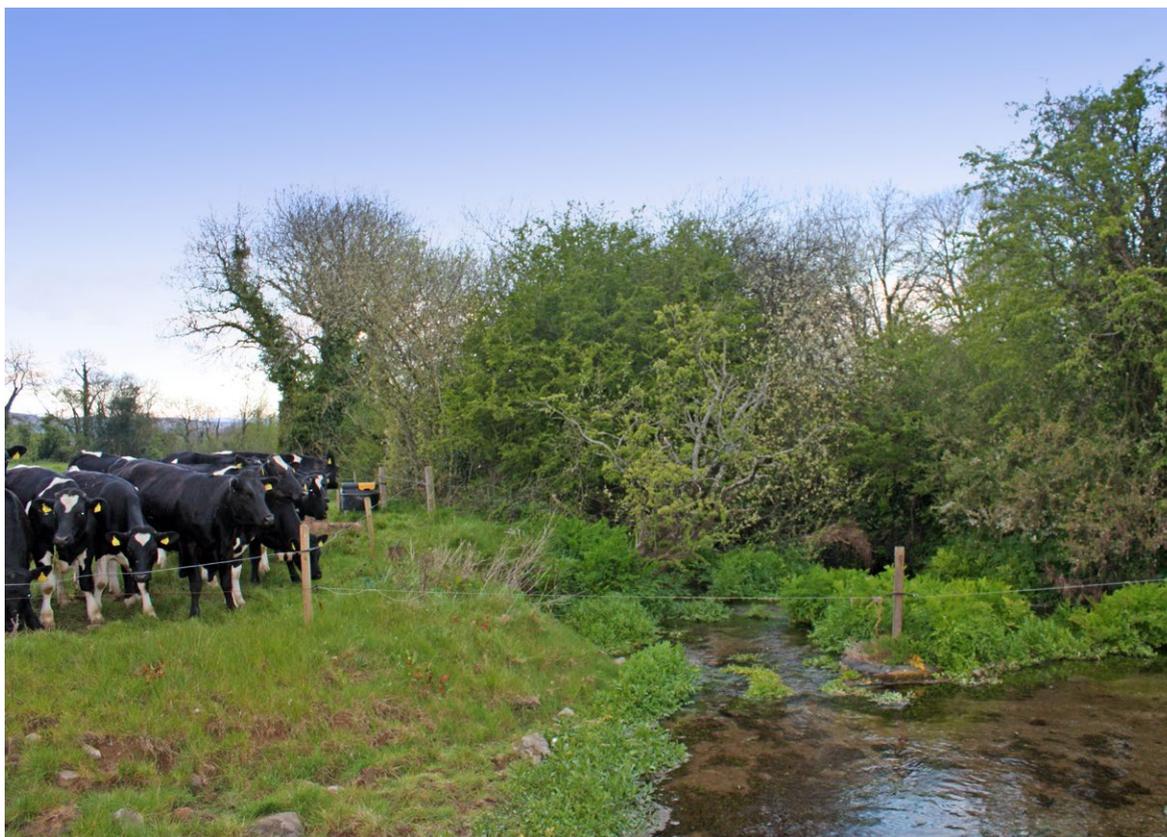
While 1,843 abstractions have been registered by the EPA (as of July 2020), the Bill provides for an authorisation system to control all significant water abstractions in compliance with the Water Framework Directive. The authorisation system will be operated by the EPA.

Public Participation and Stakeholder Engagement:

To address issues raised in the first-cycle plan, a number of initiatives were put in place to facilitate stakeholder engagement in the development of national policies and to also ensure engagement on implementation at a regional and local level.

An Fóram Uisce (The Water Forum)

Established as a statutory body in June 2018, **An Fóram Uisce (The Water Forum)** facilitates engagement and debate on issues relating to water as a resource, water quality, rural water concerns, issues affecting customers of Irish Water and issues associated with the implementation of the Water



Framework Directive. Providing recommendations and advice to the Minister for Housing, Local Government and Heritage, the forum facilitates public and stakeholder input into policy-development processes through public engagement. With the discretion to determine its own work programme, the work and outputs of the Forum are completely independent of government.

Local Authority Waters Programme (Formally Local Authority Waters and Communities Office - LAWCO)

In February 2016, the national Local Authority Waters and Communities Office (LAWCO) was established to engage with people at regional and local level. Now part of the Local Authority Waters Programme (LAWPRO), the local community water officers coordinate activities across all 31 local authorities, driving public engagement and consultation with communities and stakeholders.

Undertaking extensive community engagements, LAWPRO enables people to get involved with catchment-based approaches to improving water quality, and with the development and implementation of measures on the ground.

LAWPRO also plays a key role in delivering community water initiatives through the management of the Community Water Development Fund. Set up specifically to encourage greater community engagement around water related projects and

initiatives, the fund is helping to deliver benefits locally whilst also helping to meet the objectives of the current River Basin Management Plan and the wider EU Water Framework Directive.

www.Catchments.ie

To help share knowledge and information about our catchments, how healthy they are and the pressures they face, the EPA developed the catchments.ie website. This resource presents information on the 46 catchments, 583 sub-catchments and 4,829 water bodies that are found in Ireland. Sharing knowledge from the EPA's characterisation process and on the implementation of actions, the website allows all stakeholders to have access to up-to-date environmental information on their waterbodies.

The benefits and improved engagement from this ongoing work can already be seen, with engagement on the Significant Water Management Issues consultation totalling 170 replies compared to the 56 received for the same consultation on the second-cycle plan and the recent Community Water Fund allocations for 2021 being oversubscribed.

4.3 Continued Monitoring, Evaluation and Review

As part of the ongoing monitoring, evaluation and review of measures contained in the second-cycle Plan, the following review processes have been initiated to learn from implementation and to identify ways to strengthen the current implementation structures. The outcomes of these reviews will further influence the measures and structures to be included in the next plan.

ESRI Joint Research Programme on Water

Funded by the Department of Housing, Local Government and Heritage, the Economic and Social Research Institute (ESRI) was engaged to undertake a joint research programme on water. With a focus on behavioural and attitudinal change towards Ireland's water resources, the aim of the research programme is to support implementation of the WFD and associated activities.

Governed by a steering group that is made up of representatives for various implementation bodies, the programme commenced work in May 2020. Conducted as a research programme, as opposed to a research project, this research will involve a series of projects on a related theme that will be carried out over a period of time. To date the research team has submitted two papers on the following;

1. An evaluation of public initiatives to change behaviours that affect water quality: Evaluation of LAWPRO community engagements – This project looked to understand whether community engagement activities lead to more sustainable practices.
2. Knowledge and Attitudes of Public Authorities towards Water Quality – This project considered the dissemination of good practice within Local Authority public services by the WFD implementation structures.

A number of projects are currently being progressed or are under consideration for inclusion in the work programme for 2021-2022 by the steering committee. These include;

- Agricultural Sustainability Support and Advice Programme (ASSAP): An evaluation of the impact of tailored farm advisory service (in progress)
- Community Water Development Initiatives – an assessment of impact (in progress)
- Identifying behavioural/attitudinal issues related to water quality among farmers (for consideration)
- Impact of environmental subsidies on farming practices (for consideration)

- Farm Discussion Groups – a framework for behavioural change (for consideration)
- Identifying behavioural/attitudinal issues related to domestic waste water treatment systems and the applications for grants (for consideration).

Review of the Local Authority Waters Programme and Wider Local Authority Structures

As mentioned above, the Local Authority Waters Programme (LAWPRO) has a vital role in the implementation of the WFD in Ireland. In preparation for the third-cycle Plan, the Minister for Housing, Local Government and Heritage initiated a review of the LAWPRO operation to consider its effectiveness in delivering on its objectives and to identify opportunities for improving its operation during the next Plan, taking into account the wider policy development in relation to the water environment and the role of local government.

Carried out by Dr. Matt Crowe, former director in the EPA, the review concluded that LAWPRO was a successful initiative and should be continued. Effective in catchment assessments and collaboration with implementing bodies, LAWPRO also effectively supports communities to engage with their local waterbodies and participating in the WFD process. The key conclusions and recommendations from this review, including a further efficiency and effectiveness review of LAWPRO's resources and structures, will be progressed in preparation for the third plan.

It was also recognised that LAWPRO and indeed the wider environmental function within local authorities needed to evolve to a more strategic leadership and coordination role – helping all local authorities and local communities do a better job at protecting and improving water quality. On this basis, and following engagement with the County and City Management Association (CCMA), a review of the wider local authority structures is now under way to inform this evolution and identify the appropriate level of resources and involvement required from the sector to meet WFD objectives.

IPA Governance Research

Commissioned by the Environmental Protection Agency, the Institute of Public Administration (IPA) is currently engaged in a two-year research programme to review Ireland's water governance arrangements. The aim of this research is to inform preparations for the third-cycle Plan and also to share lessons learned from water governance with other policy areas.

Recently published by the EPA, a number of substantive papers have been developed by the

research team. Acknowledging the significant progress made under the second-cycle Plan, the research makes a series of recommendations to support those involved, both in consolidating aspects of governance where there has been strong progress and in addressing areas of limited progress (see section 5.3.1 Implementation / Governance for further details).

Review of the Agricultural Sustainability Support and Advisory Programme (ASSAP)

The Agricultural Sustainability Support and Advisory Programme (ASSAP) was introduced as part of the suite of measures in the second-cycle plan. This was a key measure and represented in the move away from a largely regulatory-based 'one size fits all' approach towards one that also includes significant collaboration.

Through state and industry collaboration, the programme provides an evidence-based approach to pressure identification and farmer-focussed advice in the 190 priority areas for action (PAA's). Funding from DAFM and DHLGH has enabled Teagasc to provide 20 advisors and funding from the Dairy Processing Co-ops have provided 10 advisors as part of the Dairy Sustainability Initiative (DSI).

Launched in 2018, this new and innovative approach to improving water quality required the establishment of new methodologies, structures and systems to implement the programme. In many cases these were newly conceived and required time to develop. Some unforeseen obstacles, including the COVID pandemic, have impacted on the level of farm visits undertaken by the programme. However, as seen from their interim report [<https://www.teagasc.ie/publications/2020/assap-interim-report-1.php>], strong collaborative relationships have been established between the ASSAP advisors, Teagasc, the dairy processing co-ops and LAWPRO, with a substantial amount of progress being made.

However, with a commitment in the programme for government to expand this programme, to build on the work to date, clarity is needed on the future role and scope of ASSAP. As a result, an assessment of the programme is currently being prepared by Teagasc to be carried out by a panel of external experts. The assessment will review, examine, evaluate, comment and report on the rationale, efficiency, effectiveness and sustainability of ASSAP to date, along with recommendations for the future and its role and objectives under the third-cycle plan.

The assessment is due for completion before the end of 2021 and in time to influence any specific requirements for inclusion in the next plan.

Further details regarding the proposed measures that have been influenced by the outcomes and recommendations of these reviews are detailed in Section 5, Programme of Measures.



Action: Progress further studies under the ESRI Joint Research Programme on Water.



Action: Review to be undertaken of the Local Authority Waters Programme and Wider Local Authority Structures to inform their evolution and identify the appropriate level of resources and involvement required from the sector to meet WFD objectives.



Action: DHLGH to review the outcomes of the IPA Governance Research programme on Ireland's water governance arrangements and implement their recommendations where appropriate.



Action: Carry out an assessment of the Agricultural Sustainability Support and Advisory Programme (ASSAP) to review, examine, evaluate, comment and report on the rationale, efficiency, effectiveness and sustainability of ASSAP to date, along with recommendations for the future and its role and objectives under the third-cycle plan.

5

Programme of Measures – how we protect and restore water

5.1 Introduction

Management measures are required to protect and restore natural waters. These measures are many and diverse. They include the implementation of eleven existing EU Directives such as the Nitrates Directive and the Urban Waste Water Treatment Directive. The Water Framework Directive also introduced new mandatory measures, including the control of water abstractions, the control of engineered alterations to natural waters (hydromorphological changes) and the protection of vulnerable catchments from which drinking water is sourced.

With regard to the implementation of regulatory regimes arising out of the existing EU Directives continual efforts to secure full environmental compliance and to increase enforcement, where necessary, is essential. This is one of the key goals of the proposed 2022-2027 programme of measures. In addition, a number of new management regimes are in the process of being introduced to strengthen controls on water abstractions and engineered alterations to natural waters. The transposition of the new 2020 Drinking Water Directive will also provide the opportunity to implement a more comprehensive and robust approach to drinking water source protection.

In addition to the measures mentioned above a number of 'supplementary measures' have been put in place during the second river basin planning cycle. These were judged to be necessary to drive water quality improvements and protection in a coherent manner following extensive consultations. They included, for instance, new governance and implementation structures (such as LAWPRO and ASSAP), additional water protection measures under CAP, additional investment in public waste water infrastructure and the remediation of domestic waste water treatment systems. The supplementary measures also included further technical research and development to improve our knowledge of environmental pressures on water and how to address them effectively.

The characterisation process led by the EPA and supported by a broad range of stakeholders is particularly important for identifying the types and location of risk and impacts on waters. The recent technical advances mean that a more comprehensive, robust and streamlined management regime can now be designed and implemented. We have a clearer view of what mitigation measures are required and where those measures need to be implemented locally to improve the status of natural waters, in other words, '*putting the right measure in the right place*'.

The proposed new and enhanced measures contained in this draft plan reflect the additional measures considered necessary to deliver the objectives of the WFD in full and to contribute to other environmental priorities including biodiversity and climate mitigation and adaptation (see appendix 2 for the full list of measures).

The additional and enhanced measures proposed in this draft plan, take into account;

1. The high level of environmental ambition committed to in the Programme for Government
2. Where possible, set quantitative targets for the deployment of measures
3. The updated characterisation / risk assessment outcomes
4. Lessons from the implementation of measures to date
5. Feedback from a wide range of stakeholders, including 170 submissions during the consultations on Significant Water Management Issues.
6. The scientific evidence for the purpose of targeting 'the right measure in the right place'
7. The goal of delivering integrated, multiple policy objects for water, biodiversity and climate, wherever possible³
8. The evolving governance and implementation structural needs for the next cycle
9. The need to increase environmental enforcement and compliance
10. Opportunities to strengthen links between the WFD and other regulatory processes
11. The need to replace outdated and deficient regulatory regimes with more comprehensive, robust and streamlined management regimes.

Notwithstanding the SEA/AA process that has been applied to this plan, all measures and projects arising during the third-cycle RBMP will be subject to further environmental assessments at the appropriate level, if required. In completing any required assessment, the responsible agency and/or project partners should ensure the utilisation of the appropriate tools available, such as the EPA's Environmental Sustainability Tool.

³ The integrated approach reflected throughout this draft river basin management plan aligns with the Framework for Integrated Land and Landscape Management (FILLM) proposed by An Fóram Uisce. FILLM builds on and is a reframing of the Integrated Catchment Management (ICM) approach used in water resources management. However, it broadens it to include the other components of our natural environment, while retaining catchments as the appropriate landscape units.

5.2 Protection of Water Bodies

Restoring water quality to good or high status and ensuring that water quality does not deteriorate, are both equal requirements of the Water Framework Directive.

Recent EPA water quality reports show some successes in restoring the quality of water bodies, but these improvements have been overshadowed by an overall net decline in the status of our water bodies. This highlights the need for a greater focus on the protection of water quality.

The reasons for these deteriorations are not always clear. They can include pollution incidents, land development and changes in land use or in the activities that take place on land. Protection of water quality will therefore require all stakeholders whose activities may impact on waters working together to achieve this goal.

There are three key elements to ensuring no deterioration:

1. Ensure that statutory measures are implemented in all areas, prioritised on risk to water quality, and that **a strong enforcement regime** is in place to support this. Enforcement needs to be underpinned by strong advisory and educational supports.
2. Ensure that **new development and changes in existing land** use or in the activities that take place on land are appropriately assessed and appropriate mitigation measures are put in place, so that they do not adversely impact on water quality.
3. Rigorous assessment of statutory measures is required to ensure that they are adequate to protect water quality. Where they are not, consideration should be given to making certain supplementary measures mandatory.

A key protect measure is the contribution of the local authority's planning and development system. This ensures transparency for the public where development with the potential to impact on water quality is publicly advertised and offers opportunities for the public to contribute to the assessment process.

The third cycle Plan aims to improve how regulation (including enforcement) and collaboration work most effectively together to deliver significant environmental improvements. As the key body for the enforcement of water protection legislation, such as the Good Agriculture Practice for the Protection of Water Quality Regulations and the Water Pollutions

Acts, local authorities need the appropriate resources and support.

In preparation for the third-cycle plan, and any additional functions assigned to them, local authorities through the County and City Management Association (CCMA) are working together with DHLGH to further consider the role of local authorities in this area and the resources required to support them. This work will examine the full breadth of local authority/LAWPRO integrated catchment management functions at Tier 3 of the governance structure, including the restore and protect functions of local authorities and their regulatory and collaborative roles.

In addition, a Working Group will be established under the National Technical Implementation Group to examine implementation of current legislation governing activities impacting on waters and to identify opportunities to improve compliance with their water protection requirements. The focus will be on protecting waterbodies from pressures and activities which are resulting in deterioration of water quality.



Action: Working Group to be established under the National Technical Implementation Group to examine the implementation of current legislation governing activities which pose a risk to waters and to identify opportunities to improve compliance with it.

5.3 Structural/Societal Measures

5.3.1 Implementation / Governance

The Institute of Public Administration has conducted a series of research reports under the EPA's research programme, including an assessment of water governance in Ireland using the Water Governance Indicator Framework ([Using the OECD Water Governance Indicator Framework to Review the Implementation of the River Basin Management Plan for Ireland 2018-2021](#)⁴), a tool developed by the Organisation for Economic Co-operation and Development (OECD). This forms a key part of an ongoing 2-year research programme on experimental governance and water governance; it is aimed at drawing out wider learning from the study of water governance and is of relevance to the development of policy and practice in other areas of public reform.

The OECD produced this tool in 2018 to assist countries in assessing their progress towards the WFD goals. The IPA report puts a particular emphasis on informing future policy and practice to help inform

⁴ Using the OECD Water Governance Indicator Framework to Review the Implementation of the River Basin Management Plan for Ireland 2018-2021. www.epa.ie/publications/research/water/Research_Report_372.pdf

policy decisions on the governance arrangements for the third-cycle Plan.

The Reports and three further complementary reports are available on EPA.ie: one examining Ireland's water governance arrangements using an experimental governance lens ([Using an Experimental Governance Lens to Examine Governance of the River Basin Management Plan for Ireland 2018–2021](#)⁵), another studying two local case studies of local water catchment groups ([Case Studies on Local Catchment Groups in Ireland, 2018–2020](#)⁶) and a final one investigating the operation of the Water Forum (An Fóram Uisce) ([An Fóram Uisce \(The Water Forum\) as an Example of Stakeholder Engagement in Governance](#)⁷).

The OECD Water Governance Indicator Framework seeks to enable a transparent, neutral, open, inclusive and forward-looking dialogue across stakeholders on what does and does not work, what should be improved and who can do what. The IPA study finds that the new governance structures put in place under the second-cycle RBMP go a significant way towards achieving the objectives contained in the Water Governance Indicator Framework. There is considerable reassurance for those involved that the structures put in place in Ireland around water governance are appropriate and that there are no significant gaps or omissions. Having said that, the IPA is making specific recommendations for improvements in Irish water governance arrangements for each of the principles.

The research finds that benefits may be achieved by the different elements of the governance structures reviewing their terms of reference in the second-cycle RBMP and refreshing their approach. In addition, more robust monitoring of and reporting on progress in respect of the implementation of the RBMP is identified as a key finding.

Draft governance measures proposed for the third cycle include:

- The roles and responsibilities of the various implementation bodies to be clarified, with the committees at all three tiers of governance shifting emphasis from the sharing of information and the provision of updates to a more focused provision of high-level policy direction, monitoring implementation of the Plan, and project management.
- An enhanced programme of formal and scheduled monitoring and reporting of progress

in respect of the implementation of the RBMP will be put in place. This will be assisted with the implementation of 46 catchments plans as sub-plans to the national Plan. Supported by County level Implementation Plans these will provide a basis against which to assess implementation of measures.

- There will be a continued emphasis on the full range of the regulatory mix, from awareness and education, through to norms and enforcement. As part of this the balance in the third cycle will be reviewed to ensure a greater emphasis on compliance assurance activity
- There will be a specific capacity building programme of work put in place to encourage the transfer of learning and knowledge about how to make improvements locally, regionally or nationally.
- There will be a further activation, development and support of local level initiatives (rivers trusts, catchment partnerships)

The Government has committed to a collaborative approach to the development of the third-cycle Plan and so the Department has discussed the findings of the research with key stakeholders. On publication of the research findings, the research team, the EPA and the Department hosted two workshops: first with government bodies and the second with An Fóram Uisce. The objective of the workshops was to confirm with participants where improvements in governance arrangements are required and to identify ways forward. The report of these workshop will be available shortly from the research team. The findings of the research and the outcome of the two workshops will be used to inform any adjustments in Governance arrangements and these will be reported in the final River Basin Management Plan 2022 to 2027.



Action: DHLGH to provide clarification on the roles and responsibilities of the various implementation bodies, shifting emphasis from the sharing of information and the provision of updates to a more focused provision of high-level policy direction, monitoring implementation of the Plan, and project management.

5 [Using an Experimental Governance Lens to Examine Governance of the River Basin Management Plan for Ireland 2018–2021](http://www.epa.ie/publications/research/water/Research_Report_373.pdf) www.epa.ie/publications/research/water/Research_Report_373.pdf

6 [Case Studies on Local Catchment Groups in Ireland, 2018–2020](http://www.ipa.ie/_fileUpload/Documents/Local_Catchment_Groups_in_Ireland_May2021.pdf) www.ipa.ie/_fileUpload/Documents/Local_Catchment_Groups_in_Ireland_May2021.pdf

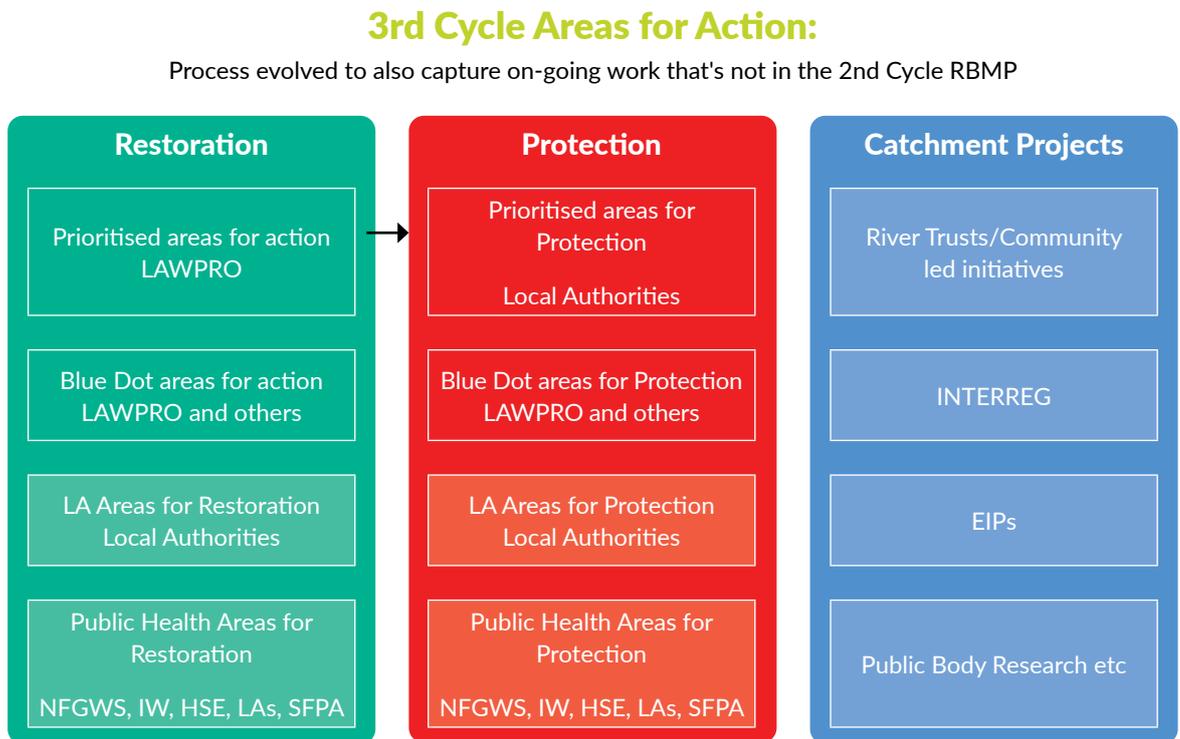
7 [An Fóram Uisce \(The Water Forum\) as an Example of Stakeholder Engagement in Governance](http://www.ipa.ie/_fileUpload/Documents/EPAIPA%20Water%20Forum%20Report%20Web.pdf) www.ipa.ie/_fileUpload/Documents/EPAIPA%20Water%20Forum%20Report%20Web.pdf

 <p>Action: An enhanced programme of formal and scheduled monitoring and reporting of progress in respect of the implementation of the RBMP will be put in place.</p>	 <p>Action: Ensure further activation, development and support of local level initiatives (rivers trusts, catchment partnerships).</p>
 <p>Action: Provide a continued emphasis on the full range of the regulatory mix, from awareness and education, through to norms and enforcement, with a review undertaken to ensure there is an appropriate balance in the third cycle to ensure a greater emphasis on compliance assurance activity.</p>	 <p>Action: Review the outcomes of the IPA/ EPA Governance Research Programme.</p>
 <p>Action: Specific capacity building programmes of work to be put in place to encourage the transfer of learning and knowledge.</p>	

5.3.2 Areas for Action

This section aims to outline the Areas for Action that are proposed for inclusion in the third-cycle draft River Basin Management Plan (RBMP). This approach expands on that taken for the second-cycle where Priority Areas for Action were managed by the Local Authority Waters Programme (LAWPRO). The current approach is designed to provide 'a place in the plan for everyone' by including a wider selection of Areas for Action incorporating Areas for Protection, Areas for Restoration and Areas for Catchment Projects. Further details of this framework are outlined in Figure 18.

Figure 18. Third-Cycle Areas for Action Framework



It is also a means of capturing the full extent of the work being undertaken in catchments that is expected to achieve water quality outcomes, by many stakeholders, in addition to that which is being carried out by LAWPRO. The following proposed areas for inclusion were agreed by each of the five Regional Operational Committees and five Regional Management Committees.

In total, **527** areas have been selected for focused attention in the third cycle. A map of the third cycle Areas for Action are displayed in Figure 19, with a full list of areas outlined in Appendix 3.

- **427** of these areas require restoration as they are not meeting their environmental objectives.
- **85** areas are meeting their environmental objectives but require dedicated protection measures to ensure their water quality does not deteriorate.
- **15** areas are the subject of catchment projects which aim to improve water quality.

Each area for action will have a designated lead such as LAWPRO, a local authority, the National Federation of Group Water Schemes, Inland Fisheries Ireland etc. With this approach we aim to capture all the water quality improvement work that is happening across the country. This approach will also align actions being carried out for other purposes with the objectives of the RBMP, where possible, so that synergies can be identified, and multiple benefits can be achieved.

The proposed areas were selected through a collaborative workshop process at each Regional Operational Committee. LAWPRO and the EPA led out on the process, in which all public bodies with water quality responsibilities participated. As part of the process priority was given to areas that linked with those outlined in the second-cycle plan, areas with a high-status objective and protected areas, such as bathing waters, shellfish waters and drinking water supply sources. The following additional principles were also considered:

- selection of areas for action at a sub-catchment scale where practical,
- address waterbodies in the headwaters first,
- look to address multiple pressures on water quality together,
- build on existing programmes including second cycle Priority Areas for Action and community group initiatives,
- build on existing improvements in water quality,
- aim to ensure a fair distribution of tasks between pressure owners, pressure types, bio-geophysical settings and regionally, and

- ensure the proposed areas included a mix of known, fixable issues and longer-term challenges.

All other waterbodies will benefit from the implementation of basic measures as part of each organisation's annual work programmes.

This implementation process will facilitate a collaborative approach across agencies, where activities are being undertaken in line with the integrated catchment management approach and it will present opportunities for agencies to learn from one another. This will allow for the development of an evidence base on approaches and actions that are successful in restoring and protecting water quality.

LAWPRO Priority Areas for Action (PAA)

A key tool in dealing with these areas is the work of the Local Authority Waters Programme (LAWPRO), who will prioritise their third cycle catchment work in **310** of the areas for action. Their catchment assessment process is carried out in two phases. In the first phase, they study all the available information on the catchment from various sources such as local authorities, EPA etc. They also meet with the public and local farmers to advise them of the work to be carried out and to seek their local knowledge of the catchment.

In the second phase, they sample and examine the waterbodies in detail on the ground. They analyse the results of that work to determine what the water problems are, and they recommend solutions to those problems. LAWPRO then works with the relevant bodies to encourage implementation of those measures.

The learnings from LAWPRO's work in the PAAs will inform work in other Areas for Action and highlight best catchment management practice to be applied in all water bodies across the country.

Blue Dot waterbodies are those which have, or have the capacity to have, the highest water quality and it is Ireland's ambition to preserve and protect them and to restore them where necessary. There are **384** Blue Dot waterbodies nationally and it is proposed to include **238** of them within Areas for Action in the third cycle. The Blue Dot Catchments Programme will continue its work towards ensuring that all Blue Dot waters continue to meet their high-status objective or improve to high status in the third cycle. The Programme will draft a detailed work plan in relation to these water bodies, with a view to them forming part of the 46 Catchment Plans. The monitoring and evaluation of progress will still be carried out by the Blue Dot Steering Group. The Programme will be supported by the Waters of LIFE Project. Furthermore, discussions are ongoing with the Department of Agriculture, Food and the Marine

regarding potential priority access to the new Agri-Environment Climate Measure (AECM) under the CAP Strategic Plan for farmers located within catchments with a high status objective.

The National Blue Dot Steering Committee will continue its programme of work to highlight the importance of Ireland's high-status waters and to work with the various implementing bodies, landowners, and the public to ensure that high status waters are protected and restored where necessary. LAWPRO's work in the catchments will help to identify work practices that advance this objective and can be applied across the country.

You can view the full report on the area for action selection process at https://lawaters.ie/app/uploads/2021/09/National-Area-for-Action-Report_3rd-Cycle.pdf



Action: Restoration works to be advanced in 427 areas where environmental objectives are not being met.



Action: Protection measures to be progressed in 85 areas that are meeting their environmental objectives but require protection to ensure their water quality does not deteriorate.

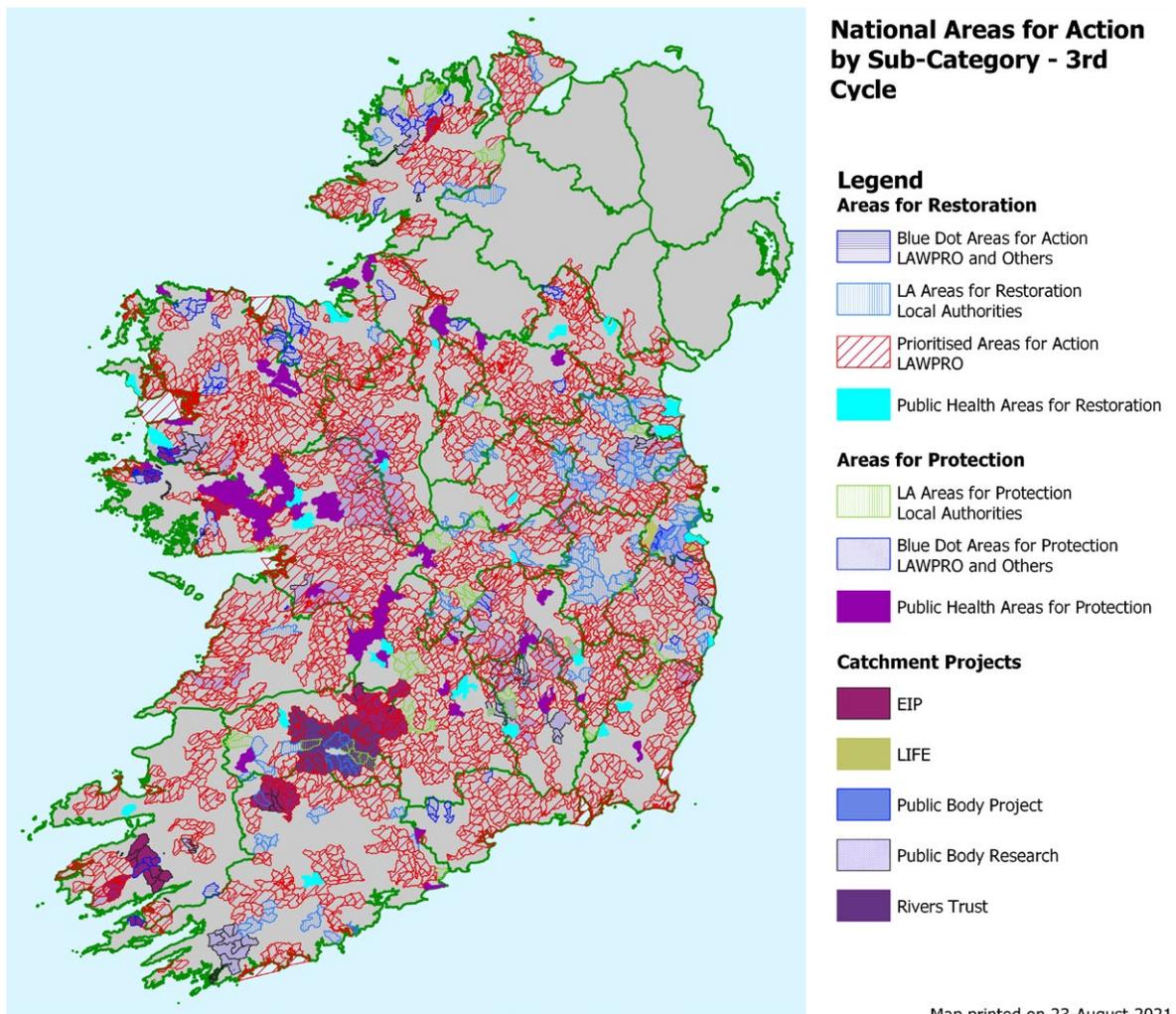


Action: Catchment projects aimed at improving water quality to be advanced in 15 areas



Action: The Blue Dot Programme to draft a detailed work plan for waters with a High Status Objective, with a view to them forming part of the proposed local catchment plans.

Figure 19. Map of third cycle Areas for Action



Map printed on 23-August-2021

5.3.3 Public Participation

A key element of the Water Framework Directive, Article 14 requires member states to encourage the active involvement of all those with a connection to our waterbodies in its implementation. Crucial to achieving many of the objectives of the WFD is the participation of all stakeholders and particularly the public, in the development and implementation of River Basin Management Plans.

While a number of groups, communities and individuals are already actively engaged in the river basin management planning process in Ireland, to help improve our water environment we would like to continue to nurture and grow this active engagement.

This view was shared across a number of responses to the Significant Water Management Issues consultation. While accepting the good work already in place, a common theme running through the majority of the responses was the need to further improve communications and education programmes and to ensure that the right message is getting to the right people, particularly at the community level.

An Fóram Uisce and the Local Authority Waters Programme (LAWPRO), two initiatives put in place to address the concerns raised in the first-cycle plans, continue to facilitate stakeholder engagement in the development of national policies and to also ensure engagement on implementation at a regional and local level. However, it is clear that there is still an appetite among the general public for more consistent and meaningful engagement with the river basin management planning process.

Not waiting for the third-cycle plan, DHPLG has already sought to improve our engagements with stakeholders by hosting a number of bilateral meetings with An Fóram Uisce, environmental NGOs and others during the plan making process.

In recognition of the growth of Rivers Trusts and Catchment Partnerships, funding has also been provided to LAWPRO to support the Irish River Trust's Resilience Pilot Project. A three year project, the funding will assist with the establishment phase for two Irish Rivers Trusts (Inishowen and Maigue) 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 to form the backbone of continuing water quality actors into the longer term. This pilot project will be evaluated and will inform future community engagement initiatives.

Although national measures are integral to the success of the Plan, the identification and implementation of "the right measure, in the right place" is a key driver in shaping the way we protect

our water bodies. To achieve this we need the help of communities. During the third-cycle we will examine ways in which we can further support the formation and capacity building of local forums to help identify and implement the right measures.

As part of the effectiveness and efficiency review of LAWPRO (see section 4.3 - Continued Monitoring, Evaluation and Review), consideration will be given to the resources required to fully support and strengthen their community engagement activities.

A commitment in the Programme for Government, the Community Water Development Fund, which is managed by LAWPRO was again oversubscribed with applications in 2021, will be expanded. The assessment being undertaken by the ESRI of the impact of the Fund (see Section 4.3) will help to inform the future shape of the Fund.

Building on the excellent work already undertaken by the EPA, LAWPRO and various other bodies, DHLGH will provide further supports for the development of a National Citizen Science Programme for the monitoring of water quality.

Finally, to further strengthen stakeholder engagement in the development of national policies, An Fóram Uisce will undertake a review as part of their strategic planning process to identify their optimum level of engagement with the implementation structures for the WFD.



Action: Evaluate the outcome of the Resilience Project for Rivers Trusts to inform future community engagement initiatives.



Action: Examine ways in which further support can be provided for the formation and capacity building of local forums to help identify and implement measures.



Action: Increase the level of funding under the Community Water Development Fund.



Action: Explore opportunities for the development of a national citizen science programme.



Action: An Fóram Uisce to identify the optimum level of engagement with the implementation structures for the WFD as part of their strategic planning process.

5.4. Environmental Measures

The draft plan has set out a description of each water type, the current status and the significant pressures on water. Presented in the order of most significant pressure category as identified by the EPA, below is a summary of the measures required and which are necessary to bring the bodies of water progressively to the required status in order to meet the environmental objectives.

5.4.1 Agriculture and water quality management

Agriculture is the main land use in Ireland. Farming and food production is now the main human activity impacting on water quality in Ireland. However, if land is farmed in harmony with nature, it will continue to provide sustainable incomes and beneficial ecosystem services into the future, such as nature-based water management and flood protection, protection of ecosystems, restoration of biodiversity and carbon storage.

Agriculture and food production is an important economic activity and, as was seen during the COVID-19 pandemic, the resilience of food supplies is important for people and our society. The 2020 Programme for Government acknowledges that the agri-food sector is our most important indigenous industry, providing 173,000 jobs and accounting for 10% of Irish exports. The Government has set a high environmental ambition in the programme, particularly focussed on climate, biodiversity and water, which are all inextricably linked. Agriculture plays a central role in this ambition. Consequently, the Government has committed to drive innovation and improvements in land management to reduce emissions to both air and water and to build on Ireland's green reputation for producing high-quality and sustainable produce, ensuring the long-term outlook for the agri-food industry is positive, vibrant and truly sustainable.

However, there are real challenges to this goal and collaboration is essential to overcoming them. Environmental trends for water, biodiversity and climate are, at the moment, going in the wrong direction. Too much fertiliser, pesticides and sediments are being wastefully lost from our farmland into water. Nutrients from farmland cause eutrophication and put water supplies at risk; organic pollution damages ecosystems and may cause fish-kills; pesticides may impact on the safety of water supplies and physical changes to rivers and lakes can impede the natural ecology of watercourses.

Urgent action is necessary. We need to use all farm inputs with caution – pesticides, fertilisers and medicines. We need to reduce the loss of nitrogen

by minimising chemical fertiliser applications, maintaining good soil health and by using alternative sources of nitrogen, particularly in catchment areas which are more prone to leaking nitrogen to waters. We must put in place nature-based buffers to cut off pathways that are carrying phosphorous and sediment into our waters. These actions will need to be supported and encouraged by industry led sustainability programmes; through practical farm-level advice, and also by appropriate inspection and compliance checks to ensure that good agricultural practice is being adhered to by everyone.

There is a long history of action and measures aimed at reducing diffuse nutrient pollution, primarily channelled through the Nitrates Action Programme (which in Ireland covers both nitrogen and phosphorous). This initially resulted, in combination with other measures, in a reduction in nutrient loadings. However, water quality indicators show that nutrient concentrations are currently too high across a significant proportion of our water bodies and these trends are going in the wrong direction. A review of the implementation of the existing measures was therefore necessary. The additional measures that are now needed are set out below in combination with the continuation of existing measures.

The EPA has identified that diffuse or land based emissions from the agricultural sector is the primarily source of the upward trend in excess levels of nutrients. There are still impacts on many water bodies from urban waste water, but these have stabilised over the course of the second-cycle. The pressures from agriculture have increased, particularly in areas in increased agricultural intensification and higher stocking rates. In addition, land and river channel alterations arising from agricultural activities are a significant pressure on the physical condition of river channels. Additional and/or enhanced measures are now urgently required. The regulation of land drainage and river channel works will be enhanced and improved (see measures included in the section on Hydromorphology).

A coordinated response is now required to deliver significant improvements across multiple pressures (See Figure 20). Ireland's Common Agricultural Policy (CAP) Strategic Plan will have a critical role to play in this regard as will the current review of the Nitrates Action Programme.

To protect and restore water quality there are a number of goals that must be reached:

1. Reducing excessive agricultural nitrate losses from high risk free draining soils to groundwater in agriculturally intensive areas (reduce N losses by up to 50% to water)

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|---|--|
| <ol style="list-style-type: none"> 2. Preventing instream habitat damage arising from land drainage and river channel drainage 3. Reduction / elimination of point source pollution from farms 4. Eliminating exceedances of pesticide standards in drinking water supplies 5. Protecting and restoring valuable and sensitive high-status water catchments | <p>on its own to address all of the objectives listed above. There is a need for continued and improved engagement and support of farmers if a sustainable agricultural model is to be fully established and endure at a national scale, supported by a suitable enforcement programme.</p> <p>Under the draft Nitrates Action Programme (NAP), there is potential for the dairy industry to support the achievement of water quality objectives through</p> |
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Figure 20 - Coordinated measures across the agricultural sector to deliver improvements

Pollutant/Impacts

MEASURES	Nitrate	Phosphorous	Silt	Pathogens (e.g. VTEC)	Ammonia	GHGs	Pesticides	Biodiversity impacts
Strengthened Nitrates Regulations	✔	✔	✔	✔	✔	✔		✔
CAP Strategic Plan								
• Enhanced Conditionality	✔	✔	✔	✔	✔	✔	✔	✔
• Improved Eco-schemes	✔	✔	✔	✔	✔	✔		✔
• Strengthened Agri-environment-climate measures (AECMs)	✔	✔	✔	✔	✔	✔		✔
• An Expanded Farm Advisory System	✔	✔	✔	✔	✔	✔	✔	✔
Improved Land and river drainage controls		✔	✔	✔				✔
Implementation of New Drinking Water Source Protection Framework	✔		✔	✔			✔	✔
Ensuring the Sustainable Use of Pesticides							✔	✔

6. Reducing phosphate and sediment losses from poorly draining soils through overland flow to surface waters. A minimum target of 2,500km of riverside interception measures has been estimated by the EPA. This is a cumulative length representing 3% of all river channels. In addition, an estimated 20,000 hectares (minimum) of organic soil rewetting will deliver water, climate and biodiversity benefits.

Achieving these goals will require new stricter requirements and increased compliance with existing environmental regulations, particularly the Good Agricultural Practice (GAP) Regulations. This will require not only increased knowledge and understanding of the requirements but also increased enforcement of the requirements.

Local authorities are undertaking a review of their resource needs within their water environmental function and this includes enforcement activities. Environmental enforcement will not be adequate

financial incentives similar to the approach taken in other Member States and successfully employed in Ireland to achieve compliance with the Sustainable Dairy Assurance Scheme. Representatives of the dairy industry have been engaged in bilateral discussions with the Nitrates Expert Group about the role the industry must play in ensuring their suppliers operate in an environmentally sustainable manner. As a key stakeholder group within the agricultural sector, dairy co-ops have a responsibility to their 18,000 farmers as well as to Irish citizens to engage in the NAP review process and bring forward proposals to help reduce nutrient losses to water and the wider environment and improve the environmental performance of the industry.

The Dairy Sustainability Ireland Working Group has commenced a project to look at options for driving nitrogen reductions at both national and catchment scales. The project is at its initial stages at present and its main focus is on:

- Driving improvements in slurry management,
- Promoting compliance with GAP regs requirements,
- Change Management Strategy to drive N reductions,
- Communications/knowledge transfer programme, linked to ASSAP,
- Major behavioural change programme around slurry storage.

Further work on the proposal will continue in the coming months, with input from key stakeholders including Teagasc, DAFM and DHLGH. In order to have an impact the project must have the full commitment of the industry and be adequately resourced before the Nitrates Action Programme is finalised.

With regard to Goals 1 (Agricultural Nitrate losses), 2 (land and river drainage) and 3 (point source pollution from farms): each of these will require significantly tighter regulation and more enhanced enforcement programmes than currently exists.

Reducing the loss of nitrogen to the environment will require tighter regulation of nitrogen fertiliser inputs to agricultural systems. The design of this policy will be fully mapped out as part of the Nitrates Action Programme review. Reduced limits on the total inputs of chemical nitrogen fertiliser will stimulate and encourage the use of promising and proven alternatives such as the sowing of multispecies swards. The CAP Strategic Plan and the new Green Architecture will provide an opportunity to promote the uptake of such alternatives.

The goal of eliminating exceedances of pesticides standards in drinking water supplies (Goal 4) is being strengthened through the transposition and implementation of the new recast Drinking Water Directive. There is currently a successful collaborative initiative, the Pesticides in Drinking Water Action Group, which is led by the Pesticides Control Division in DAFM, which can be built upon. However, there will need to be coherence between measures in drinking water protected areas and under CAP conditionality and schemes.

Goals 5 (High status catchments) and 6 (Phosphorus and sediment losses from poorly drained soils) are being addressed by new and tailored measures under DAFM's Agri-Environment Climate Measures (AECM) in the CAP Strategic Plan for Ireland. These measures will be contained in Tier 3 of the environmental eco-scheme measures under CAP. The types of measures envisaged for water protection in these areas (including Non-Productive Investment and practice changes) are also measures that will deliver both biodiversity and climate adaptation and mitigation benefits. Furthermore, it is proposed that

the governance and implementation structures put in place to support the implementation of river basin management plans (LAWPRO and ASSAP) could be further modified and leveraged to support the implementation of the new measures under the CAP Strategic Plan.

Programme for Government specific commitments:

The Programme for Government 2020 includes a number of specific commitments to protect water quality from agricultural pressures. These include:

- Expanding programmes, including the Agriculture Sustainability Support and Advisory Programme (ASSAP), and working with farmers, industry, and advisory services, to protect and deliver improvements in water quality.
- Delivering an incremental and ambitious reduction in the use of chemical nitrogen fertiliser through to 2030.
- Reviewing the effects of the nitrates derogation on water quality, in conjunction with the EPA, which will inform future policy in this area.
- Working with nitrates derogation farmers to improve environmental outcomes on their farms, ensuring the sustainable use of the derogation, in line with our environmental objectives.

The draft River Basin Management Plan aims to deliver on these commitments through the review of the Nitrates Action Programme, the development of the new CAP Strategic Plan and the implementation of the additional measures listed in Table 11.

Common Agricultural Policy Strategic Plan

A new CAP Strategic Plan for Ireland is currently being prepared and is due to be submitted to the EU Commission by January 2022. A public consultation document on proposed interventions was published by the Department of Agriculture, Food and the Marine in July. The objectives of the new CAP include climate, animal welfare, water, soil, animal and plant health and biodiversity. These will be delivered through the new Green Architecture. The components will consist of; Enhanced Conditionality, annual-Ecoschemes and multi-annual Agri-Environment Climate Measures. As part of the work in drafting this strategic plan, consideration is being given to how the new Green Architecture can be leveraged to maximise its contribution to delivering environmental objectives including for water, biodiversity and climate.

While existing measures such as fencing under the Green, Low-Carbon, Agri-Environment Scheme (GLAS) and the successful implementation of European Innovation Partnerships (EIPs) in particular have

contributed to the protection of water, it is also recognised that despite these types of innovative interventions water quality, biodiversity and climate indicators have continued to decline. Therefore, a more comprehensive, coherent and coordinated response is now required to deliver significant improvements and to reward farmers for delivering positive environmental outcomes. Ireland’s CAP Strategic Plan will have a critical role to play.

While there is significant work ahead to design the delivery framework for the Green Architecture, DHLGH continues to promote the following high level principles in discussions with the Department of Agriculture, Food and the Marine:

1. The full range of instruments available under the new Green Architecture should be used in a coherent way to contribute to the range of water quality objectives identified (as well as biodiversity and climate objectives).
2. Priority should be given to measures that achieve multiple environmental benefits, where possible.
3. The most appropriate instruments should be matched to each water quality objective.
4. Build on the successes of the previous CAP. There are lessons to be learned and applied at a local and a national scale from GLAS and the EIPs.
5. Capitalise on the existing river basin management governance and implementation structures (e.g. Regional Operational Committees, LAWPRO and ASSAP) to support the effective implementation of the Green Architecture measures at regional and local level.
6. Continue to strengthen the collaborative approach undertaken to date involving a wide range of state bodies and other stakeholders.
7. Measures should be targeted based on scientific evidence. In particular, risk maps, termed Pollution Impact Potential (PIP) maps recently published by the EPA should be used to guide the ‘right measures to the right place’.
8. The national Farm Advisory Service is recognised as essential to underpinning the successful implementation of all aspects of the new Green Architecture and should be used to maximum effect.

Table 11: The principal actions for the third cycle with regard to agricultural pressures:

	<p>Action: New GAP Regulations</p> <p>The existing GAP Regulations are due to expire and be replaced at the end of 2021. The Nitrates Expert Group is working on the development of the new Nitrates Action Programme, which will be implemented by the regulations. It is expected that the new NAP will:</p> <ul style="list-style-type: none"> • Retain the existing controls on Nitrogen and Phosphorous from agriculture. • Implement tighter controls on nitrogen and phosphorus inputs by: <ul style="list-style-type: none"> » Establishing a chemical fertiliser register for farmers. » Providing for enhanced programmes of enforcement. » Stipulating tighter controls on the use of chemical nitrogen fertilisers focussed on critical source areas. » Incorporate an industry-led initiative to reduce agricultural impacts on water quality.
	<p>Action: CAP Strategic Plan</p> <p>New Rural Development Programme Regulations under the National CAP Strategic Plan will underpin the establishment of a new green architecture that aims to deliver and reward positive environmental outcomes, including water, biodiversity and climate mitigation and adaptation objectives.</p>

Additional Measures



Action: Teagasc will progress the development of a web-based Farm Sustainability Plan that will complement the existing Nutrient Management Planning online tool and support the wider Agricultural Knowledge and Information Systems (AKIS) programme.



Action: Consideration will be given to extending and expanding LAWPRO and ASSAP to support the implementation of the new CAP Strategic Plan. There will be an increased focus on sustainability across the entire farm advisory service (both Teagasc and private advisory services). This may include a role in the preparation of Farm Sustainability Plans.



Action: The development of a new authorisation system for instream engineering works (see new Controlled Activities for the Protection of Waters regime in Section on Hydromorphology) will strengthen controls of land drainage practices and their enforcement.



Action: Local authorities and the EPA, through the NIECE network, will ensure that compliance assurance (including enforcement) actions for agricultural activities will be further enhanced and ensure that there is an increased targeting of inspections by local authorities based on water quality results, critical source areas and the EPA's PIP Maps.

5.4.2 Natural Rivers and Lakes and River Restoration - Hydromorphology

Both the Water Framework Directive and the Habitats Directives require Ireland to look at a surface waterbody's' ecological quality and potential. Part of this is the 'hydromorphology' – the shape and flow of the waterbody. Dams, weirs, culverts, ramps and diversions can all impact negatively on the benefits that rivers and lakes provide. Flood control, food, fish and other biodiversity may all be harmed by changes to, and fragmentation of, rivers.

Ireland has obligations under the Water Framework Directive (WFD) and the Habitats Directive to manage the physical condition of all natural and artificial waters in order to protect and improve their status. Overall, hydromorphological pressures are the second most significant category of pressures on these waters. They impact by causing damage to natural processes and to the structure and functions of habitats and species; e.g. barriers that impede fish migration, land and channel drainage that alters the physical habitat conditions and the flow conditions. They are frequently linked to the other significant pressures such as agriculture, forestry, peat extraction, mines and quarries.

Controls on pressures that impact on the physical condition of waters need to be strengthened in Ireland. In anticipation, preparatory technical work has been underway during the second River Basin Management Planning cycle. Scientific evidence is also available from technical work undertaken for habitats and species protected under the Nature Directives. These recent technical advances mean that a comprehensive, robust and streamlined management regime can now be developed and implemented.

To achieve this, a programme is proposed to develop a new Controlled Activities for the Protection of Waters regime. The new management regime will deliver multiple benefits for water, nature and biodiversity, and climate mitigation and adaptation. The existing body of legislation in the water services and water management sector, governing activities impacting on the physical condition of water, cannot be easily amended to deliver a robust regulatory regime. The existing body of legislation is too disparate, it is complicated, and has already been heavily amended, such that it requires considerable cross-referencing and skill to navigate. Therefore, it will be necessary to develop new legislation, including the development of a Bill and associated secondary legislation aimed at managing hydromorphological pressures. This will also require a number of repeals/amendments to existing pieces of legislation across a number of policy areas.

Considering that the scope of the proposed new Controlled Activities regime reaches across a number of relevant policy areas overseen by the Department of Finance/OPW, the Department of Environment, Climate and Communications, the Department of Agriculture, Food and the Marine and the Water, Planning and Heritage Divisions within the Department of Housing, Local Government and Heritage, an interdepartmental legislative steering group, supported by a number of technically expert agencies, will be established to ensure that a coherent and coordinated legislative programme is delivered effectively and in good time.

The new Controlled Activities regime will also require the design of a new administrative system. The operation of the new regime may be assigned to one or more competent authorities, depending on the nature and scale of the new regime. Potential candidate authorities include the EPA, local authorities, IFI and OPW, or the inception of a new

agency or administrative and management unit within an existing agency with specific cross-functional expertise drawn from existing authorities.

Mandatory Codes of Practice and / or General Binding Rules (GBRs) will also need to be developed to support the new regime. This will build on the most up to date technical knowledge and expertise from work progressed under the Water Framework and Nature Directives and it will require input and engagement with a wide range of stakeholders.

It is also proposed to establish a long-term restoration programme to mitigate the negative impact of past construction and activities in or near water bodies on the condition of those water bodies. It is proposed that the initial focus will be on the removal and/ or modification of problem barriers on rivers, but it may be extended as other impacts and priorities are identified.

The removal/modification of barriers may involve from 2,000-7,000 structures out of over 73,000 identified nationally by IFI. However, the exact number will be determined after more detailed local investigations. Restoration targets for water-dependent habitats and species listed in the Nature Directives, which have been adversely affected by hydromorphological pressures, will also need to be considered as part of any restoration programme. In relation to its implementation, potential roles for the IFI, NPWS, Office of Public Works and Local Authorities may be appropriate. For instance, IFI already operates an annual Habitats and Conservation Scheme. In 2021 there are 17 projects in 11 counties across the country in line for funding worth an overall €774,000.

To assist with the design and implementation of the national restoration programme a pilot project will be undertaken for Annacotty weir in the Mulkear catchment, County Limerick. Annacotty weir has been provisionally identified by Inland Fisheries Ireland as a priority for mitigation works. It has significant potential to benefit both anadromous fish (e.g. salmon) and resident fish populations if measures to improve fish passage and river connectivity are undertaken. The pilot will provide an opportunity to test a collaborative and ecology focussed design approach. It will involve a multi-disciplinary panel of experts from the early stages of the decision-making process. The approach will inform similar future mitigation projects undertaken as part of the national restoration programme. The pilot will also test enhanced community engagement opportunities that go beyond the standard consultation practices involved in the planning process.

A key objective of the second RBMP, was the development of a plan to improve fish migration at Parteen and Ardnacrusha in the Lower River Shannon.

To this end, the then Minister for Housing, Planning and Local Government established in 2018 a multi-agency steering group to prepare recommendations for improvements to fish passage in the Lower Shannon catchment. The collective efforts and cooperation amongst the steering group has now resulted in the development of a draft roadmap of actions. This ambitious and innovative roadmap sets out a programme of initial investment measures which will make a significant improvement to free passage for fish at Ardnacrusha/Parteen in the short term, while providing the platform for long term enhancement of the ecology and environment of the Lower Shannon and consequently the environmental sustainability of the Shannon Hydro-Electric Scheme. The roadmap will be implemented during the third RBMP cycle. Improving fish passage at Parteen will contribute very significantly towards WFD and Habitats Directive objectives as well as targets in the EU Biodiversity Strategy for restoring rivers to a free-flowing state across the European Union.



Action: DHLGH to develop a new Controlled Activities for the Protection of Waters regime to address pressures on the physical condition of waters.



Action: DHLGH to establish a restoration programme to mitigate the negative impact of past construction in or near water bodies.



Action: A pilot project will be undertaken for the Annacotty weir in County Limerick to assist with the design and implementation of the national restoration programme.



Action: DHLGH to oversee the implementation of the roadmap of actions to improve fish migration in the lower Shannon at the Hydroelectric scheme located around Parteen and Ardnacrusha.

5.4.3 Forestry

223 water bodies are currently impacted by pressures from the forestry sector. These include the physical alteration to habitats, excessive nutrients and sediment and changes in water level and/or flow. This is particularly evident in the high status objective waters.

Since the publication of the second-cycle River Basin Management Plan, the assessment by the Department of Agriculture, Food and the Marine (DAFM) of licence applications for key forestry activities including afforestation, forest road construction and

tree felling has undergone significant changes. A result of legal rulings at a European and national level, and outcomes from the Forestry Appeals Committee process, these changes are having a significant overarching effect in terms of further strengthening the protection of water from forestry-related sources.

While the extent of the changes involved was not envisaged for forestry during the second-cycle, it is important to highlight them now to maintain an accurate record of the changes in land use planning and development that contribute towards the achievement of WFD objectives.

The changes involved relate primarily to the application of Appropriate Assessment, as required under Article 6(3) of the Habitats Directive and transposing legislation. Of particular impact was the European Court of Justice ruling C-323/17 ('People Over Wind'), which resulted in approximately 80% of forestry applications being screened in for Appropriate Assessment. In order to deal with the increased demand for ecological input into the assessment process, and to address the resulting backlog in applications and the knock-on detrimental impact on the forestry sector, DAFM increased its full time ecologist equivalents from one in early 2019 to over 27 in August 2021.

DAFM also published the interim Standards for Felling and Reforestation (October 2019) and has increased the level of ecological and environmental information to be submitted as part of a licence application in relation to afforestation, roading and tree felling (the latter including thinning and clearfelling / reforestation projects). This has also prompted the increased engagement of consultant ecologists by Registered Foresters when developing projects, something which DAFM has facilitated by their creation of a Directory for Professional Ecologists who are available to work on forestry projects.

While many of these changes revolve around the implementation of the Habitats Directive, due to the intersection between forestry sites, water and downstream European Sites, much of the mitigation arising from the Appropriate Assessment process is focused on eliminating sedimentation and nutrient sources and preventing pathways that might otherwise transport these to adjoining or nearby waterbodies. The dramatic increase in ecological input into the evaluation of licence applications since early 2019 will have a beneficial impact in relation to the protection of water from forestry activities, adding to the measures for forestry identified in the second-cycle plan.

Other potential measures that can be progressed during the third-cycle plan include:

1. Ongoing restructuring of existing forest stands at clearfell / reforestation stage to incorporate appropriate water setbacks (potentially reinforced by broadleaf planting), previously absent in the previous rotation.
2. Ongoing application of water setbacks and other water-based protection during the creation of new forests, principally under the Afforestation Grant and Premium Scheme.
3. Ongoing application of particular support measures that have a clear application in relation to the protection of water, including: the Continuous Cover Forestry Scheme; the native woodland and agro-forestry options under the Afforestation Scheme (either as part of or all of individual applications); and the Native Woodland Conservation Scheme, applied to both existing native woodlands (thereby enhancing their ability to deliver water-related ecosystem services) and existing conifer stands (enabling their replacement with native woodland at reforestation stage).
4. Increased uptake of the recently-revised Woodland Creation on Public Lands Scheme to deliver woodland-based solutions for the protection of drinking water sources and water in general. This scheme encourages public bodies to create native woodland on land owned by them as part of their own achievement of objectives regarding water, biodiversity, carbon capture and sustainability.
5. Roll-out of the Woodland for Water Scheme, focused on strategically realising native woodland in areas where such features would have a marked impact in relation the protection of water. Details will be made available as this scheme is developed further.
6. The resolution of forestry-related water incidents, as identified by DAFM Inspectors or reported to the Department by foresters, water agencies, NGOs and members of the public.
7. Further engagement between the Department and other parties on forestry-related issues, both within the existing WFD structures and forums, and bilaterally (e.g. with Inland Fisheries Ireland).
8. Further training of Registered Foresters and Consultant Ecologists and of Department Forestry Inspectors and Ecologists, in relation to the design, assessment and implementation of forestry projects from the perspective of the protection environment, including water.

9. While several of the above measures represent a continuation of existing efforts, they will be undertaken through the enhanced ecological context described above.

Finally, it should be noted that work on developing the next multi-annual Programme for Forestry is now progressing, and that a major review of forestry policy is currently underway in the form of Project Woodland. The conclusion of both of these processes may have an effect on the range of measures set out here.



Action: Continue to seek improvements to the licence applications process for key forestry activities



Action: Increase the area of forests with appropriate water setbacks through the ongoing restructuring of existing forest stands at clearfell / reforestation stage to incorporate appropriate water setbacks.



Action: Ensure the application of water setbacks and other water-based protection during the creation of new forests, principally under the Afforestation Grant and Premium Scheme.



Action: Manage the application of support measures that have a clear application in relation to the protection of water, including: the Continuous Cover Forestry Scheme; the native woodland and agro-forestry options under the Afforestation Scheme, and the Native Woodland Conservation Scheme.



Action: Encourage uptake of the recently-revised Woodland Creation on Public Lands Scheme to deliver woodland-based solutions for the protection of drinking water sources and water in general.



Action: Roll-out the Woodland for Water Scheme which is focused on strategically realising native woodland in areas where such features would have a marked impact in relation the protection of water.



Action: Continue to address all forestry-related water incidents, as identified by DAFM Inspectors or reported to DAFM by foresters, water agencies, NGOs and members of the public.



Action: Further engagement between DAFM and other parties on forestry-related issues, both within the existing WFD structures and forums, and bilaterally (e.g. with Inland Fisheries Ireland).



Action: Deliver further training of Registered Foresters and Consultant Ecologists and of Department Forestry Inspectors and Ecologists, in relation to the design, assessment and implementation of forestry projects from the perspective of the protection environment, including water.

5.4.4 Urban Waste Water

The objective of the Urban Waste Water Treatment Directive (UWWTD) is to minimise the impact of urban waste water discharges on receiving waters. This approach contributes to the objectives of the Water Framework Directive, however additional emission limit values may be required to reach these objectives over and above UWWTD compliance.

The alignment of Irish Water's investment programme for waste water collection and treatment with the compliance requirements of the Urban Waste Water Treatment Directive and the Water Framework Directive will facilitate the delivery of their objectives in an agreed timeframe. The Programme for Government commits to continued investment in waste water infrastructure to protect waterways. During the Irish Water investment period 2020-2024, there is investment in 83 waste water treatment plants and 10 collection networks at an estimated cost of €1.022bn. Irish Water's next investment period 2025-2029 also overlaps with the third-cycle RBMP, however commitments on waste water treatment deliverables within that period have yet to be agreed. The infrastructural projects included in this investment period will be based on a combination of completing works in the current investment period and addressing the infrastructural deficit. This infrastructural deficit is identified based on a gap analysis of the requirements to reach compliance with the UWWTD and the provision of capacity for population and economic growth over 20 years. The gap analysis is dynamic as it will be reviewed and updated to track changing needs and growth patterns. It also provides a platform for environmental benefit driven investment planning.

This investment will upgrade infrastructure, both treatment plants and collection networks with the objectives of:

- Prioritising investment to deliver Protected Area Objectives and address the EPA Priority Areas List⁸ of urban areas where treatment must be improved to resolve national environmental priorities. The Priority Area List has been reduced from 148 areas in 2017 to 113 areas in 2020.
- Ensuring continued compliance with the UWWTD as agglomeration populations grow.

The EPA review of Waste Water Discharge Licences (WWDLs) will also contribute to reaching and maintaining compliance with the UWWTD and WFD. These licence reviews will reflect the ever improving evidence base to ensure that WWDLs appropriately reflect the RBMP's objectives. Furthermore, the review of WWDLs will be prioritised based on specified grounds under the 2007 Waste Water Discharge Regulations.

Other waste water related actions which will be delivered in this cycle include:

- A multi-annual investment programme to provide waste water infrastructure for unsewered villages to reduce untreated waste water discharges to the environment and protect receiving waters.
- Ireland's National Recovery and Resilience Plan⁹ includes the River Basin Management Plan – Enhanced Ambition Programme to advance priority waste water treatment plant projects whose discharges have been identified as being significant pressures on water bodies and impacting on WFD objectives.
- The Urban Waste Water Treatment Directive (91/271/EEC), which is 30 years old, will be renegotiated by the EU Member States and the EU Commission to bring it up-to-date. This process has commenced and will enter the negotiation phase in 2022 after the EU Commission publishes its proposed text. On completion of the process the recast directive will be transposed into Irish Law.
- The development of new standards for Combined Storm Overflows, which are envisaged from an update to the Urban Waste Water Treatment Directive.
- Continue to develop and update the Gap Analysis as a tool to deliver environmental benefits for infrastructural planning.
- Update the Nutrient Sensitive Areas designations under the Urban Waste Water Treatment Directive.



Action: Continue investment in waste water infrastructure with Irish Water investing in 83 wastewater treatment plants and 10 collection networks at an estimated cost of €1.022bn, over the period 2020-2024.



Action: DHLGH to ensure ongoing engagement with Irish Water on the requirements for the next investment period (2025-2029).



Action: EPA to carry out a review of Waste Water Discharge Licences.



Action: Deliver a multi-annual investment programme to provide waste water infrastructure for unsewered villages.



Action: Irish Water's River Basin Management Plan – Enhanced Ambition Programme to advance priority wastewater treatment plant projects whose discharges have been identified as being significant pressures on water bodies and impacting on WFD objectives.



Action: Complete negotiations and transposition into Irish law of the recast Urban Waste Water Treatment Directive.



Action: Ensure development of any new standards for Combined Storm Overflows emerging from an update to the Urban Waste Water Treatment Directive.



Action: Continue to develop and update the Gap Analysis as a tool to deliver environmental benefits for infrastructural planning.



Action: Update the Nutrient Sensitive Areas designations under the Urban Waste Water Treatment Directive.

8 The EPA Priority Areas list is outlined in Appendix A of the Urban Waste Water Treatment in 2019 report Published November 2020 (ISBN: 978-1-84095-938-3)

9 The National Recovery and Resilience Plan will be implemented before the end of 2023.

5.4.5 Urban Runoff Pressures

Urban runoff pressures on water quality are primarily made up of direct surface water discharges to water and storm water overflows from combined sewers. Separated sewers discharging rainwater may also be an important pathway for pollutants, such as metals and plastics. Urban run-off, which is a mixture of sewer leakage, run off from paved and un-paved areas and mis-connections are a significant contributory factor to the pressures on our water quality. In some places, these impacts may include bathing water quality. Soil sealing or the loss of soil resources due to the covering of land for housing, roads or other construction work, across urban areas during the last number of years had increased surface water runoff. Climate change will make the management of urban water more challenging, especially dealing with more frequent and more intense rainfall in urban areas. In response, the recent consultation on the Significant Water Management Issues in Ireland identified the need to improve performance in the area of nature based sustainable urban drainage as one of the key considerations to be included in the third-cycle Plan. Management of urban drainage is closely related and will integrate the urban waste water drainage in both separate and combined collection systems.

Sustainable Urban Drainage objectives are evident in the majority of the City and County Development plans. However, the resultant outcomes currently seem to be focused upon engineering solutions rather than a nature based solution which will have multiple benefits to the environment. A working group has been established jointly by the CCMA and DHLGH to oversee the development of a project scope to deliver an implementation strategy for nature based Sustainable Urban Drainage Systems on a national scale. This strategy will support the City and County Development plans in the implementation of nature based solutions to surface water management through water sensitive urban designs.

Changing our philosophy to ensure we consider making space for water, incorporating integrated catchment management principals and Water Sensitive Urban Design to place making will bring about better water quality protection and provide opportunities in terms of the public realm, health and other multiple benefits.

Nature based urban sustainable urban drainage is designed to deal with rainfall in urban or paved areas in a manner as close as possible to that pertaining in the natural environment, replacing paved or impermeable areas with permeable nature-based surfaces, as well as providing adequate volumetric storage within the catchment in existing or proposed green areas and, ultimately, planning routes of overland flow that minimize flood damage.

The benefits are wide ranging, including a reduction in pollution from urban run-off, reduced flooding, reduced loading of combined sewer systems as well as increased greening of urban areas, improving biodiversity and the general urban environment.

Scoping the implementation strategy for nature based SUDS involves;

- Identify technical guidance needs for local authorities in implementing nature based SUDS.
- Identifying the current gaps in the technical and operational capacity including resources and training needs of the Local Government sector in the delivery of nature based sustainable urban drainage solutions and assisting the sector in eliminating these obstacles.
- Identifying any shortcomings in current legislation and policy within the national and local government sector required to support the implementation of the Water Framework Directive
- making provision for appropriate coordination with related ongoing work in areas such as the Planning and Land Use Policy or the proposed changes to local authority functions or management structures.
- identifying any required investment support for the delivery of this strategy, through identification of potential key funding sources available from, for example; the exchequer, EU funding streams and private sector contributions.
- In advance of a national implementation strategy for nature based SUDS being delivered during the third cycle of the RBMP, provide interim guidance documentation to the Local and Planning Authorities on measures to be implemented to support the delivery of a greater focus on nature based solutions within the constraints of the current legislation and policy will be delivered by the end of 2021.

As mentioned under the previous section on pressures from Urban Waste Water, the update of the Urban Waste Water Treatment Directive during the third cycle will also see the development of new standards for Combined Storm Overflows to help address the pressures from urban runoff including those impacting on bathing waters.

To also address the challenges posed by the projected changes in rainfall patterns due to climate change, extensive modelling and monitoring of rainwater run-off and overflows is required. This work will assist policy makers and technical professionals in incorporating appropriate solutions into their long term plans. Preparing integrated urban drainage management plans such as updating the Greater Dublin Area Drainage Plan, for instance, will not only

reduce pollution risk and manage water inputs at source but will also be a key enabler to the increased development potential of the various regions.



Action: Develop recommendations for an implementation strategy for nature based Sustainable Urban Drainage Systems on a national scale.



Action: Provide interim guidance documentation to the Local and Planning Authorities on measures to be implemented to support the delivery of a greater focus on nature based solutions in advance of a national implementation strategy.



Action: The National Bathing Water Expert Group to undertake a project to determine the most suitable approach to protecting bathers' health outside of the current bathing season in Dublin Bay.



Action: DHLGH to amend the existing Bathing Water Regulations (S.I. No. 79 of 2008) to provide discretion to local authorities on determining the bathing season for individual bathing waters.



Action: Establish a programme for the modelling and monitoring of rainwater run-off and overflows.



Action: Oversee the preparation of integrated urban drainage management plans.

5.4.6 Domestic Waste Water Discharges

When categorising a significant pressure as coming from 'Domestic waste water', the EPA considers discharges from the following:

- Domestic waste water systems (e.g. septic tanks) serving individual houses,
- Communal discharges from housing estates that do not currently discharge into an urban waste water agglomeration operated by Irish Water and
- Waste water discharges from systems that should be regulated under Section 4 licensing but currently are unauthorised.

In total there are 188 water bodies that have a significant impact from domestic waste water. These significant pressures impacting water quality are broken down as follows:

- 75% from single house discharges,
- 15% from communal discharges and
- 10% from unauthorised discharges that should be covered under Section 4 licences.

Poorly performing, maintained, or located **domestic waste water treatment systems** (such as septic tanks) are highlighted as a pressure on 12% of at-risk water bodies. These domestic waste water systems are impacting on the water quality in rivers, lakes and groundwater particularly in areas of low soil permeability.

Local authorities are continuing to inspect individual domestic waste water systems. This is an ongoing measure that will continue under the draft programme of measures for the forthcoming cycle. There are approximately 500,000 domestic waste water systems serving a population equivalent of 1.4 million people. The inspection regime assesses on average 1,100 individual systems per annum focusing on the areas of highest risk. Between 2017 and 2018, nearly half of the systems assessed failed to meet the required standards. This highlights that significant improvements are required by householders to address this significant pressure.

Grants to help householders are available to upgrade and repair domestic waste water systems that are:

1. Advised as inadequate by the local authority as part of the National Inspection Plan;
2. Situated in a Prioritised Area for Action, and identified by LAWPRO as a potential pressure on water quality; or
3. Are situated in a High Status Objective Catchment Area.

Acknowledging that domestic waste water treatment systems continue to be a significant environmental pressure the EPA Code of Practice for Domestic Waste Water Treatment Systems (Population Equivalent ≤ 10) was updated, published in March 2021 and it came into effect on 7th June 2021.

A research project into the application of zero discharge nature based solutions as part of a sustainable approach to domestic waste water treatment is included in the EPA research call launched in May 2021. This project proposes examining the potential for zero discharge nature based solutions, particularly in low permeability soils, to impact on water quality and delivery of RBMP objectives. The application of a sustainable zero discharge nature based solution would mitigate the environmental impact of domestic waste

water discharges and facilitate sustainable rural communities.

Communal discharges are private, community or developer provided waste water services. Many of these are legacy issues and related to poor and inadequate Developer Provided Infrastructure (DPI) in private housing developments. In 2019, the Department launched a multi-annual Developer-Provided Water Services Infrastructure Resolution Programme 2019-2021. Under this programme, local authorities were invited to bid for project funding for the sustainable resolution of DPI. On 21 September 2020, allocations under this new multi-annual capital investment programme were announced. The objective of this programme is the progressive resolution of housing estates with developer provided water services infrastructure, to enable the Local Authorities to take these estates in charge. This, the first funding cycle of a new multi-annual programme, runs to the end of 2021.

To address the Communal Discharges the focus of the first multi-annual Developer-Provided Water Services Infrastructure Resolution Programme is on estates in towns and villages where the resolution is to connect their water services to the public networks, the programme also supports a number of pilot projects where connection is not feasible in the immediate future. These pilot projects, together with a major study currently being undertaken by Irish Water, will inform future policy considerations on resolving sub-standard developer provided infrastructure with sustainable solutions.

Waste water discharges from systems that should be regulated under **Section 4 licensing** are existing commercially based activities such as nursing homes, B&B's and small hotels etc. which are discharging waste water into unauthorised septic tanks. These premises need authorisations under Section 4 of the Local Government (Water Pollution) Act 1977 as amended by the Local Government (Water Pollution) Amendment Act 1990 from local authorities.



Action: In line with the programme for government commitment to 'continue to help fund upgrades to domestic waste water treatment systems, DHLGH will continue to monitor the uptake of the new grant schemes to ensure adequate numbers of people are availing of this measure. A research project will be initiated under the ESRI Research Programme on behaviours and attitudes to assess the level of uptake, impediments to uptake and to make recommendations for improving uptake.



Action: A review of the National Inspection Plan (NIP) 2018-2021 to be completed, with the outcome informing the next NIP for the period 2022-2027. An objective of these plans is to prioritise inspections to areas of greatest environmental and public health risk and secure upgrading works where required.



Action: DHLGH to consider the outcomes of the research project into the application of zero discharge nature based solutions and their applicability or not within Ireland's climatic conditions.



Action: Review the outcomes of the pilot projects under the first multi-annual Developer-Provided Water Services Infrastructure Resolution Programme to inform future policy considerations on resolving sub-standard developer provided infrastructure with sustainable solutions.

5.4.7 Unknown Pressures

There are some waterbodies where the issue(s) causing the impact or putting the objectives at risk are either unknown or there is low confidence in the causes of the issues in the catchment. The EPA has identified those waterbodies that are at risk of not meeting their environmental objectives. Detailed assessments were undertaken to identify the significant pressures preventing the waterbodies from achieving these objectives. From the assessment of 1,603 waterbodies at risk: the significant pressures for 164 are still to be fully identified. These unknown pressures are combinations of or individual significant pressures listed elsewhere, so the measures required will be those listed or combinations of measures listed in the draft Plan.

The majority of these waterbodies with unknown pressures (104) are within the Priority Areas for Action. Each of these waterbodies will undergo a targeted pressure-impact assessment by the Local Authority Waters Programme. This assessment will be used to identify the significant pressures in these areas with a high level of confidence. To address the remaining unknown pressures assessments will be undertaken by the local authority responsible for each individual water body. The result of these assessments will inform the required measures to be undertaken to achieve the environmental objectives.

To support the WFD work carried out by Local Authorities, including in relation to unknown pressures, the Local Authority Environmental Services National Training Group (LAESNTG) has begun

preparations for the roll out of a Training Programme for Catchment Assessment and Integrated Catchment Management for the staff of local authorities and WFD implementing bodies. Funded by DHLGH, this initial 3 year training programme will embed a modern approach to catchment assessment across the relevant staff.



Action: The Local Authority Waters Programme will conduct assessments of water bodies with unknown pressures in priority areas for action to identify the significant pressures in these areas with a high level of confidence.



Action: Each local authority will conduct assessments of water bodies with unknown pressures (those not within priority areas for action) to identify the significant pressures in these areas with a high level of confidence.



Action: The Local Authority Environmental Services National Training Group (LAESNTG) will provide a training programme for catchment assessment and Integrated Catchment Management for the staff of local authorities and all implementing bodies.

5.4.8 Other Pressures

Impacting on 139 water bodies, these pressures include for example aquaculture, historically polluted sites, invasive species and waste. As these activities each impact a relatively small number of water bodies, they have been grouped together.

However, some of these pressures, such as aquaculture, have been highlighted through both the SWMI consultation and our engagements with stakeholders as significant issues in their own right. As a result they are dealt with separately within this chapter.

In terms of measures for those pressures not highlighted as significant issues, these will be dealt with through the implementation of basic measures and on a case by case basis by the relevant responsible body, utilising the structures implemented under the second-cycle plan, such as LAWPRO and ASSAP, as and when required.



Action: Relevant national authorities to ensure full implementation of the existing measures.

5.4.9 Peat

Peatland management influences the level, quantity and quality of water in the surrounding countryside. Impacts on water quality and river habitat arising from peat and peat extraction and associated 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.

Appropriate habitat management combined with the restoration and rehabilitation of damaged and degraded peatlands can lead to improvements in the quality of water arising from peatland catchments. Maintaining and restoring Irish bogs will lead to a decrease in waterborne carbon leaching to levels comparable with intact bogs as well as reducing losses of peat silt and ammonia. Vegetation on the surface of the peat can also slow the flow of water over the land surface.

Based on the EPA's most recent reports, peat extraction and drainage is impacting on 106 water bodies across the country, with peat the single pressure on 28 of these water bodies. However, compared to the data in the second-cycle plan, the number of water bodies impacted by peat has decreased.

The National Peatlands Strategy, published in 2016, aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contributions to the well-being of the State. Contained within the strategy is a number of guiding principles and specific actions that also benefit water quality and the objectives of the Water Framework Directive. The implementation of actions set out in the strategy is monitored by the Peatlands Strategy Implementation Group, with members consisting of various Government Departments, State agencies and bodies. Similarly, the National Raised Bog Special Areas of Conservation Management Plan 2017-2021, published in 2017, sets out measures promoting linkages to River Basin Management Plans.

Building on the work of the National Peatlands Strategy to date, a public consultation on the mid-term review of the strategy is currently underway. Informed by the responses to the consultation, it is proposed that the actions set out in the National Peatlands Strategy be updated into a new Implementation Plan, which will focus on refining outstanding actions and prioritising measurable, achievable objectives.

A number of upland habitat conservation projects within Ireland were awarded European Innovation

Partnerships (EIPs) funding, where ecologically sustainable grazing in upland habitats is a cross-cutting deliverable. Projects commenced in 2018 and involve upland areas within the Blackstairs Mountains, Wicklow Mountains and MacGillycuddy Reeks Mountains. The EIP project - 'Blackstairs Farming Futures (BFF) Sustainable farming project in the Blackstairs Mountains', aims to maintain and improve peatland habitats and associated semi-natural habitats within the Blackstairs Mountains. Another EIP project - 'Sustainable Uplands Agri-environment Scheme (SUAS)', has a similar objective. The EIP project - 'A Sustainable Agricultural Plan for the MacGillycuddy Reeks - Conservation and restoration of Upland Habitat in the MacGillycuddy Reeks', is ongoing and aiming to implement sustainable management of upland peatlands (e.g. wet heath, dry heath and blanket bog) and grasslands.

Two EIPs were also launched in 2021 that focus on finding better ways to manage on-farm drained peat soils in the Midlands. The first looks at developing a proposed farm programme that aims to enhance the ecological and hydrological functioning of transitional areas through a payment model whereby farmers receive results-based payments based on the quality of their habitats, while also having the opportunity of claiming additional funds to undertake farm actions. The second project works with participating landowners who farm peatlands. They will provide supports through participatory learning and accessible advice to voluntarily transition their land use from current conventional farming practices to economically viable carbon farming methods. Lessons learned and data gathered will be used to establish a practical model for future expansion of these new methods on farmed peatlands.

Collaborative Action for the Natura Network (CANN) is a conservation project supported by the INTERREG VA Programme to protect endangered species and restore natural habitats on a cross-border basis (Ireland, Northern Ireland, Scotland). The project includes blanket bog habitat, amongst six other habitats and will also produce seven species action plans and 25 conservation action plans covering over 25,000 ha of SAC land within these countries. Erosion control measures are being tested on a pilot site on Cuilcagh/Anierin Upland SAC and detailed strategy to inform prevention and control of fires has been devised for this site.

Co-operation across Borders for Biodiversity (CABB) is the second conservation project supported by the INTERREG VA Programme. One of the aims of this project is to restore 2,228 ha of blanket bog across three counties in the border region of Ireland. Conservation measures include drain blocking, fencing, adoption of appropriate grazing levels, and the devising of conservation action plans. In Ireland

the rewetting project work was completed in February 2021 at Fiddandarry in the Ox Mountains Bogs SAC and successfully installed 2089 peat dams within c. 35 km of drains in deep blanket bog. This effect on water levels and vegetation is being monitored at this site.

In the previous RBMP, a commitment was made for Bord na Móna to rehabilitate an additional 25 peatlands covering approximately 9,000ha over the course of the plan. By the end of 2020 approximately 7,000 hectares or 78% of this target has been rehabilitated.

Following their Brown to Green Strategy, earlier this year Bord na Móna formally announced an end to all peat harvesting on its lands. In line with Bord na Móna's accelerated decarbonisation strategy the company has received funding of €108 million from the Climate Action Fund to undertake an Enhanced Decommissioning, Rehabilitation and Restoration Scheme (EDRRS), initially targeting over 30,000 hectares in over 80 Bord na Móna bogs. Bord na Móna is the operator of this scheme, providing €17million in funding with the National Parks and Wildlife Service of the Department (NPWS) acting as the Regulator and all Rehabilitation Plans having to be approved by the EPA. While playing a key role in the storing of over 100m tonnes of carbon, the enhanced rehabilitation of these bogs will also deliver in the protection and enhancement of water quality and associated aquatic ecosystems.

The Department of Housing, Local Government and Heritage is leading on the restoration of raised bogs in Special Areas of Conservation and Natural Heritage Areas in Ireland in an area of over 22,000 hectares. As part of its EU LIFE programme project 'Restoring Active Raised Bog in Ireland's SAC Network 2016 - 2020' (LIFE NAT/IE/000032). In addition to Dissolved Organic Carbon and Particulate Organic Carbon sampling, a comprehensive physico-chemical water monitoring programme is being undertaken at project sites.

Also led by the Department of Housing, Local Government and Heritage, the Wild Atlantic Nature LIFE Integrated Project (IP) aims to improve Ireland's performance in conserving habitats, and in particular to improve the conservation status in the Special Areas of Conservation (SAC) Network of blanket bog. A priority habitat under the Habitats Directive, this €20m, nine-year project (2021-2029) will work with farmers and local communities to conserve and improve the quality of blanket bogs and associated habitats, and the ecosystem services they provide including clean water, carbon storage and biodiversity.

The project will include a pilot voluntary Results Based agri-environment Payment Scheme (RBPS) that will be linked to the quality of the habitat, thereby putting the landowner, their skills, expertise and

knowledge of their land central to the development of this project. The project has a particular focus on water quality via land use management. It uses an RBPS programme template that was designed specifically for protecting and restoring water quality, including the use of terrestrial habitat as a surrogate. Water quality monitoring and evaluation are an inherent aspects of the Wild Atlantic Nature project.

Another LIFE Integrated Project that will seek to address issues around Peatlands is the 7 year “Peatlands and People” project. Running from 2020 – 2027, and coordinated by Bord na Móna, the project will support improvements across upwards of 9,900ha of peatlands, with complementary actions benefiting over circa 28,100ha of peatlands and 40,000ha of grasslands. This will be achieved by collaborating locally, regionally, nationally and internationally to generate and share solutions and knowledge.

NPWS and Intel Corporation are collaborating on funding to restore 60 hectares of blanket bog in the Wicklow Mountains National Park. The aim of this project is to increase water storage levels in areas that supply much of the Greater Dublin region, protect biodiversity and improve carbon storage and water quality. This public-private project collaboration is one of the first of its kind in Ireland.

NPWS are co-funding a concept note for the European Investment Bank’s (EIB) Natural Capital Financing Facility (NCF) that will support a framework for peatland restoration involving communities and potential new financing approaches. This initial phase will identify a potential scope and willing borrower for an NCF loan to a public or private entity implementing activities for restoration of peatlands and other potential biodiversity actions. The aim is to leverage opportunities for peatlands by creating lasting benefits for regional economies and optimising downstream effects, deploying scalable models for a community led approach and water catchment management as well as support paradigms for decarbonisation of land-use, including agriculture in peat areas.

Recognising the important role peatlands play in helping to protect and restore our natural environment, and their impact on water quality, the EPA has identified “Water quality improvements arising from the enhanced restoration” as a topic under their 2021 research call.

Building on the above, suggested measures for completion during the third-cycle plan include:



Action: Measures set out in the National Peatlands Strategy be updated into a new Implementation Plan by NPWS.



Action: NPWS to continue driving the implementation of the various programmes to restore the raised bog SAC and NHA network.



Action: Appropriate bodies to implement the actions arising from the CANN and CABB Interreg programmes.



Action: DHLGH to oversee the coordination of the Wild Atlantic Nature LIFE Integrated Project (IP), bringing to-together the experience and knowledge of the associated partners.



Action: Bord na Móna to oversee the “Peatlands and People” LIFE Integrated Project.



Action: NPWS and Geological Survey Ireland to fund an investigation into the causes of blanket bog landslides that occurred across Ireland in 2020, and the vulnerability of other at-risk areas to future failures.



Action: DAFM to oversee the implementation of sustainable management practises developed through the Blackstairs Mountains, Wicklow Mountains and MacGillycuddy Reeks Mountains EIP projects.



Action: NPWS to explore peatland financing options to escalate restoration efforts including public private partnerships, community trusts, offsetting etc.

5.4.10 Industry, Mines and Quarries

Industry is a significant pressure in 89 water bodies identified as being At Risk of not meeting their WFD objectives. Pressures include Integrated Pollution Control (IPC) and Industrial Emissions (IE) facilities licensed by the EPA and industries with Section 4 Discharge to Water licences issued by local authorities.

Mines and Quarries are impacting on 45 waterbodies and is the only pressure causing the waterbody to be at risk of not meeting its WFD objectives in 6 of these. The impacts from quarrying on water bodies is mainly related to sediment, with dewatering from mining operations also impacting on the quality of our waters.

For Industry, Mines and Quarries, to date, we have largely relied on regulatory mechanisms of planning enforcements, linked to guidelines, permits or licences to protect our environment.

Helping industry to move away from just focusing on regulatory compliance, we have seen a steady increase in Water Stewardship Programmes being rolled out by Industry bodies. For example, Irish Water's Water Stewardship Programme for Business was launched in December 2020. Providing training for organisations, the programme seeks to change their behaviours and attitudes in relation to water from the basic management philosophy to a more holistic water stewardship approach, both within their facility and in the wider catchment.

This is a welcomed development that sees businesses go beyond a basic compliance perspective, with an aim of achieving excellence in water quality and quantity management as part of their operations.

As a critical resource for many industries, the potential that plentiful water resources offer to attract foreign direct investment and support indigenous industries cannot be underestimated.



Action: DHLGH will examine opportunities to further support businesses in taking on a water stewardship approach in their operations.



Action: The EPA will establish a Working Group under the National Technical Implementation Group to examine the implementation of current legislation governing activities which pose a risk to waters and to identify opportunities to improve compliance with it. The focus will be on protecting waterbodies from pressures and activities which are resulting in deterioration of water quality.

5.4.11 Drinking Water Source Protection

The protection of drinking water sources is now a specified requirement under the Drinking Water Directive 2020 (EU 2020/2184). With over 1,000 public water supplies and over 700 private supplies (not including individual domestic supplies), source protection will have a significant impact on water management activities around drinking water sources where the risk of contamination is high or the water treatment provided is not commensurate with the risk.

A Drinking Water Expert Group has been convened to provide advice to the Minister on the appropriate preparations and steps necessary for the successful transposition and implementation of the new

Drinking Water Directive. This Expert Group is chaired by DHLGH and consists of representation from Irish Water, County and City Management Association (CCMA), the Local Authority Waters Programme (LAWPRO), the National Federation of Group Water Schemes (NFGWS), the Environmental Protection Agency (EPA), Geological Survey of Ireland (GSI), the Health Service Executive, the Department of Agriculture, Food and the Marine (DAFM), the Irish National Accreditation Board (INAB), the National Standards Authority of Ireland (NSAI) and the Commission for Regulation of Utilities (CRU).

The Expert Group is initially considering drinking water source protection and will make recommendations in relation to the future governance and implementation arrangements. A new approach to drinking water source protection will deliver the following outcomes:

- Establish in legislation a risk based approach for the management of water supply catchments.
- Assignment of responsibilities to the most appropriate public bodies for the implementation of source protection across; risk assessment, monitoring and risk management.
- Establish a communications strategy on drinking water source protection for both stakeholders and consumers

An added benefit from the risk based approach will be the opportunity to address a number of ongoing compliance challenges, particularly with small private supplies.

The approach will build on the work being undertaken through Drinking Water Safety Plans and provide a stronger legal framework for the protection of both surface waters and groundwater's which act as drinking water sources. This in turn will lower the risks to drinking water sources from pollutants and microbial contaminants including *E. coli* and *Cryptosporidium* in both public and private water sources.

This work recognises and builds on the initiatives of the Geological Survey of Ireland, the Department of Agriculture Food and the Marine, Irish Water and the National Federation of Group Water Schemes in developing a source protection strategies to help protect and restore the quality of water in drinking water source catchments and Irish Water's work on Drinking Water Safety Plans.



Action: Drinking Water Expert Group to make recommendations to the Minister regarding a new approach to drinking water source protection as part of the transposition of the recast Drinking Water Directive.

5.4.12 Invasive Alien Species

Invasive Alien Species (IAS) are non-native species introduced outside their natural range that threaten ecosystems, habitats and native species with environmental or socio-economic harm. Currently 37 species have been identified across the EU as a high priority for management, and nine of these occur in Ireland. As part of the recent public consultation on significant water management issues, IAS was highlighted as one of the issues to be addressed in the next RBMP. While still to be supported by evidence, the following species were highlighted in the responses to the SWMI consultation as those needing urgent attention;

1. Japanese Knotweed
2. Himalayan Balsam
3. Zebra Mussels
4. Crayfish Plague

Non-native species which have been introduced into aquatic environments can become highly invasive and are often impossible to eradicate as they are difficult to control and contain. As part of their characterisation process for the third cycle, the EPA have identified 48 water bodies that are currently impacted by IAS as either a single pressure or as part of multiple pressures. So while actions to reduce the likely introduction and spread of further species will be important, measures to address the current impact of invasive species on the quality of our water bodies will be required.

A number of measures to address this issue was previously highlighted in the last RBMP, these included;

- The implementation of EU Regulation (1143/2014) on “the prevention and management of the introduction and spread of invasive alien species”
- Putting in place clear governance arrangements for managing aquatic IAS in Ireland, including the assignment of responsibilities and development of agreed co-ordination mechanisms, including cross-border co-operation on the issue.
- The development of management plans for priority IAS, with priority given to high-impact IAS where eradication or control is possible.
- National guidelines for bio-security to be developed to prevent the introduction and spread of IAS and to mitigate their impacts.
- Harnessing community and stakeholder involvement and support to ensure the long-term management and control of IAS, through, for example, LAWPRO and other state bodies.

In addition to the ongoing work in relation to the above, specific emergency regulations were introduced in 2018 to help restrict the introduction and spread of invasive species of alien crayfish.

As mentioned previously, given the short time span of the 2nd RBMP, a number of measures are still being developed or have just been implemented and so it is difficult to provide the evidence of their impact. As a result, for the 3rd RBMP we will continue to drive implementation of the measures contained in the 2nd RBMP, especially the finalisation of legislation for the implementation of the EU IAS Regulation and the delivery of draft management plans and priority pathway action plans for priority invasive species.

The recruitment of additional Biodiversity Officers is currently the subject of discussions between the Department, the Heritage Council and the City and County Management Association, with a hope that positions will be in place shortly. Part of their role will include mobilising community and other resources to tackle invasive species. An additional €500,000 will be ring-fenced to fund projects tackling Invasive Alien Species under the Local Authority Biodiversity Grant Scheme during the next RBMP cycle. An increased Community Water Fund, which will allow community groups to apply for grant funding to undertake projects, including invasive species control projects, will also be delivered under the next RBMP.

In addition to the ongoing protection of our water bodies, the implementation of the above measures will lead to improvements in the quality of a number of water bodies currently impacted by IAS. The measures outlined, including the investment in local projects to support efforts to manage the spread of invasive species, will not only deliver in terms of water quality but also for biodiversity.



Action: NPWS to finalise legislation for the implementation of the EU IAS Regulation.



Action: NPWS to prepare draft management plans and priority pathway action plans for priority invasive species.



Action: NPWS to advance negotiations on the recruitment of additional Biodiversity Officers.



Action: An additional €500,000 to be provided for projects tackling Invasive Alien Species under the Local Authority Biodiversity Grant Scheme.



Action: DHLGH to provide increased funding to the Community Water Fund to allow for additional projects, including invasive species control projects, to be undertaken at community level.

5.4.13 Hazardous Chemicals in the Aquatic Environment

In general, Ireland has low levels of priority substances or priority hazardous substances in its waterbodies. The EPA's *Water Quality in Ireland Report 2013-2018* states that '*In relation to the presence of priority substances and hazardous priority substances, 75% of surface water bodies assessed are in good chemical status. This increases to 99% of surface water bodies when ubiquitous priority substances such as mercury and polyaromatic hydrocarbons (PAHs), which are already widely distributed in the environment, are omitted.*'

Since the publication of the second RBMP in 2018, the requirements of the Environmental Quality Standards Directive (2013/39/EU) have come into effect in Ireland. The revised environmental quality standards for a number of priority substances, and the list of new priority substances have been incorporated into the relevant legislation and are now being monitored as part of the WFD compliance monitoring programme. In addition, the Watch List of emerging pollutants continues to be updated and monitored nationally to determine whether they are present in natural waters and whether they require increased controls.

Pesticides

Control of pesticides used in agriculture and forestry are key elements of ensuring Ireland maintains good chemical status in as many waterbodies as possible. The most commonly detected substance continues to be MCPA, a herbicide used in the control of rushes in grassland and which was detected at low levels in 55% of rivers between 2013 and 2018¹⁰.

In 2019, 27 drinking water supplies had pesticide concentrations above the required standard and of those exceedances, 63% were attributed to the presence of MCPA¹¹. This continues a declining trend in the number of pesticide exceedances in drinking waters. However, efforts must continue to ensure the appropriate controls are applied to pesticide storage and use with a view to maintaining this positive trend and ultimately eliminate pesticide exceedances in drinking water. The National Pesticides and Drinking Water Action Group (NPDWAG) is chaired by DAFM

and includes representatives from the EPA, Irish Water, local authorities, the farming community and pesticide manufacturers and suppliers. This group works together to raise awareness of the need to use pesticides responsibly. Transposition of the new Drinking Water Directive provides the opportunity to learn from and build on the successful collaborative work of the Action Group in protecting sources of drinking water being contaminated by hazardous substances more generally (see Section 5.4.11 – Drinking Water Source Protection). The upcoming publication of an Interim Pesticides Strategy by Irish Water will seek to further limit the impact of pesticide use on our drinking water supplies.

The National Aquatic Environmental Chemistry Group

The National Aquatic Environmental Chemistry Group (NAECG), chaired by the EPA, was established in 2018 to bring a more strategic and forward-looking approach to the management of hazardous chemicals and to provide a forum for maintaining national expertise on hazardous chemicals in the aquatic environment. The group brings together experts in the monitoring, assessment and management of hazardous chemicals from many of the national agencies whose remits depend on having an understanding of the source, fate (including monitoring) and impact of chemicals in the water environment.

During the second RBMP the NAECG completed a review of Ireland's list of 16 River Basin Specific Pollutants (RBSPs), which were originally established in 2010, to determine if they were still appropriate in an Irish context. The review identified a number of substances which could be considered for removal from the list and suggested that the Environmental Quality Standards (EQS) for a number of other substances should be reviewed. The group also carried out further work to identify potential new substances which may be of concern and may need to be added to the list of RBSPs, taking account of monitoring data generated by national agencies across Ireland, available usage and importation data as well as data modelling. Over the next two years the NAECG will undertake a scoping (monitoring) study at locations across Ireland, representative of water body types and typical pressures, to determine the presence, or otherwise, of these candidate substances. Where substances are detected at levels of concern, the NAECG will undertake further work to assign EQSs to these new substance with the aim of developing a new list of RBSPs for inclusion in updated legislation in 2023.

10 EPA 'Water Quality in Ireland Report 2013-2018'. [www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20\(web\).pdf](http://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20(web).pdf)

11 EPA 'Drinking Water Quality in Public Supplies 2019'. www.epa.ie/pubs/reports/water/drinking/DW%20Quality%20in%20Public%20Supplies%202019_web.pdf

In looking toward future work activities during the third cycle plan, the NAECG will undertake a scoping study to investigate the establishment of a national, central data repository for all relevant water chemistry data for use as a national resource in future projects on water chemistry. Separately, the NAECG may play a greater role in contributing to the development of national strategies and policies involving water chemistry in Irish water bodies. In addition the NAECG will oversee a project to develop revised Environmental Quality Standards (EQS) for the protection of designated shellfish waters.

The following sets out the principal actions for the third cycle with regard to control of hazardous chemicals in the aquatic environment:



Action: DHLGH will amend the EQS Regulations to take account of the assessment of River Basin Specific Pollutants (RBSPs) by the National Aquatic Environmental Chemistry Group (NAECG).



Action: DHLGH and EPA will input into the recently commenced EU work to revise the list of Priority Substances and Priority Hazardous Substances.



Action: Follow up scoping study on River Basin Specific Pollutants will be undertaken by the NAECG.



Action: The NAECG will oversee a project to develop revised Environmental Quality Standards for the protection of designated shellfish waters.

5.4.14 Aquaculture

Aquaculture is a significant water management issue in terms of the potential impacts of fin-fish farming on water quality and in terms of the need to protect shellfish production areas from land-based pollutant emissions.

Concerns were raised during the SWMI consultation process in relation to the potential impacts on water quality from the aquaculture industry in Ireland. Concerns related to the effectiveness of the overall licensing process in assessing the impact of aquaculture activities on the water environment. Aquaculture is licensed under the Fisheries (Amendment) Act, 1997, the Foreshore Act 1933 and applicable National and EU legislation, including EU environment protection Directives.

While the sector is subject to authorisation, greater transparency regarding the environmental impact and

performance assessments of the sector was called for. The potential impact from finfish farming, can include impacts on water quality, biodiversity, the condition of the local habitats, risks from the use of pesticides and threats from the introduction of non-native species. However, monitoring and compliance programmes for these activities are in place with reports available on the Department of Agriculture, Food and the Marine's (DAFM) website.

Currently, licences are only granted following full consideration of the likely effects on the environment of the proposed operations, and are granted by the Minister for Agriculture, Food and the Marine subject to specified terms and conditions. DAFM considers all applications for marine based aquaculture licences in accordance with the provisions of the following legislation:

- Fisheries (Amendment) Act 1997,
- Foreshore Act 1933,
- EU Habitats Directive of 92/43/EEC,
- EU Birds Directive 79/409/EEC,
- Consolidated Environmental Impact Assessment Directives 2014/52/EU.

The licensing process also involves consultation with a wide range of scientific and technical advisers as well as various statutory consultees including the Department of Housing, Local Government and Heritage and Irish Water. The legislation also provides for a period of public consultation.

The potential for contamination of shellfish arising from land-based activities is recognised, and was highlighted during the public consultation. The environment in which shellfish grow affects both their viability, and their quality as a food source for human consumption. Falling under the remit of the Department of Housing, Local Government and Heritage, the Shellfish Waters Directive (SWD) outlined the water quality expectations for shellfish waters and the obligation to establish pollution reduction programmes for these areas, where necessary. The SWD was repealed in 2013 with the expectation that the Water Framework Directive (WFD) would maintain the same protection to shellfish waters as the original SWD.

A review of aquaculture licence processing including new and renewal applications commenced following the 2007 adverse ruling of the Court of Justice of the European Union against Ireland, on implementation of the Birds and Habitats Directive. This effectively stalled the licensing of aquaculture in Ireland until Appropriate Assessments could be carried out on aquaculture licence applications in Natura 2000 sites. The assessment of both cumulative and in-combination (with other activities) effects on WFD and Habitats Directive objectives forms

part of the aquaculture licencing advice from the Marine Institute to the DAFM in the licencing process. Having responsibility for the WFD, DHLGH is a Statutory Consultee that consults on all aquaculture applications at the request of DAFM. Currently, environmental assessment reports such as Appropriate Assessments are available online alongside licence application forms and information on current licences. DAFM is committed to continuing to improve the aquaculture licensing system over time, including greater access to information for stakeholders.

Through consultation with DHLGH, the current review of the National Strategic Plan for Sustainable Aquaculture Development and the recently published communication from the EU Commission regarding 'Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030', provides an opportunity to improve the links with the Water Framework Directive. In this regard the Aquaculture and Foreshore Management Division within DAFM will;

1. Seek to improve access to information through the launch of an online mapping viewer of licensed aquaculture sites in Ireland which will link to licence information already available online.
2. Review the opportunities to strengthen the links between the Aquaculture licensing process and the objectives of the WFD in consultation with the Department of Housing, Local Government and Heritage.

For the purposes of improving the protection of shellfish waters, DHLGH will seek to implement a new legislative and management framework for shellfish waters in Ireland. This will include consideration of monitoring, assessment and protection measures. It is envisaged that this will take place in the context of the new regional river basin planning structures proposed for the next cycle. It is expected that this process will be undertaken in the following four steps:

- A review of the quality standards that shellfish waters must meet to ensure adequate protection of the habitat for shellfish. This will include the determination of monitoring, assessment levels and reporting requirements of the standards currently identified in national legislation (SI 268 of 2006). The review will include consideration of synergies between monitoring and assessments carried out for the WFD and Food Safety legislation in terms of physical, chemical and microbiological elements. Particular focus will be given to the numerical standards for microbial monitoring. A national expert group will be convened to consider these standards.

- The drafting of primary legislation to allow for the designation and protection of shellfish waters by the Department of Housing, Local Government and Heritage.
- Creation of associated regulations by the Department of Housing, Local Government and Heritage to allow for the identification of shellfish waters and monitoring requirements. This legislation will also allow shellfish waters to be considered as protected areas under the WFD. This work will also include the identification of new shellfish areas that require designation.
- Consideration of protected shellfish waters in the WFD characterisation process and the development of measures through the river basin planning structures to protect and restore these waters to ensure they meet the requirements of the quality standards set out in the legislation developed.

A detailed roadmap is being developed by DHLGH for engagement with key stakeholders on the implementation of the new legislative and management framework.



Action: DAFM to seek to improve access to information through the launch of an online mapping viewer of licensed aquaculture sites in Ireland which will link to licence information already available online.



Action: DAFM and DHLGH to review opportunities to strengthen the links between the Aquaculture licensing process and the objectives of the WFD.



Action: DHLGH will seek to implement a new legislative and management framework for shellfish waters in Ireland.

5.4.15 Land Use Planning

The River Basin Management Planning process recognises the need for alignment and integration with the planning system in order to ensure effective water management and compatibility between planned growth and environmental sustainability, both through plan making at a strategic level and in relation to careful consideration of individual applications for planning permission.

Among the actions identified in the second cycle River Basin Management Plan (RBMP) is the delivery of guidelines for planning authorities on the relationship between physical planning and river basin management planning. A public consultation on the draft planning guidelines will be undertaken

to provide stakeholders with the opportunity to comment prior to finalisation.

These guidelines will provide planning authorities with clear direction on how to consider the risk that proposed plans or developments, will pose to achieving the objectives of the Water Framework Directive. They will set out how development planning can prevent future development from inadvertently causing deterioration in water quality while also supporting the delivery of improving our water environment as required by the Water Framework Directive. This can be done through the River Basin Management Planning process by taking the outputs from the RBMP process, interpreting and adapting them into policies and actions that can be implemented through the development plan and development management frameworks.

The development of guidelines and rolling out of training to practitioners, which will provide the planning authorities with a suite of tools which will facilitate the determination of the impact of development plans down to individual development projects (where relevant) on the status of a water body. These tools will facilitate the following aims;

1. Avoidance of inappropriate development in or near water bodies that will pose a risk of not meeting the WFD's environmental objectives or WFD protected areas.
2. Ensure the effective management of risks from new development permitted near water bodies that may pose a risk of failing to meet the WFD's environmental objectives or WFD protected areas.
3. Ensure best practice sustainable water quality management for all new development.
4. Improve the understanding of the RBMP process and its objectives among planning authorities, applicants, their agents and the public.
5. Ensure that the consideration of WFD requirements is proportionate to the plan level, risk, scale, nature and location of development proposed.
6. Provide practical steps, approaches and methodologies to ensure that relevant development plans are consistent with the RBMP and the requirements of the WFD.
7. Provide practical steps, approaches and methodologies to ensure planning decisions take account of risks and avoid or mitigate the adverse effects of inappropriate development on WFD objectives.
8. Generally, identify mitigation measures to avoid deterioration in surface and groundwater status

which can be built into the design stage of projects that are within or close to such waters.

9. Outline the procedures relating to exemptions from the default environmental objectives established within the WFD (under Article 4.7).

These guidelines will introduce a comprehensive mechanisms for supporting the delivery of the objectives of the WFD and improving our water environment as required by RBMP through all levels of the planning process, ensuring consistency of approach throughout the country. To give legal effect to the guidelines amendments to the planning and development legislation will be proposed. This legislation will also enable the identification and management of developments where exemptions from adherence to the Water Framework Directive may be necessary in the case of proposed sustainable development.

These measures will facilitate the development of further guidelines, jointly by the Department of Housing, Local Government and Heritage and the City and County Management Association on a strategy for the implementation of Nature Based Sustainable Urban Drainage Systems on a national basis. There are clear linkages between improved surface water management using a nature based solution and the reversal in decline of status in receiving water bodies.

There will be a reliance on Local Authorities, the Local Authority Waters Programme and other Competent Authority resources to manage the Water Framework Directive assessments as part of the statutory planning process. The ability of these Competent Authorities to resource and manage these assessments will be considered as part of review of the Local Authority Waters Programme and wider Local Authority structures.



Action: Roll out of training on the new water and planning guidelines to practitioners.



Action: Progress amendments to the planning and development legislation to give effect to the new guidance.

5.5 Update and review of the Economic Analysis

This section sets out the approach in Ireland to the recovery of costs for water services and the contribution made by the various water users to the recovery of water services. Water resources need to be protected and used sustainably, if we are to maintain sufficient water resources for nature and for society.

The main challenges in the third cycle for water services will be achieving quality and environmental compliance; incorporating population change (both population growth and urbanisation); supporting economic growth (especially in agriculture and water-using industries); and the additional pressures arising from climate change.

The most recent commentary from the Central Bank of Ireland is that the Covid-19 pandemic will remain the main determinant of the economic outlook in 2021 and into 2022. The progress of the pandemic in Ireland has reduced the near-term prospects for the economy. The OECD Economic Forecast for Ireland expects that real GDP is projected to grow by 4.2% in 2021. As restrictions are eased and vaccination levels increase, the OECD expects domestic demand will strengthen. Pent-up consumer spending is projected to lift growth to 5.1% in 2022.

Ireland's spatial development and planning policy is set out in Project Ireland 2040 {www.gov.ie/en/campaigns/09022006-project-ireland-2040/}. This is the framework for social, economic and cultural development of Ireland. The CSO has reported an overall increase in the population of 55,900 (1.1%) in the year to April 2020. This compares to an increase of 64,500 for the year to April 2019 and brings the population estimate to 4.98 million in April 2020. This is in line with the expectations of the Project Ireland 2040 strategy. The Plan is based on an anticipation that by 2040 there will be an additional one million people living in Ireland. There is a need for 500,000 new homes to accommodate this growth. Covid-19 has resulted in new trends in work and living demands. While it remains to be seen if these patterns endure, there is a Government commitment to develop a Town Centre First policy, to implement a strategic approach to town centre regeneration by reusing and refurbishing existing buildings and unused lands for new development to promote residential occupancy in our rural towns and villages.

Existing water uses, impacts and pressures

The preceding chapters of this draft plan have set out the identification of significant water management issues and pressures including water uses. Based on the data gathered by the abstractions register that was put in place in 2018, energy generation, drinking water supply, quarries / mining and industrial processing are the sectors abstracting the most water. The provision of public drinking water supply is the predominant abstraction risk within this cohort. Public water supply is the source of drinking water for roughly 80% of the population and also provides water for many of our larger services and industry. The forthcoming Water (Abstractions) Bill will put in place a new and enhanced authorisation regime for water abstractions.

Prior to confirming the final details of the measures, the cost effectiveness of the measures will be analysed. This will need to include the views of the public gathered during the consultation period on the draft River Basin Management Plan. The cost of measures and an analysis of the cost-effectiveness of those measures will be included in the final plan.

Application of Article 9

Ireland is required to ensure that there is an adequate contribution of the different water user from industry, households and agriculture, to the recovery of the costs of water services. The costs of water services and the current policy of cost recovery for the financial costs of water supply and waste water treatment has been subject of significant public discussion and debate. The policy in relation to the funding model is now well developed in Ireland.

The Commission for Regulation of Utilities, is the economic regulator for public water services (water and waste water). Ireland modernised and updated its water charging regime. Non-domestic tariffs have been standardised in a reform of the myriad of local authority charges into one standardised national charging system. The introduction of domestic user excessive use charges for public water services is now approved (by the CRU, July 2019) and will be introduced later in 2021.

Domestic customers are charged for water when the individual use of water puts the objectives of the Directive at risk. Ireland has legislation which sets a reasonable use allowance for households each year. Following a period of time to address leaks/reduce demand, anyone that uses water above this annual allowance will be charged. The allowance has been set at 1.7 times the average rate of water demand for Irish Water's domestic customers. This rate was recommended by the CRU and provided in its advice to the Minister. This rate may be changed by the Minister following receipt of further reports from the CRU recommending an amended 'average rate'.

This policy ensures and encourages households to conserve water and, where possible, to identify and to fix leaks in the water supply at their property. Excess use charges promote conservation and responsibility for water use. This is to help ensure that Ireland meets in full the requirements of the Water Framework Directive, and especially Article 9 of the Directive. The household water allowance is 213,000 litres per year for up to four occupants, rising for higher occupancy. Household usage up to this level is funded by the public through general taxation. Households using more than their allowance will be charged for use over this allowance. There are some additional allowances or exemptions for particular humanitarian and/or hardship cases (for

example: medical card holders). Irish Water will inform domestic customers if they are using water above the annual household allowance. The CRU and Irish Water estimate that approximately 10% of customer will pay the excess use charge. A notice will be issued to customers who exceed their household allowance over a 12-month period. The notice of apparent excess use will issue in 2021 and the excess use bills, covering the previous 12-month period, will not be issued to customers until 2023.

All business customers (or 'non-domestic' such as agriculture, energy, services and industrial consumers) of Irish Water pay charges for water, waste water and trade effluent services. Irish Water has continued to charge business customers on the same basis as determined under relevant Government policy and applied by local authorities as of 31st of December 2013 until a review of the existing charges could be undertaken by Irish Water. This includes the non-domestic charging arrangements applied to the commercial portion of 'mixed use' customers who use water services for both household and business purposes on the same supply (for example agricultural enterprises with private households). Non-domestic changes were previously determined and charged by 34 individual local authorities and 10 town councils. This resulted in a wide range of pricing levels, categories, methodologies, and billing arrangements. Irish Water and the CRU have finalised the amalgamation of 500 separate charges into a single new Non-Domestic Tariff Framework. In March 2020, a decision was made to defer the implementation of the new non-domestic tariff framework for business customers. This was due to the considerable uncertainty for businesses as a result of the ongoing restrictions in place to prevent the spread of COVID-19. The new framework will now be introduced from 1 October 2021. This will establish one approach for charging for water and waste water services provided by Irish Water, which will benefit business customers in terms of transparency, simplicity and equity.

The Programme for Government has committed to retaining Irish Water in public ownership as a national, standalone, regulated utility. The Programme has also committed the Government to ensuring that Irish Water is sufficiently funded to make the necessary investment in drinking water and waste water infrastructure.

Irish Water has also been tasked to develop plans to ensure security of supply and sufficient capacity in drinking and waste water networks to allow for balanced regional development. Irish Water funding is subject to a number of formal steps. The Minister prepares a Water Services Policy Statement.¹² This

sets out Government water policy objectives and priorities. Irish Water prepares a Water Services Strategic Plan¹³ for a 25 year period. Irish Water prepares a Strategic Funding Plan. This outlines implementation of the Water Services Policy Statement. The Minister decides to approve or not approve the Strategic Funding Plan. If not approved, Irish Water must re-submit the Strategic Funding Plan. Irish Water prepares a Water Charges Plan. This sets out the charges for water services and the costs that Irish Water expects to incur in delivering water services. The CRU conducts its normal revenue control process and decides the level of revenue Irish Water is allowed for the revenue control period. The Department of Finance allocates the allowed funds to Irish Water through the annual budgetary process.

While some actions may be subject to adjustment pending the outcome of the proposed development of an overall financing strategy, the following actions will be undertaken during the third-cycle RBMP;



Action: Prior to confirming the final programme of measures, the most cost effective combination of measures will be analysed.



Action: The economic regulator of water services (the CRU) will continue to assess and approve Irish Water's costs and investment plans. This will include assessment of Irish Water's investment decisions to ensure effectiveness, efficiency and economy in Irish Water's expenditure. The CRU will continue to monitor and report on Irish Water's delivery and performance in that context.



Action: Irish Water to publish a National Water Resources Plan and to maintain national waste water capacity registers to ensure security of supply and sufficient capacity in drinking and waste water networks to allow for balanced regional development in line with the National Planning Framework.



Action: Irish Water to continue to implement domestic excess use and non-domestic charging.

¹² Water Services Policy Statement - www.gov.ie/en/publication/49364-water-services-policy-statement-2018-2025/

¹³ Irish Water's Water Services Strategic Plan - www.water.ie/projects/strategic-plans/water-services-strategic/



Action: Conduct a new economic assessment of the potential for a natural capital / freshwater ecosystem services approach to protecting water resources, including the need for new economic instruments and protection of freshwater and marine ecosystem services.



Action: Put in place a funding stream to upgrade and take in charge towns and villages without waste water networks.



Action: Finalise the review of rural water services and produce a rural water services strategic plan including a national rural water resources plan for the rural water sector.

6

What happens next?

6.1 Next Steps

You now have the opportunity to comment on this draft Plan, including the prioritisation of areas for action, the objectives set and measures proposed. The consultation will remain open for 6 months, closing on Thursday, 31 March 2022, with the responses received informing finalisation of the plan.

To assist the consultation process, DHLGH will shortly host a national stakeholder engagement event, to outline the objectives for the next plan and the strategies for meeting them. From October onwards, the Local Authority Waters Programme will also be hosting regional town hall meetings (either virtually or in person) to gather the views of local communities. Details of these community engagements will be available on www.LAWaters.ie.

Further stakeholder meetings, such as our ongoing engagements with An Fóram Uisce, will continue throughout the consultation period and beyond to ensure the identified measures are appropriate to meet the challenges ahead.

On completion of the consultation period, and following approval by the Minister, it is intended to publish the final River Basin Management Plan in 2022. The final plan, and associated documents and data, will then be reported to the Commission in line with the requirements of the Water Framework Directive.

6.2 Have your say

Finalising the content of the next River Basin Management Plan is not something that we can do on our own. In order to meet the ambition needed to achieve the targets set out in the Water Framework Directive, we need the views of all sectors to ensure the most appropriate actions are taken.

We are now inviting you to provide comments and make submissions on this draft River Basin Management Plan. To assist, we have set out a number of specific questions in relation to each section of this document for you to answer.

When replying to this consultation, it would be of assistance if you could complete and submit the online questionnaire at <https://ec.europa.eu/eusurvey/runner/draftRBMP>, using Chrome/Edge/Safari/Firefox browser (as it may not load correctly on Internet Explorer). This will allow you to make your comments more effectively, while helping us to gather and summarise responses quickly and accurately. 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.

If you are unable to use the online questionnaire, there is a response template available for download on the consultation website (www.gov.ie/draftRBMP). Once completed, this should be emailed to rbmp@housing.gov.ie.

Alternatively, responses can be made in writing to:

Draft River Basin Management Plan Consultation
Water Advisory Unit
Department of Housing Local Government and Heritage
Custom House
Dublin 1
D01 W6X0

6.3 What we will do with your response

Responses will inform the finalisation of the third River Basin Management Plan for Ireland. Please note, while the names of those that have responded will not be published, 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.gov.ie/housing.

6.4 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.

the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion.

It is not only the illiterate who are at risk of being left behind. The world's population is growing rapidly, and the number of people who are poor is increasing. In 1990, there were 1.2 billion people living on less than \$1 a day. By 2000, there were 1.5 billion.

The world's population is also becoming more diverse. There are now more than 200 different languages spoken in the world, and more than 100 different ethnic groups. This diversity is a source of strength, but it also presents challenges.

One of the biggest challenges is how to ensure that everyone has access to the same opportunities. In many parts of the world, people are still living in poverty and lack access to basic services like education and healthcare.

Another challenge is how to ensure that the world's resources are used sustainably. We are using up our natural resources at an alarming rate, and this is threatening the lives of future generations.

Finally, there is the challenge of how to ensure that the world is a more peaceful and just place. There are still too many conflicts and wars, and too many people who are living in fear.

These are the challenges that we face in the 21st century. They are big challenges, but they are not insurmountable. If we work together, we can find the solutions we need to build a better world for everyone.

One of the ways we can start to address these challenges is by investing in education. Education is the key to a better future. It gives people the skills and knowledge they need to improve their lives and their communities.

Another way we can start to address these challenges is by investing in sustainable development. We need to find ways to use our resources more wisely and to protect the environment for future generations.

Finally, we need to work to build a more peaceful and just world. We need to find ways to resolve conflicts and to ensure that everyone has access to the same opportunities.

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www.gov.ie/housing

Department of Housing,
Local Government and Heritage



Rialtas na hÉireann
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