



Rialtas na hÉireann
Government of Ireland

Water Action Plan 2024

A River Basin Management
Plan for Ireland

Appendix 1: Programme of Measures: Further information on the environmental measures to 2027

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

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[CABL #] = Citizen's Assembly on Biodiversity Loss cross-reference where indicated

1. Agriculture

Agricultural pressures on water bodies and water quality management

Agriculture is the main land use in Ireland. Farming and food production is now the primary human activity that is having an impact on the status of water bodies in Ireland.

Nutrients from farmland cause excess growth in water bodies (eutrophication) which disrupts the balance of the natural ecosystem and nitrates also put water supplies at risk; organic pollution damages ecosystems; pesticides damage aquatic invertebrates and water supplies; and physical changes to rivers and lakes can impede the natural ecology of watercourses. The latest precision and best-practice farming techniques do offer the potential to reduce emissions of nutrients to water from farms without impacting on productivity. Sustainable farms will continue to provide sustainable incomes while also benefiting nature. Farmland can also be managed to provide key eco-systems services, such as nature-based water management and flood protection, protection of ecosystems, restoration of biodiversity and carbon storage.

Too much fertiliser, pesticide and sediment is being lost from our farmland into water. 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 (*EPA Water Quality in 2022 An Indicators Report*). While there are impacts on **197** water bodies from urban wastewater, these have stabilised and reduced over the course of the first and second-cycles. Over the same period, the pressures from the agriculture sector have increased, particularly in areas with increased agricultural intensification and higher stocking rates of livestock.

Agriculture and food production is an important economic activity and the resilience of food supplies is important for people and our society. The agri-food sector is Ireland's most important indigenous industry, providing 165,000 jobs and accounting for 9% of Irish exports to over 180 countries and valued at €19 billion (*Department of Agriculture, Food and the Marine Annual Review and Outlook 2023*). 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.

At a national level, loadings of phosphorus and nitrogen from all sources to the marine environment have increased since 2013. According to the EPA, the average nitrogen loads increased by 13% and average total phosphorus loads have risen by 36% between 2013 and 2022.

There has been an increase in the proportion of river sites with increasing nitrate concentrations in the most recent monitoring period (2016 – 2021) compared to 2013-2018. Up to 2018, 26.8% of sites were increasing in nitrogen concentrations compared to 39.4% up to the end of 2021. The areas of the country impacted by excess losses of nitrogen are mostly located in the more intensively farmed areas in the south, southeast and east of the country. The EPA completed an assessment of the catchments that need reductions in nitrogen concentrations to achieve water quality objectives in 2021. The key messages are provided in **Box 1** below. The assessment identifies catchments of concern where measures to reduce leaching should be targeted in the critical source areas to deliver maximum environmental benefits.

The proportion of sites with increasing phosphate concentrations has decreased; from 26% to 16.8% over the same period.

Box 1: Assessment of the catchments that need reductions in nitrogen concentrations to achieve water quality objectives (EPA 2021)

Assessment of the catchments that need reductions in nitrogen concentrations to achieve water quality objectives (EPA 2021)

Key Messages

- Elevated nitrogen concentrations in waters is one of the factors that leads to poor water quality outcomes in all waters. Estuaries and coastal waters, and groundwater drinking water supplies are particularly at risk.
- There are a number of key catchments of concern with elevated nitrogen concentrations along the south, southeast and east coasts including the Maigne/Deel, Bandon, Lee, Blackwater, Suir, Nore, Barrow, Slaney, Tolka/Liffey and the Boyne river catchments.
- Nitrogen concentrations in waters have been increasing since 2013 – between 2013 and 2019, all but one of the catchments of concern showed increasing trends in the amount, or load, of nitrogen discharging to the sea via our rivers.
- The nitrogen load discharging to sea needs to be reduced in the catchments of concern to support healthy aquatic ecosystems. The scale of reduction needed ranged from zero in some years, to just over 8,000 tonnes of nitrogen in the Barrow catchment in 2018.
- The data show that in the predominantly rural catchments, more than 85% of the sources of nitrogen in the catchment are from agriculture, from chemical and organic fertilisers. In contrast, the majority of the nitrogen in Liffey/Tolka catchment, which incorporates Dublin City, is from urban wastewater.
- Maps have been developed of the critical source areas for nitrogen. These are the highest risk areas in the landscape where nitrogen from agriculture leaches to waters. Measures to reduce leaching should be targeted in the critical source areas, in the catchments of concern, to deliver maximum environmental benefits.

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 River Basin Management Plan aims to deliver on these commitments through the Fifth Nitrates Action Programme, the new CAP Strategic Plan Regulations and the implementation of the additional measures listed in **Figure 1**.

Water Action Plan for Agriculture: Coordinating agricultural actions in catchments.

In support of the Catchment Management Work Plans, the Department of Agriculture, Food and the Marine (DAFM) will publish a Sectoral Action Work Plan to reverse the upward trend of nitrogen discharges and to bring nitrogen, sediment and phosphorous losses to water from agricultural sources within sustainable levels by 2027. The Sectoral Action Work Plan for Agriculture will include targeted measures to address the 1,000+ water bodies at risk from agriculture during the third-cycle, along with protection measures needed to prevent further deterioration. The aim of the plan will be a rapid graduated reduction of nitrogen, phosphorous and sediment losses to water bodies with a target to reach sustainable use and discharges in all catchments of concern by 2027 (**See Box 2**).

There is a long history of action and measures aimed at reducing 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 up to the early 2010s. However, water quality indicators show that nutrient concentrations are currently too high across a significant proportion of our water bodies and these trends are not improving.

To reduce the impact on water, measures are needed to address nitrogen, phosphorous, sediment loss, physical changes to waterways and to reduce the impact from pesticides.

The loss of nitrogen could be reduced by having appropriate loading in each catchment, minimising chemical fertiliser applications, maintaining good soil health and by using alternative sources of nitrogen, particularly in catchment areas that 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 by appropriate inspection and compliance checks to ensure that good agricultural practice is being adhered to by everyone.

Land and river channel alterations arising from agricultural activities are also 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 on Hydromorphology in Section 2).

Box 2: Phosphorous losses to water from agriculture

Phosphorous losses to water from agriculture

Phosphorous behaves differently to nitrogen, is less (but not entirely) related to intensity and requires a different set of measures to nitrogen loss reduction measures. These are being addressed by new and tailored measures under DAFM's "Green Architecture" of the CAP Strategic Plan for Ireland. There are three core elements within the 'Green Architecture' – Conditionality, Pillar 1 Eco Schemes and Pillar 2 climate and environmental interventions. These measures will be delivered through Pillar 2 interventions under CAP e.g. DAFM's Agri-Climate Rural Environment Scheme (ACRES), and the Water European Innovation Partnership (EIP) project ('Farming for Water'), which was developed collaboratively with DAFM. The Waters of LIFE projects is also applying a similar approach in six pilot high status objective catchments.

The types of measures envisaged for water protection in these areas (including Non-Productive Investments 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 strengthened and leveraged to support the implementation of the new measures under the CAP Strategic Plan.

Figure 1 - Coordinating measures across the agricultural sector to deliver improvements

MEASURES	Pollutant / Impacts							
	Nitrate	Phosphorus	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 Uses of Pesticides							✓	✓

Challenges for the agricultural sector in addressing significant pressures on waters

To achieve the goal of clean, healthy and well-protected water quality as measured by the objective of good water status there are a number of goals that need to be achieved by the agricultural sector. The sector targets for agriculture are:

1. To reduce the nitrogen load (tonnes) needed to achieve the Environmental Water Quality Standard of 2.6 mg/l N in the downstream estuaries by 2027 in the catchments of concern identified by the EPA assessment.
2. To reduce the mass loading of phosphate and sediment by establishing a minimum of 2,500 linear kilometres water interception measures (woodlands for water) representing 3% of all river channels.
3. Local authorities with DAFM support to identify, reduce and eliminate point source pollution from farmyards affecting water bodies by 2027.
4. Uisce Éireann and local authorities to work with landowners to eliminate exceedances of pesticide standards in drinking water supplies across supplies showing signs of pesticide impacts.
5. Preventing instream habitat damage arising from land drainage and river channel drainage.
6. Support voluntary efforts to rewet 20,000 hectares of organic soil to deliver water, climate and biodiversity benefits.
7. Protecting and restoring valuable and sensitive high-status water catchments.

Achieving these goals will require new stricter requirements and regulations, and increased compliance with existing environmental regulations, including the GAP Regulations. This will require not only increased knowledge and understanding of the requirements but also increased enforcement of the requirements, particularly Goals 1 (Agricultural Nitrate losses), 2 (land and river drainage) and 3 (point source pollution from farms).

Reducing the loss of nitrogen to the environment will require tighter regulation of nitrogen fertiliser and slurry inputs to agricultural systems.

In response to these significant pressures, the Programme of Measures includes a specific focus on diffuse nutrient pollution, and in agriculture on: (1) a stronger and more targeted Nitrates Action Programme including undertaking an interim review in 2023 and additional measures to be implemented in 2024; (2) more targeted, data-driven enforcement

with more resources; (3) adopting a CAP Strategic Plan with green architecture including funding for on-farm measures; (4) building the capacity of farmers to adopt nutrient-efficient farming techniques and (5) communication of best practices including the outcomes of the Agricultural Catchment Project research outcomes by publications, ACP Open Days, webinars and farm talks.

In addition to specific measures, the **Teagasc Signpost Programme** is showcasing demonstration farms that are leading the transition of Irish Farming. While broad in scope, it represents a move towards a more sustainable model of farming and includes the aim of improving water quality, improving biodiversity and reducing greenhouse gas emissions while also maintaining and improving business margins.

Environmental regulation of the farming sector: Compliance and enforcement

The Fifth Nitrates Action Programme includes very significantly stronger measures to address nutrient losses, including:

- A livestock excretion banding system is in place from 2023. This may potentially result in some farmers reducing their stocking rate to better reflect current animal emissions;
- The annual maximum fertilisation rate of nitrogen on grassland has been reduced by 10% with potential for a further reduction of, at least, 5% in 2024 based on the outcome of the NAP interim review in 2023.
- A national chemical fertiliser sales database for farmers has been established and legislation was put in place during 2023;
- A stronger emphasis on risk based inspections and enforcement.
- Tighter controls on the application of chemical fertilisers and slurry, including extending the closed period where application to land is prohibited;
- Reduction of the derogation stocking rate maximum of 250 kg N/ha to 220 kg N/ha on farms in water bodies where the water quality assessment component of the NAP interim review indicates water quality deterioration or risk of deterioration from nutrients.

Local authorities undertook a review of their resource needs within their water environmental functions, including enforcement activities. This review highlighted that 57 more staff were required to undertake agricultural inspections and enforcement under the GAP regulations. This plan has committed to increasing local authority resources by allocating

funding for these 57 staff for the National Agricultural Inspection Programme, with all staff to be in place by Q4 2024. In conjunction with this, a central data system will be established to collate all inspections and enforcement data to inform the development of future measures under the NAP.

The Department of Agriculture, Food and the Marine (DAFM) have increased their derogation inspections from 5% to 10% of all derogation farms per year plus DAFM will undertake 500-1,000 rapid inspections per annum in Q1 of each year, when risk to water quality is considered high. Non-compliance will result in penalties on the basic payment and DAFM will cross-report to local authorities. This allows local authorities to undertake follow-up inspections and enforcement action.

To support the goal of targeting the right measure in the right place all farm inspectors will be provided with the appropriate level of catchment science training to ensure that inspections are sufficiently targeted

Major behavioural change programme around slurry storage

Reducing the loss of nitrogen to the environment will require tighter regulation of nitrogen fertiliser inputs to agricultural systems, including strict adherence to slurry storage requirements. The penalties and environmental enforcement will not be adequate on their 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.

Under the Nitrates Action Programme (NAP), Dairy Sustainability Ireland is working with Co-ops and farmers to drive nitrogen reductions at both national and catchment scales with the main focus on:

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

Reduced limits on the total inputs of slurry and chemical nitrogen fertiliser will stimulate and encourage the use of more efficient and precision use of nutrients on farms. The CAP Strategic Plan and the new Green Architecture will provide opportunities to promote the uptake of such alternatives.

Common Agricultural Policy Strategic Plan – voluntary measures supporting environmental water objectives

The Common Agricultural Policy Strategic Plan Regulations 2115/2021 took effect from the 1st January 2023 until 2027. This is the EU instrument that sets the rules for Member State Common Agricultural Policy (CAP) strategic plans, which are financed in part by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Fund for Rural Development (EAFRD). This sets the standard for good agricultural and environmental condition of land (known as GAEC).

Ireland's CAP Strategic Plan (CSP), which came into effect in January 2023, has a strong emphasis on the achievement of a higher level of climate and environmental ambition and contains measures that aim to improve biodiversity and water quality. More specifically, it outlines how it contributes to CAP objectives at EU level and additional environmental objectives under the Water Framework Directive, as set out in national policies, including the national River Basin Management Plan (**See Box 3**).

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.

During negotiations on the CAP Strategic Plan efforts were focussed on ensuring that 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). Principles included:

- Priority will be given to measures that achieve multiple environmental co-benefits, where possible.
- The most appropriate instruments will be matched to each water quality objective.
- 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.

- 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.
- Continue to strengthen the collaborative approach undertaken to date involving a wide range of state bodies and other stakeholders.
- Measures will be targeted based on scientific evidence. In particular, risk maps, termed Pollution Impact Potential (PIP) maps published by the EPA should be used to guide the 'right measures in the right place'.
- The national Farm Advisory Service is recognised as essential to underpinning the successful implementation of all aspects of the new Green Architecture and will be used to maximum effect. To support the goal of targeting the right measure in the right place all farm advisers involved in Environmental Schemes including the ACRES Cooperation Projects and Water EIP, will be provided with the appropriate level of catchment science training to ensure that measures are sufficiently targeted.
- Farm advisers will be made aware of the various other relevant funding schemes available to farmers to support the right measure in the right place.

Box 3: Common Agricultural Policy Strategic Plan**Common Agricultural Policy Strategic Plan****CAP Strategic Plan**

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.

The Department of Agriculture, Food and the Marine has collaborated with the Department of Housing, Local Government and Heritage (Water and Heritage Divisions), the EPA and LAWPRO to design schemes under Pillars I and II of the CAP Strategic Plan (2023-2027) which will deliver benefits for water protection, restoration and biodiversity, as well as climate mitigation and adaptation.

Agricultural Sector Action Work Plan

DAFM will develop a Sectoral Action Work Plan setting out details of planned water protection and mitigation actions under the CAP Strategic Plan at catchment level. This will support the preparation of Catchment Management Work Plans led by LAWPRO as well as fulfilling the monitoring and assessment commitments under the CAP Strategic Plan SEA and AA.

Data sharing

DAFM, DHLGH, the EPA and local authorities recognise the importance of data sharing in order to effectively monitor and assess the environmental impacts of all CSP measures at field level. Both departments and authorities commit, in principle, to fully facilitating and maximising data sharing of environmental and relevant CSP data between authorities to support this goal, while bearing in mind the GDPR Regulations.

Evaluation

Ireland is committed to a comprehensive monitoring and evaluation plan as the CSP is rolled out. The impact of the CSP intervention (referenced below) on water quality will be considered and assessed as part of an integrated evaluation of the green architecture - a process and plan which will be carried out collaboratively with a range of relevant stakeholders.

Eco-scheme

The aim of this intervention is to reward farmers for undertaking actions beneficial to the climate, environment, water quality and biodiversity. It is anticipated that up to 110,000 farmers will avail of this measure. The committed budget is €1.48 billion.

The new measures include:

1. Space for Nature
2. Extensive Livestock Production
3. Limiting Chemical Nitrogen Usage
4. Planting of Native Trees and hedges
5. Use of a GPS-controlled fertiliser spreader or GPS controlled sprayer
6. Soil Sampling and Appropriate Liming on all eligible hectares.
7. Planting of a break crop(s)
8. Sowing of a Multi Species Sward

Each of the eight Eco-scheme measures have the potential to contribute to the protection of water quality, to varying degrees. In particular, Measures 1 and 4, if sufficiently targeted, can reduce the risk of pollution runoff at field level.

DAFM will promote and target the uptake of these measures in locations at farm level where they will maximise water protection. This will be achieved through training and farm advisory services and by using the Pollution Impact Potential (PIP) maps generated by the EPA.

Agri-Climate Rural Environment Scheme (ACRES)

Two approaches were designed for the ACRES. The total committed budget is €1.5 Billion including support for Co-operation teams. The two approaches are;

ACRES Co-operation Projects (€740 million) are available to 20,000 farmers in defined high priority geographical areas, including high status objective water bodies. The habitat quality of participating farms will be scored, taking into account risks to water quality. Participants will undertake bespoke farm, landscape and catchment measures, including targeted measures, aimed at improving water protection and biodiversity. Payments will be made for the delivery of positive environmental outcomes through a Results Based Payment Approach and by financial supports for non-productive and landscape actions undertaken satisfactorily.

ACRES General (€750 million) is available nationally for up to 30,000 farmers (outside of the high priority geographical area as defined for the ACRES Co-operation Project approach described above). It offers a range of measures, including measures aimed at improving habitat quality and water protection (both targeted and general). ACRES General is structured in Tiers with certain criteria determining whether a farmer is eligible to apply for Tier 1 (which includes high status catchments) or Tier 2 (which includes vulnerable water bodies); the principle being that those who qualify for Tier 1 will get priority access to the Scheme over those in Tier 2, while those who qualify under Tier 2 will in turn get priority access over those whose application comprise solely of Tier 3 General actions.

National Pollutant Impact Potential (PIP) maps generated by the EPA for Nitrogen (N) and Phosphorus (P) will be used to show the highest risk areas in the landscape for losses of N and P to waters. This information will be used to aid the selection of actions to protect highest priority habitats and address areas of highest risk to water quality.

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 Eco-schemes and multi-annual Agri-Environment Climate Measures, which will be delivered through the new Agri-Climate Rural Environment Scheme (ACRES).

ACRES has capacity to support up to 50,000 farmers in implementing measures. However, it is estimated that there may be up to 60,000 additional farmers in other Areas for Action covering 13,000km² in need of targeted agricultural measures for the purpose of protecting and restoring water quality. There is a significant proportion of farmers within this group which may be having a significant impact on water quality but do not tend to participate in voluntary Agri-environmental schemes for various reasons. For this reason, the Department of Agriculture, Food and the Marine in collaboration with the Department of Housing, Local Government and Heritage has commissioned a national large-scale European Innovation Partnership (EIP) project ('Farming for Water') focussed on water to address this gap, thereby supporting the RBMP. The overall value is €60million over five years (2023-2027). €50million is intended to provide funding support to farmers for implementing supplementary measures going beyond compliance (**See Box 4**). The project will aim to support up to 15,000 farmers in implementing on-farm water protection and mitigation measures.

The challenge for the Water EIP will be to target, encourage and support these farmers to address the key risks to water quality on their farms. The proposed Water EIP provides a valuable opportunity to complement actions under the new Nitrates Action Programme and ACRES thereby addressing a critical gap in measures to protect and restore water quality in River Basin Management Plan Areas for Action nationally. In total, 517 Areas for Action have been selected for focused attention in the third-cycle.

Box 4: Water European Innovation Partnership (EIP) project (2023-2027)**Water European Innovation Partnership (EIP) project (2023-2027)**

The Department of Agriculture, Food and the Marine (DAFM) invited applications for funding in the sixth competitive call for proposals under the European Innovation Partnerships Initiative. The call was specifically focused on reducing losses of phosphorus, nitrogen, sediment and, where relevant, pesticides to water from agricultural lands by promoting the adoption of innovative best practice in nutrient management, the application of Nature-based Natural Water Retention Measures (NWRM) and other suitable measures. The application of measures will be guided by the Pollution Impact Potential Maps recently developed by the Environmental Protection Agency, thereby applying the principle of putting 'the right measure in the right place' at field level.

This Call sought proposals for the development and implementation of one single EIP with national coverage, targeting water protection and restoration actions on lands under agricultural management within River Basin Management Plan Areas for Action. The EIP aims to engage with farmers to develop and implement sustainable land management options for farms at catchment level which will meet some or all the following objectives:

- Identify the key risks to water quality at field level. This may be guided by the best available scientific evidence, including the Pollution Impact Potential Maps developed by the Environmental Protection Agency (EPA),
- Reduce the risk of phosphorus, nitrogen, sediment and, where relevant, pesticide losses to water from agricultural lands by promoting and incentivising the adoption of innovative best practice in nutrient management, the application of Nature-based Natural Water Retention Measures (NWRM) and other suitable measures.
- Guide the location of measures at field level using the best available scientific evidence, thereby applying the principle of the putting 'the right measure in the right place'. The EPA Pollution Impact Potential Maps may be used as a guide for this purpose.
- Maximise other ecosystem service co-benefits such as the protection of biodiversity, flood attenuation and addressing climate change.
- Contribute to building resilience to the impacts of climate change at catchment/landscape level.

In July 2023 the Minister for Agriculture, Food and the Marine announced that the project had been awarded to a partnership between LAWPRO (acting on behalf of all local authorities), Teagasc and Dairy Industries Ireland. The project will aim to support up to 15,000 farmers in implementing on-farm water protection and mitigation measures.

Actions contributing to a stronger and more targeted Nitrates Action Programme

Agri 1: DHLGH and DAFM will oversee the implementation of the *stronger and more targeted Nitrates Action Programme*. The Fifth Nitrates Action Programme (2022-2025) retains and strengthens the existing controls from agricultural nutrient impacts on water and will implement tighter controls on nitrogen and phosphorus inputs by:

1. Stipulating tighter controls on the timing and methods of application of chemical nitrogen fertilisers and slurry. [Timeframe – In place]
2. Reducing the annual maximum fertilisation rate of nitrogen on grassland by 10% in 2022 with potential for a further reduction of, at least, 5%

in 2024 following the Interim Review in 2023 [Timeframe 2024]

3. Reduction in the maximum derogation stocking rate on farms in water bodies where there is, or a risk of, declining water quality [Timeframe 2024]
4. Implementing a livestock excretion banding system from Q1 2023 to more accurately reflect the different rates of organic nitrogen loading from different sized animals in the maximum stocking rate calculations [Timeframe 2023]
5. Establishing a national fertiliser sales database for farmers [Timeframe 2023]

Agri 2: Local Authorities will *strengthen the inspection and enforcement relating to agricultural diffuse pollution*. A total of 57 new Inspectors in local authorities have been allocated for the National Agricultural Inspection Programme (NAIP) and five new staff

have been allocated to the EPA to oversee the programme. An additional four staff have been allocated to LAWPRO to help in co-ordinating the activity and avoiding duplication where possible. Inspections will be targeted and risk-based using all the available evidence, including water quality data, the EPA's PIP Maps and the Targeting Agricultural Measures Map on up to 4,500 farms per annum during the lifetime of the Nitrate Action Programme. DAFM will undertake 500-1,000 inspections per year under the GAP Regulations focused in Q1 where risk of nutrient impact on water quality is high. DAFM has increased their derogation inspections from 5% to 10% of all derogation farms per year and will undertake approximately 700 inspections per annum. [Timeframe 2022 - 2024]

Measures in Ireland's CAP Strategic Plan contributing towards water quality

Agri 3: DAFM will implement Ireland's CAP Strategic Plan with a strong emphasis on the achievement of a higher level of environmental ambition. This includes implementing the new Green Architecture of (1) Conditionality, (2) Pillar I Eco-Schemes and (3) the Pillar II Interventions such as ACRES and the new Water EIP. [Timeframe 2023 - 2027]

Agri 4: Eco-scheme measures will contribute to the protection of water quality. DAFM will promote and target the uptake of these measures in locations at farm level where they will maximise water protection. This will be achieved through training and farm advisory services and by using the Pollution Impact Potential (PIP) maps generated by the EPA.

Agri 5: The Water EIP project led by LAWPRO, in partnership with Teagasc and Dairy Industries Ireland will focus on reducing losses of phosphorus, nitrogen, sediment and, where relevant, pesticides to water from agricultural lands by promoting the adoption of innovative best practice in nutrient management, the application of Nature-based Solutions and other suitable measures. The project will aim to support up to 15,000 farmers in implementing on-farm water protection and mitigation measures.

Additional Measures

Agri 6: DHLGH and DAFM will put arrangements in place to ensure independent assessments and reviews of the efficacy of the Nitrates Action Programme (NAP), the CAP Strategic Plan and the Water EIP (and other relevant measures) to bring the 1,000 water bodies impacted by agriculture up to good status and to prevent deterioration. They will identify additional measures, where necessary, which will be implemented during the lifetime of the plan or beyond, where justified under Article 4 of the WFD.

Mechanisms for review will include; DHLGH monitoring & assessment of progress with the programme of measures, EPA's statutory role in assessing the NAP, EPA research projects and the CAP Strategic Plan Performance Monitoring and Evaluation Framework (PMEF) [Timeframe; Ongoing, Q4 2025 for mid-term review]

Agri 7: In support of the Catchment Management Work Plans, the Department of Agriculture, Food and the Marine will publish a Sectoral Action Work Plan to reduce nitrogen losses to water in areas where levels are increasing or are too high, and to bring nitrogen, phosphorous and sediment losses to water from agricultural sources within sustainable levels by 2027.

The Sectoral Action Work Plan for Agriculture will include targeted measures to address the 1,000 water bodies at risk from agriculture during the third-cycle, along with protection measures needed to prevent further deterioration. The aim of the plan will be a rapid graduated reduction of nitrogen, phosphorous and sediment losses to water bodies with a target to reach sustainable use and discharges in all catchments of concern by 2027. [Timeframe 2024]

Agri 8: *Online Farm Sustainability Planning:* Teagasc will develop an online Farm Sustainability Plan for farmers complementing existing Nutrient Management Planning online tool to support the wider Agricultural Knowledge and Information Systems (AKIS) programme. [Timeframe 2024]

Agri 9: *Extend and expand the local authorities' water protection office.* LAWPRO will be extended for the full duration of Cycle 3 up to 2027. The CCMA will identify the appropriate level of resources and involvement of LAWPRO to meet WFD objectives up to 2027 and beyond in future RBMPs.

Agri 10: *Provide free on-farm advice to farmers.* The sustainability advisory service (ASSAP) will be extended for the full duration of Cycle 3. The dairy industry has increased the number of advisors involved in ASSAP by six for the period 2022 to 2027.

Agri 11: To support the goal of targeting the right measure in the right place all farm advisers involved in the 'Farming for Water' Agri-EIP, will be provided with ongoing professional development, including an appropriate level of catchment science training to ensure that measures are sufficiently targeted.

In addition, these farm advisers will be made aware of the various other relevant funding schemes available to farmers to support the right measure in the right place.

Agri 12: Upskill farmers and advisors to ensure they have the knowledge and tools to implement appropriate measures to reduce the impact on water quality from farming practices..

2. Physical modifications to the flow, form and/or function of natural surface water bodies (Pressures on Hydromorphology)

Restoring the natural functions of water bodies

This section deals with removing existing obsolete barriers, remediating retained structures and preventing further impacts on hydromorphological conditions of water bodies. Sedimentation and other sector-specific impacts on hydromorphology are dealt with under sectoral headings (agriculture etc).

Hydromorphology concerns the flow, form or function of natural surface water bodies or the physical condition of water bodies. Impact on hydromorphology is determined by how much the flow, form or function of the water body has been altered from 'natural' undisturbed conditions. While all water bodies show some element of disturbance, where this is significant it will influence the ecological status of that water body under the Water Framework Directive¹.

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

Ireland has obligations under the 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, pressures on hydromorphology 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. These physical alterations are frequently linked to other significant pressures such as agriculture, forestry, peat extraction, mines and quarries.

Hydromorphology has been identified as a significant pressure impacting **448** water bodies 'At Risk' of failing to achieve their WFD objectives. The breakdown of activities altering the physical habitat include: channelisation (296); land drainage² (78); dams, barriers, locks and weirs³ (66); river bank erosion (31); embankments (31); overgrazing (18); and culverts (4). Morphological impacts⁴ (i.e. altering physical habitat such as the bed, bank, riparian zone or natural sediment conditions) have been identified within the majority of these 448 'At Risk' water bodies (~99%), whereas hydrological impacts (i.e. changes to flow conditions) have been identified in 30% of these water bodies.

Controls on pressures that affect the physical condition of waters need to be strengthened in

1 It should be noted that under Annex V of the Water Framework Directive, the quality elements for the classification of ecological status for surface waters includes, 'hydromorphological elements supporting the biological elements'. This includes, inter alia, connection to groundwater bodies as part of hydrological regime for rivers and lakes. Hydromorphology is not specifically mentioned in relation to groundwater status under Annex V; however, it is stated in the definition of quantitative status that the level of groundwater must not be subject to anthropogenic alterations that would result in the failure either to achieve environmental objectives for surface water or cause significant diminution of the status of surface waters.

2 Note: channelisation and land drainage encompass drainage schemes, private in-channel drainage works and indirect impacts from land reclamation and field drainage.

3 This number is likely to be underestimated, as the assessment does not yet incorporate output from the national barrier inventory, which is in development. Current figure based on expert judgement through engagement in stakeholder workshops.

4 Note: morphological impacts also includes impacts from fine sediment.

Ireland. In anticipation, preparatory technical work has been underway during the second RBMP 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. There is a significant body of work ahead in delivering a new comprehensive and robust management framework for pressures on hydromorphology on water. For this reason a new National Hydromorphology Programme is being established (See Box 5)

Regulating activities impacting on water bodies

A key element of protecting and restoring the hydromorphological elements of water bodies will be to develop an enhanced regulatory regime for activities likely to impact on water bodies' physical attributes (see Box 6). The new regulatory 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

Box 5: National Hydromorphology Programme

National Hydromorphology Programme

The Minister for Housing, Local Government and Heritage is establishing a National Hydromorphology Programme. The Programme will be supported by a Hydromorphology Expert Group and is intended to facilitate the implementation of Water Framework Directive (WFD) objectives relating to the control of pressures on hydromorphology. The Programme will be supported by an Expert Group.

The Expert Group will report directly to the Water Policy Advisory Committee (WPAC). The initial focus of the Expert Group will be on:

- Scoping the optimum environmental management framework for activities posing a risk to the hydromorphological conditions of water bodies;
- Advising the Minister on policy and legislative needs required to give full effect to the provisions of Article 11(3)(i) of the Water Framework Directive;
- Assisting in the preparation of a work programme and associated timelines for the delivery of (1) a new regulatory framework for the protection of waters from pressures on hydromorphology (physical impacts), and (2) the establishment of a restoration programme;
- Advising on the establishment of a National Restoration Programme to mitigate the impacts of existing pressures on hydromorphology in or near water bodies, thereby responding to the WFD requirement to restore status.

Sub-actions for the purpose of progressing and informing the development of the national restoration programme shall include overseeing (1) the implementation of the Lower River Shannon Roadmap (see associated action in Programme of Measures for further details) and (2) the proposed pilot project to mitigate the Annacotty Weir on the Mulkear River in County Limerick (see associated action in Programme of Measures for further details).

Whilst a new comprehensive environmental management framework is developed for activities posing a risk to the hydromorphological condition of water bodies, the Expert Group will:

- Serve as a forum for information and best practice exchange between organisations with a role in managing pressures on hydromorphology.
- Identify interim solutions which can be readily implemented during the third RBMP cycle to assist in managing pressures on hydromorphology.
- Once established, the National Hydromorphology Expert Group should set the identification of interim measures as a priority.

Interim measures identified by the Expert Group should form the basis for targeted measures to address pressures on hydromorphology in an update to the Catchment Management Work Plans.

regime. The existing body of legislation is dispersed across several regulatory and legislative areas, it is complicated and has already been heavily amended. As such, it requires considerable cross-referencing and skill to navigate. Therefore, it will be necessary to develop new consolidated legislation, including the development of a Bill and associated secondary legislation aimed at better regulating pressures on hydromorphology. This will also require a number of repeals or amendments to existing pieces of legislation across a number of policy areas.

The scope of the proposed new legislation and regulatory regime will include reaching across a number of relevant policy areas overseen by:

- the Department of Finance/OPW;
- Department of Environment, Climate and Communications;
- Department of Agriculture, Food and the Marine; and
- the Water, Planning and Heritage Divisions within the Department of Housing, Local Government and Heritage.

Box 6: DHLGH to lead in the development of a new regulatory regime in collaboration with other departments and public bodies to address pressures on the physical condition of waters.

DHLGH to lead in the development of a new regulatory regime in collaboration with other departments and public bodies to address pressures on the physical condition of waters.

The National Hydromorphology Programme will deliver multiple benefits for water, biodiversity and climate mitigation and adaptation. To achieve these benefits, a programme is proposed to deliver a new consolidated piece of legislation that will control physical changes in or near water that have a potential to impact on the status of water, thus preventing the achievement of Water Framework Directive objectives. It is anticipated that this will require new legislation, including a Bill and associated secondary legislation aimed at managing pressures on hydromorphology to ensure that bodies of water will achieve the required ecological status or potential as required under the Water Framework Directive.

The National Hydromorphology Programme is directly relevant to the statutory functions and responsibilities of a number of government departments. This will require new legislation, including a Bill and associated secondary legislation aimed at managing pressures on hydromorphology. It is also anticipated that there will be a need to amend and/or repeal a number of existing pieces of legislation. This will require coordinated effort across departments over the coming years to address several legacy issues that each department has been seeking to resolve. The following key pieces of legislation are likely to be amended (among others):

- Planning and Development Act (2000)
- Planning and Development Regulations (2001)
- The Arterial Drainage Acts (1945 and 1995) *
- The Local Authorities (Works) Act (1949)
- EIA (Agriculture) Regulations (2011)
- Fisheries Act (1959)
- Foreshore Act (1933)

**The Government has mandated a national Land Use Review which will trigger a review of future drainage needs and practices carried out under the Arterial Drainage Act. The review is led jointly by the Department of Environment, Climate and Communications, the Department of Agriculture, Food and the Marine and the Department of Housing, Local Government and Heritage.*

The 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 laws. 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 available, from work progressed under the WFD and Nature Directives, and it will require input and engagement with a wide range of stakeholders.

Restoration Programme

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 (**See Box 7**). It is proposed that the initial focus will be on the removal and/or modification of problem barriers on rivers, but it will be extended as other impacts and priorities are identified.

Of the approximately 73,000 barriers identified nationally by IFI, 2,000-7,000 will likely require mitigation. The third-cycle RBMP aims to initially mitigate approximately 5% (270) of the 2,000-7,000 problem barriers. 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 pressures on hydromorphology, will also need to be considered as part of any restoration programme. In relation to its implementation, potential roles for the IFI, NPWS, OPW and Local Authorities may be appropriate. For instance, IFI already operates an annual Habitats and Conservation Scheme. Since 2016, a value in excess of €6,000,000 has been awarded by IFI to over 250 projects nationally. In 2021 there were 17 projects in 11 counties across the country in line for funding worth an overall €774,000. The Habitats and Conservation Funding Call for 2023 has been activated by IFI, and funding is available to IFI and eligible third parties throughout the Republic of Ireland to support sustainable fisheries habitats and conservation.

Box 7: Establishment of a restoration programme to mitigate the negative impact of past construction in or near water bodies.

Establishment of a national River Barriers Mitigation Programme to mitigate the negative impact of past construction in or near water bodies.

A new national restoration/mitigation programme will be established from 2023.

Inland Fisheries Ireland will establish a newly resourced Barriers Mitigation Division from 2023.

The programme will be overseen by the new National Hydromorphology Expert Group.

The initial focus will be on barriers but will expand to other pressures on hydromorphology following scoping by the new National Hydromorphology Expert Group. (Note: Other pressures may include drainage. However, drainage policy needs to be reviewed beforehand. This will happen in the context of the national Land Use Review currently underway. It is led by the Department of Environment, Climate and Communications (DECC), the Department of Agriculture, Food and the Marine (DAFM) and the Department of Housing, Local Government and Heritage (DHLGH)).

A minimum of 5% of problem barriers (approximately 257) will be removed or modified during the cycle (2023-2027).

Detailed planning and prioritisation of barrier removal/mitigation will be led by IFI at catchment level during 2023-2024 as part of the preparation of Catchment Management Work Plans led by LAWPRO. IFI will develop and implement a supporting restoration/mitigation programme.

Effective monitoring before and after restoration/mitigation will be undertaken.

DHLGH / DECC have jointly prepared a Memorandum to Government seeking approval for capital funding for the programme, once designed. A minimum investment of €110 million is anticipated.

A number of proposed pilot barrier mitigation projects are currently being progressed to trial methods for dealing with different implementation challenges. These initial pilot projects will inform the wider barriers restoration/mitigation sub-programme. It is proposed that IFI will lead a multi-agency with the aim of examining the feasibility of opening up these catchments to migratory fish species by mitigating these significant barriers and progressing to the next stage, as appropriate;

Pilot project	Catchment	Objective
Ardnacrusha Parteen Hydroelectric Scheme	Shannon River, Co. Clare	The proposed pilot project will use state-of-the-art technical solutions to improve fish passage through the largest hydroelectric scheme in Ireland based on the approved Roadmap.
Dodder catchment scale multiple barrier mitigation	Dodder River, Co. Wicklow and Dublin	This proposed pilot project will aim to open up this heavily urbanised catchment to migratory fish species by mitigating the five most significant barriers in the lower reaches.
Annacotty Weir fish passage mitigation	Mulkear River, Co. Limerick	The pilot project will provide an opportunity to test a collaborative and ecology focussed design approach. The pilot will also test enhanced community engagement opportunities that go beyond the standard consultation practices involved in the planning process.
Clohamon Weir fish passage mitigation	Slaney River, Co. Wexford	This proposed pilot project will aim to improve fish passage at a medium scale hydroelectric scheme through a state and community collaborative initiative.

Pilot project on public engagement in barrier remediation – Annacotty Weir

To assist with the design and implementation of the national restoration programme, a pilot project is currently being undertaken for Annacotty Weir in the Mulkear catchment, County Limerick. Annacotty Weir has been identified by IFI as a priority for mitigation works and feasibility studies are currently underway to identify the preferred option for mitigation of the weir. 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. It is anticipated that barrier mitigation works at Annacotty Weir will be completed in 2025, which will include the establishment of measures for the documentation of improved hydromorphology outcomes.

Pilot large barrier remediation - Implementation of the roadmap of actions to improve fish migration in the Lower River Shannon

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, which received Ministerial Approval in 2022. 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 and Parteen Weir 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 (**See Box 8**), commencing in early-2023. This will include a number of feasibility studies to assess the potential options for both up and downstream fish passage, an environmental flow 'Eflow' regime and a management plan for the Lower River Shannon. 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.

Box 8: Implementation of the roadmap of actions to improve fish migration in the Lower River Shannon at the Hydroelectric scheme located at Parteen Basin and Ardnacrusha.

Implementation of the roadmap of actions to improve fish migration in the Lower River Shannon at the Hydroelectric scheme located at Parteen Basin and Ardnacrusha.

An ambitious roadmap has been prepared outlining an initial phase of investment to implement measures which will make a significant improvement to free passage for fish at Ardnacrusha/Parteen on the Lower River Shannon in the short-term. It will also provide a platform for long-term enhancement of the ecology and environment of the Lower River Shannon and consequently the environmental sustainability of the Shannon Hydro-Electric Scheme. The facilitation of fish passage at Parteen Weir will be one of two key projects that will be addressed by the new National Hydromorphology Programme. The project is being co-financed by the ESB and the Department of Housing, Local Government and Heritage.

The Minister for Housing, Local Government and Heritage has accepted the Roadmap recommended by the Working Group and has approved its implementation. An initial, provisional budget of €10 million has been approved and the following steps are underway;

Completion of the following tasks:

- Design and build a new fish pass at Parteen Weir (subject to the outcomes of Tasks 2 to 6 supporting this option), completed by end-2027.
- An “Eflow” (environmental flows) study programme agreed and instigated during 2024, completed by end-2026.
- A Tailrace Barrier Feasibility Study (where Ardnacrusha tailrace meets the River Shannon) with recommendations completed by end-2025.
- A downstream Fish Passage Feasibility Study with recommendations completed by end-2025.
- A new Fish Pass Feasibility Study at Ardnacrusha with recommendations completed by end-2025.
- A Lower Shannon Management Plan to be agreed (subject to a period of public consultation) by end-2025.
- Continuation of the project Working Group to oversee implementation of the roadmap.
- Procurement of expert consultancy support to project manage the implementation of the roadmap under the guidance of the Steering Group in 2024.
- The Working Group for the improvement of fish passage at Parteen Weir has reconvened as the project moves to the phase of detailed design and supporting feasibility studies prior to construction. This group will be overseen by an independent chairperson. The procurement process is underway to appoint a consultant to carry out the steps of the roadmap and the appointed consultant will work with the Working Group to identify the most suitable combination of solutions following the detailed feasibility studies.

Hymo 1: A Hydromorphology Expert Group will be established to support the new National Hydromorphology Programme. This Expert Group will identify interim measures, which will be readily implemented during the third RBMP cycle to assist in removing pressures on hydromorphology. [Timeframe commencing 2024].

Hymo 2: DHLGH will lead the development of a new enhanced and consolidated legislative regime to address pressures on the physical condition of waters. [Timeframe 2026].

Hymo 3: IFI will establish a restoration programme to mitigate the negative impact of past construction in or near waterbodies. [Timeframe Q1 2024].

Hymo 4: A Sectoral Action Work Plan for Hydromorphology will be developed, which will include measures and plans to address the 448 water bodies at risk from pressures on hydromorphology, including barriers, channelization, drainage, sediment and flood protection. It will be led and coordinated by DHLGH with supporting bodies IFI, DAFM, Forestry, OPW and DECC. [Timeframe Q4 2024].

Hymo 5: It is proposed that IFI will lead a multi-agency whole of catchment pilot project on the River Dodder from source to sea with the aim of examining the feasibility of opening up this heavily urbanised catchment to migratory fish species by mitigating the five most significant barriers in the lower reaches and progressing to the next stage, as appropriate. [Timeframe 2024 to 2027].

Hymo 6: IFI will lead a pilot project to be undertaken for the Annacotty Weir in County Limerick. The project will provide an opportunity to test a collaborative and ecology focussed design approach. It will also test enhanced community engagement opportunities that go beyond the standard consultation practices involved in the planning process, thereby assisting with the design and implementation of the national restoration programme. The pilot project is initially examining the feasibility of mitigation and will progress to the next stages, as appropriate. [Timeframe 2022 - 2025].

Hymo 7: Implementation of the roadmap of actions, including the use of state-of-the-art technical solutions, to improve fish migration in the lower Shannon at the Hydroelectric scheme located around Parteen and Ardnacrusha. The pilot project will initially examine the feasibility of mitigation and will progress to the next stages, as appropriate. [Timeframe 2024 - 2027].

Hymo 8: A proposed pilot project on the Slaney River at Clohamon will aim to improve fish passage at a medium scale hydroelectric scheme through a state and community collaborative initiative. The pilot project will initially examine the feasibility of mitigation and will progress to the next stages, as appropriate. [Timeframe 2024 - 2027].

Hymo 9: In addition to river barrier removal and mitigation other restoration and mitigation work will be developed. This will be partly guided by the framework for prioritising measures for both river restoration and Nature-based Catchment Management prepared by the EPA. [Timeline: 2026, onwards].

Action 3.10 (Repeated from Chapter 3 for completeness): The Minister for Housing, Local Government and Heritage will undertake a short public consultation before deciding whether to designate or de-designate water bodies as HMWBs. There were 466 water bodies which the EPA has found to meet the criteria for designation. The Minister will take into account the recommendations of the EPA and the key concerns raised in the submissions to the consultation process. [Timeframe Q2-Q3 2024].

Action 3.11 (Repeated from Chapter 3 for completeness): A review of arterial drainage requirements and the underpinning Arterial Drainage Act will be undertaken in order to inform future land use policy decisions, arising out of the Land Use Review, and to support the preparations for the implementation of the new Nature Restoration Law and the Heavily Modified Water Body review process.

The review will be supported by the OPW and other key stakeholders. Specific tasks will include:

1. Assessing and advising on the implications of different land use policy options in the future, arising out of the Land Use Review, on arterial drainage requirements and the consequential impacts (both positive and negative) on social, economic, climate, biodiversity and water status objectives and outcomes, and
2. Assessing and advising on the legislative changes to the Arterial Drainage Act necessary to (1) support the national land use policy objectives arising out of the Land Use Review, and (2) ensure that future arterial drainage practices are sustainable and support the environmental objectives set out in the 2021 Climate Action Plan, the WFD River Basin Management Plan, the National Biodiversity Action Plan and the related Nature Restoration Law, as well as flood risk management objectives.

3. Forestry

In total, **216** water bodies are currently characterised as impacted by pressures from the forestry sector, either solely or alongside pressures from other sectors. 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.

As the Department with statutory responsibility for forestry, the Department of Agriculture, Food and the Marine (DAFM) recognises that inappropriately sited forests and poorly managed forest operations can negatively impact on water quality and on aquatic habitats and species, particularly in terms of sedimentation and nutrient runoff. As such, the protection of water forms a key component of the Department's assessment of all applications for forestry licences and grants. However, the Department and the wider forest sector also highlight the significant role that well sited and managed woodlands and forests can play in protecting and enhancing water quality, through the delivery of a range of water-related ecosystem services, in addition to services such as biodiversity, carbon sequestration, landscape, wood and non-wood products, and amenity.

Under the 2014 Forestry Act and enacting legislation, the Minister for Agriculture, Food and the Marine is required to promote and monitor the protection and enhancement of water quality when assessing applications for forestry activities. In doing so, DAFM must ensure that forestry operations and forest-based activities regulated under the Act are compatible with the requirements of the Water Framework Directive.

For the purposes of supporting the second River Basin Management Plan, DAFM published a supporting document called "*Forests & Water: Achieving the Objectives and Priorities under Ireland's River Basin Management Plan 2018-2021*". The document outlined the principal forestry-related legislative, policy, regulatory and promotional and research elements in place to address the challenges and opportunities for forestry set out in the RBMP. The aims of these measures were to safeguard water during all forestry operations, to restructure existing forests to reflect water sensitivities, and to situate and design new forests in a way that contributes to the achievement of the Environmental Objectives set out in that Plan. For the purposes of supporting the third River Basin Management Plan (2023-2027) the Forests & Water document will be reviewed and

updated as the Forestry Sector plan supporting the 46 Catchment Management Work Plans.

The updated Forests & Water document will include;

- An assessment of the changes in water bodies identified as being at risk from forestry during the second-cycle.
- Tabulated actions proposed for the 216 water bodies at risk from Forestry, outlining what forestry activities are likely to be the cause of the significant pressure and the measures to address these.

Since the publication of the River Basin Management Plan for the second-cycle of the WFD, the assessment by DAFM of licence applications for key forestry activities including afforestation, forest road construction and tree felling, and reforestation has undergone significant changes, particularly in relation to ecological issues. Such changes, which are primarily the result of legal rulings at a European and national level, and outcomes from the Forestry Appeals Committee process, are having a significant overarching effect that strengthens the protection of water from forestry-related sources, based on the source-pathway-receptor model. While the extent of the changes involved was not envisaged for forestry during the second-cycle, it is nevertheless important to highlight them now, in order 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 forestry licensing process, and to address the resulting application backlog 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 required as part of the submitted licence application in relation to afforestation, roading and tree felling (the latter including thinning and clearfelling / reforestation projects). These changes also prompted the increased

engagement of consultant ecologists by Registered Foresters when developing applications for forestry licences, something which DAFM has supported by hosting 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 multitude of intersections between forestry sites, water and downstream European Sites (the latter in relation to mobile species), 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 water bodies. The dramatic increase in ecological input into the evaluation of licence applications since 2019 will have a beneficial impact in relation to the protection of water from forestry activities, adding to the stated measures for forestry identified in the second-cycle River Basin Management Plan.

In December 2020, DAFM launched a new [Forestry Licence Viewer](#) (FLV), which allows members of the public to view forestry licence applications anywhere in the country, including documents associated with the application and the application's live status. This strongly compliments those components of the overall assessment process relating to public consultation and referral to prescribed statutory bodies.

Other measures that will 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), that were absent in the previous rotation. (Timescale: Ongoing)
 2. Ongoing application of water setbacks and other water-based protection during the creation of new forests, principally under the new Afforestation Grant and Premium Scheme 2023-2027. (Timescale: Ongoing)
 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 forest and agro-forestry options under the Afforestation Scheme (such option can represent part or all of an individual application); and the Native Woodland Conservation Scheme, funding the restoration of existing native woodlands (thereby enhancing their ability to deliver water related ecosystem services). A new financial support was also introduced in 2022 to facilitate pre-application consultation with DAFM, which enables the identification of key sensitivities very early on in the licensing process. (Timescale: Ongoing)
4. The development and introduction of new schemes under the proposed Forestry Programme 2023-2027, designed with the objective of water protection (alongside the delivery of other ecosystem services such as biodiversity, carbon capture and landscape). These include:
 - » *Forests for Water*: A new scheme with added incentives to promote the creation of new native forests specifically to provide water-related ecosystem services, including improvements to water quality, drinking water source protection, natural water retention, the improvement of aquatic and riparian habitats, and the expansion of alluvial woodland. (Delivery: Q2 2024)
 - » *Native Tree Area (NTA) Scheme*: The NTA Scheme has been devised as part of wider efforts to enable the State to achieve the transition to a low carbon, climate resilient, biodiversity rich and environmentally sustainable rural economy. The scheme allows for a simpler application process for native tree planting, where the 'footprint' planted is less than 1.0 ha in area and where undertaken in specific locations. The scheme facilitates the creation of new small-scale native forests that can deliver meaningful ecosystem services that protect and enhance water quality and aquatic ecosystems. The creation of these permanent semi-natural landscape features alongside streams, rivers and lakes will protect and enhance water quality and aquatic habitats into the future. These forests also provide wider biodiversity functions by protecting and expanding existing native forests. The NTA Scheme (and the *Forests for Water* Scheme) can be used to develop appropriate green corridors centred along stretches of our waterways. Such corridors can help reconnect those waterways with existing native forests and other semi-natural and natural habitats, thereby helping to reverse habitual fragmentation at a landscape scale. (Timescale: Ongoing)
 - » *Forest Environmental Enhancement Scheme*: This scheme will provide support to create or expand water setbacks within existing forests during the current rotation, where not installed at planting. It will also provide funding for the removal of naturally regenerating conifers within existing water setbacks, and for the slow-water damming of historical forestry drains which, as a result

of previous practices, connect directly into natural watercourses. (Delivery: Q2 2024).

- » *Continuous Cover Forestry (CCF) Schemes*: The DAFM currently operates a CCF scheme and proposes its inclusion in the new Forestry Programme. Under this scheme support will be provided to help convert single age monoculture forests to a more diverse type of forest in terms of both age classes and species. This enables future forest management to move away from the clearfell system and the associated exposure of soils at felling. However, this approach may not be possible in many forests (particularly those on peat soils) as it often leads to instability and windfall. DAFM now offers grant support at afforestation to promote the creation of new CCF forests on greenfield sites, and an additional scheme to promote this type of planting at reforestation (i.e. post clearfell) is also included under the new Forestry Programme, to ensure that subsequent forests will not undergo clearfelling in the future. (Delivery: Q2 2024).

The revised Forest Road Scheme under the new Forestry Programme 2023-2027 contains funding for the following, with related projects expected to be delivered throughout 2024 and onwards:

- » *Temporary Access Solutions*: This provision supports the development and use of temporary bridging for forest roads. This will reduce the need for culverts and the associated in-stream works to access and harvest forests within sensitive areas. (Timescale: Ongoing)
- » *Forest Road Scheme Special Construction Works*: This provision provides funding for additional measures, including the installation of constructed wetlands and water attenuation, to disrupt pathways for silt and sediment potentially arising from forest roading. (Timescale: Ongoing)
- » *Climate Resilient Reforestation, Element 3 (Reforestation for Biodiversity and Water Protection)*: This measure will provide support for the creation of a mosaic of open habitat and native scrub/forest on clearfelled sites, to enhance biodiversity and to increase the level of protection for onsite or adjoining biodiversity features, habitats and watercourses. In addition, the scheme will promote riparian restoration and the increased protection of wetlands, while also increasing habitat connectivity and biodiversity corridors. This measure will be

set up on a pilot basis initially. (Delivery: Q2 2024).

- » *Climate Resilient Reforestation, Element 2 (Reforestation with Native Forests)*: This scheme will support the reforestation of felled conifer stands, with native woodland. Such transformation, previously funded under the Native Woodland Conservation Scheme, will enable significant changes regarding the type of forest cover and future forest management, with clear benefits regarding water, biodiversity, landscape, etc. (Delivery: Q2 2024)
 - » Both DAFM and Coillte are co-beneficiaries of the Waters of LIFE IP focused on High Status Objective Waterbodies and land use management therein. The project will be a testbed for a variety of forest management techniques, building on the knowledge gained from the KerryLIFE Project, an EU LIFE project focused on land management and Freshwater Pearl Mussel. Opportunities for new potential schemes and measures will be explored during the lifetime of the Waters of LIFE project. (Timescale: Ongoing)
5. Increased uptake of the recently revised Forest Creation on Public Lands Scheme to deliver forest-based solutions for the protection of drinking water sources and water in general. This scheme, now represented by Forest Type 3: Forests on Public Lands under the new Afforestation Scheme 2023-2027, encourages public bodies to create native woodland on land owned by them as part of the achievement of their own objectives regarding water, biodiversity, carbon capture and sustainability. (Timescale: Ongoing)
 6. The resolution of forestry-related water incidents, as identified by DAFM Inspectors or reported to the Department by foresters, water agencies, Local Authorities, LAWPRO, NGOs and members of the public. (Timescale: Ongoing)
 7. Further engagement between DAFM and other parties on issues relating to forestry and water, both within the existing WFD structures and forums, and bilaterally. The DAFM Forestry Inspectorate meets quarterly with Inland Fisheries Ireland and engages with other agencies through various working groups and processes. For example, work is ongoing with OPW regarding the adoption and use of future datasets in the Forests for Water Scheme. The EPA PIP maps for phosphorus have been added to the IFORIS GIS system, which is used for assessing licence applications. Also, a new alluvial woodland scenario is being

developed with National Parks and Wildlife Services and Woodlands of Ireland, to expand the number of native woodland types that can be realised under the various native woodland options under the Forestry Programme 2023-2027, including those relation to afforestation, woodland restoration, and reforestation. (Timescale: Ongoing)

8. Further training of Registered Foresters, Consultant Ecologists and (crucially) machine operators, and DAFM Forestry Inspectors and Ecologists, in relation to the design, assessment and implementation of forestry projects from the perspective of protecting and enhancing receiving waterways. (Delivery: Q3 2024).
9. Continued engagement and co-operation with LAWPRO. Where forestry referrals are received from LAWPRO, the spatial data associated with the referral are added to IFORIS and included in the assessment of any licence applications. (Timescale: Ongoing)

While several of the above measures represent a continuation of existing efforts, they will be undertaken within the context of the enhanced level of ecological assessment of forestry applications that now applies, as outlined above. The protection of water is also reinforced by the conditions underpinning afforestation funded under Ireland's Forestry Programme 2023-2027, which received State aid approval by DG Environment in late 2023. Such conditions included new restrictions relating to peat, wetlands, SPAs, wader species and High Nature Value farmland. More stringent requirements also apply regarding site fertility, pulling afforestation further away from water-sensitive landscapes. Additionally, Ireland's Forestry Strategy 2023-2030, launched in September 2023, aims to advance Ireland's Shared National Vision for Trees, Woods and Forests in Ireland, by "*urgently expand[-ing] the national forest estate on both public and private land in a manner that will deliver lasting benefits for climate change, biodiversity, water quality, wood production, economic development, employment and quality of life. This will be a challenge of significant proportions, which will require a whole of society and whole of government response if [it is] to succeed.*" The Shared National Vision, Strategy and Programme reflect the outcomes of Project Woodland, a multi-stakeholder initiative established in February 2021 to (inter alia) develop a shared vision for forestry, which is to ensure, "The right trees in the right places for the right reasons with the right management – supporting a sustainable and thriving economy and society and a healthy environment."

Tree Planting and Integration with the CAP Strategic Plan: Tree planting actions have been included in both Pillar 1 and Pillar 2 of the CAP Strategic Plan. The new

Eco-Scheme (Pillar 1) includes tree planting as part of the menu of options from which farmers can choose. The Pillar II Agri-Climate Rural Environment Scheme (ACRES) includes significant tree planting actions for specific objectives.

A summary of Forestry Actions for the third RBMP includes;

Forestry 1: In support of the Catchment Management Work Plans, the Department of Agriculture, Food and the Marine will publish a Sectoral Action Work Plan. DAFM will update the 2018 document "*Forests and Water: Achieving Objectives under Ireland's River Basin Management Plan 2018-2021*" as the Forestry Sectoral Action Work Plan supporting the third RBMP. The updated Forests & Water document will include:

- an assessment of the changes in water bodies identified as being at risk from forestry during the second-cycle.
- tabulated actions proposed for the 216 water bodies at risk from forestry, identifying those activities most likely to be the cause of the significant pressure
- details of the assessment and enforcement process that applies to all applications for forest licences (with or without grant aid). This includes:
 - (i) an overview of the detailed level of ecological assessment now applied by c.27 FTE Ecologists, which contributes significantly to the protection of water, through licence conditionality; and (ii) the range of robust standardised requirements applied to all projects, which provide consistency and clarity to foresters and a robust baseline level of protection. In addition;
 - » A number of existing and new restrictions under the new Forestry Programme 2023-2027 now rule out afforestation on a wide range of site types and situations.
 - » DAFM's policy on permanent forest removal is set out in the document *Felling & Reforestation Policy, May, 2017*. Forest removal is considered where overriding environmental concerns exist that cannot be addressed adequately through restructuring at reforestation.
- Where evidence shows that additional, targeted measures beyond standard requirements are needed to address pressures fully, these will be identified and implemented, through licensing.
- The new Forestry Programme includes a number of schemes that can be used within these sub-basins (and elsewhere) to fund changes that protect and enhance water quality. Key among these are schemes funding native woodland creation and continuous cover forestry. In addition,

- » DAFM is compiling an exhaustive suite of effective mitigation in relation to felling, reforestation and forest roading, to be applied through licensing.
- » DAFM is working with Waters of LIFE IP partners in trialling various approaches to forestry operations within selected sub-basins of high status water bodies, where forestry is a significant pressure. Experiences from this project and from KerryLIFE, will inform DAFM's ongoing approach.
- » DAFM is undertaking water monitoring in several heavily-forested catchments, to check the efficacy of various mitigations incorporated into forest management upstream.

[Timescale: 2024 and ongoing, thereafter].

Forestry 2: DAFM recognises the key recommendation from the HYDROFOR Project (2016) to “cease afforestation on peat soils in acid-sensitive headwater catchments”, and is applying various water and non-water related policies, procedures and protocols that combine to rule out afforestation on such sites, or to limit it to appropriate multi-benefit native woodland.

Due to a multitude of environmental factors relating to water, biodiversity, carbon, landscape and amenity, and forest operational issues relating to productivity, access and the risk of windblow, DAFM's policy and scheme structure have led to a consistent reduction in the level of afforestation undertaken on peat soils in acid-sensitive headwater catchments over the last 20+ years.

Key elements that ensure that afforestation will continue to move away from such landscapes include various policies now underpinning the Forestry Programme 2023 - 2027, such as:

- soil-type requirements that rule afforestation ineligible on a wide range of peat site types, driven primarily by carbon budget considerations;
- site fertility requirements, which push afforestation further away from nutrient-poor land; and
- biodiversity-related requirements that overlap strongly with these acid-sensitive headwater catchments, including exclusions relating to SPAs, defined wetland habitats and within 1.5 km of known curlew nesting sites, and procedures regarding sites within the Irish Wetland Survey, sites important for other wader species, and high nature value farmland.

Existing procedures also restrict afforestation within these catchments. First and foremost is the Acid Sensitivity Protocol that rules out commercial

afforestation from areas of the country designed by the EPA and others as being acid sensitive. This protocol is based on project-level prescribed water sampling and analyses. Also, of particular relevance is the Habitats Directive Appropriate Assessment Procedure applied to all forestry applications, supported by c.27 FTE Ecologists within the Forestry Inspectorate. While focusing on possible impacts on SACs and SPAs, the process can often rule out afforestation, or severely restrict it, with these catchments, due to the preponderance of hydrological connectivity across the land.

As described, numerous policies and procedures are in place, driven by concerns regarding water, biodiversity, carbon, landscape and other sensitivities, that severely limit afforestation on peat soils in acid sensitive headwater catchments, and these will remain in place throughout the current Forestry Programme. However, DAFM does not pursue a zero afforestation policy in these areas, to allow certain types of afforestation – in particular, native woodland creation – to play a positive role in protecting a multitude of environmental sensitivities within these areas, including water. [Timescale: Ongoing].

Forestry 3: DAFM to increase the area of forests with appropriate water setbacks through the ongoing restructuring of existing forest stands at clearfell / reforestation stage [Timescale: Ongoing].

Forestry 4: DAFM to ensure the application of water setbacks and other water-based protection during the creation of new forests, principally realised with support under the 2023 – 2027 Afforestation Scheme. [Timescale: Ongoing].

Forestry 5: DAFM to manage the application of support measures that have a clear role in relation to the protection of water, including: the Continuous Cover Forestry Scheme; the various native woodland and agro-forestry options under the Afforestation Scheme, the Native Woodland Conservation Scheme, and the Reforestation for Climate Resilience Scheme. [Timescale: Ongoing].

Forestry 6: DAFM to encourage the uptake of Forest Type 3 under the Afforestation Scheme, aimed at funding native woodland creation on public land, specifically to deliver woodland-based solutions for the protection of drinking water sources and water in general [Timescale: Ongoing].

Forestry 7: DAFM to launch the new Forests for Water option (Forest Type 2) under the Afforestation Scheme, which offers added incentives to farmers and other landowners to promote the creation of new native forests specifically to provide water services, including improvements to water quality, drinking water source protection, natural water retention, the

improvement of aquatic and riparian habitats, and the expansion of alluvial woodland. [Timescale: 2024].

Forestry 8: DAFM to continue to address all forestry related water incidents, as identified by DAFM Inspectors and LAWPRO or reported to DAFM Forestry by foresters, water agencies, environmental NGOs and members of the public. [Timescale: Ongoing].

Forestry 9: DAFM to train Registered Foresters, Consultant Ecologists and machine operators, in relation to the design, and implementation of forestry projects, from the perspective of protecting and enhancing receiving waterways. [Timescale: commence from Q3 2024, onwards].

Forestry 10: Continue to seek improvements to the licence applications process for key forestry activities.

4. Urban Wastewater

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

The alignment of Uisce Éireann's investment programme for wastewater collection and treatment with the compliance requirements of the Urban Wastewater 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 wastewater infrastructure to protect waterways. During the Uisce Éireann investment period 2020-2024, there is investment in 108 wastewater treatment plants, 77 collection networks and 92 related national programmes at an estimated cost of €2.3bn. Examples of works under national programmes include; development of Drainage Area Plans, assessment of stormwater overflows, surveys and monitoring of WWDA certificate sites and reduction of infiltration and inflow in wastewater networks. Uisce Éireann's next investment period 2025-2029 also overlaps with the third-cycle RBMP, however commitments on wastewater 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 started in the current investment period and addressing the infrastructural deficit. These projects are outlined in the Uisce Éireann project lists which are included in Appendix 6. This infrastructural deficit is identified based on a gap analysis of the requirements to reach compliance with the UWWTD, the Water Framework Directive and provision of capacity for population and economic growth over 20 years. The gap analysis is dynamic, it will be reviewed and updated every two years to track changing needs and growth patterns. It also provides a platform for environmental outcomes 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 List⁵ 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 89 areas in 2022.
- Ensuring continued compliance with the UWWTD as agglomeration populations grow.
- Ireland's National Recovery and Resilience Plan⁶ includes the 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. Uisce Éireann have identified at least 10 Water Treatment plant upgrades works for inclusion in this programme by Q3 2022. The completion of the upgrades to the selected small wastewater treatment plants will be completed by Uisce Éireann by Q3 2025. This project is funded by the European Union under the National Recovery and Resilience Plan.

A list of the candidate list for wastewater treatment plant upgrade are included below. These candidate projects will be kept under review as the project advances.

- Ballymoe in Galway,
- Ballintra and Pettigo in Donegal,
- Galbally in Limerick,
- Clonea Power in Waterford,
- Grangemockler in Tipperary,
- Kilmaganny in Kilkenny,
- Kildavin in Carlow,
- Cloneygowan in Offaly,
- Millview (Milltownpass) in Westmeath, and
- Kilmihil in Clare.

During the third RBMP cycle Uisce Éireann will continue its investment in storm water overflows, through improvements and upgrades. Storm water overflows are designed to screen the first flush from the sewer system, retaining it for treatment and prevent overloading of wastewater treatment plants during periods of high surface water inflow to combined sewers caused by high rainfall. A specific

5 A link to the EPA Priority Areas list is located at page 3 of the [Urban Wastewater Treatment in 2022](#) report Published October 2023 (ISBN: 978-1-80009-115-3)

6 The National Recovery and Resilience Plan is due to be implemented before the end of 2023.

list of the particular storm water overflows due for upgrade in this cycle are included in Appendix 8.

The EPA have noted **197** water bodies where urban wastewater has been identified as a significant pressure. Uisce Éireann have compiled a list which specifies the dates for actions on these pressures. This list is attached in Appendix 7. These projects will overlap with the projects in other actions.

Details of the actions that Uisce Éireann has taken and plan to take in relation to these 197 water bodies are as follows:

- Works have been completed (projects completed prior to 2022) to address urban wastewater pressure on 8 water bodies.
- Projects are progressing in relation to 59 water bodies.
- 73 water bodies affected by wastewater treatment plants and network issues are under assessment. These projects are actively under assessment through various programmes or feasibility study routes. These assessments will assist in determining an appropriate solution for these 73 water bodies.
- Assessments will commence in 2023 for the remaining 57 water bodies affected by wastewater treatment plants, which will be complete by the end of **2027**.

The EPA review of Wastewater 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, including referrals made by LAWPRO to the EPA. Furthermore, the review of WWDLs will be prioritised based on specified grounds under the 2007 Wastewater Discharge Regulations.

A multi-annual investment programme will be undertaken to provide wastewater infrastructure for villages not served by public wastewater collection systems, to reduce untreated wastewater discharges to the environment and protect receiving waters.

Uisce Éireann will commence a Research and Innovation Programme on nature-based solutions for small WWTPs. In addition, the Nutrient Sensitive Areas designations under the Urban Wastewater Treatment Directive will also be updated.

UWW 1: Uisce Éireann will continue investment in wastewater infrastructure investing over €2.3bn over the period 2020-2024. This includes 108 wastewater treatment plants and 77 collection networks at an estimated cost of €1.542bn and 92 national programmes at an estimated cost of €780m.

UWW 2: Uisce Éireann will deliver infrastructure projects as set out in the Appendices for the next RBMP third-cycle (2022-2027). [**CABL #93**]

UWW 3: Uisce Éireann will assess urban wastewater requirements for the 197 Water Bodies where Urban Wastewater has been identified as a significant pressure by 2027, including any new significant pressure water bodies identified by LAWPRO. [**CABL #93**]

UWW 4: Uisce Éireann will apply for reviews of Wastewater Discharge Authorisations, where required. The applications shall be in a timeframe that is appropriate to the delivery programme and agreed with the EPA.

UWW 5: DHLGH will deliver a multi-annual investment programme to provide wastewater infrastructure for villages not served by public wastewater collection systems

UWW 6: Uisce Éireann's River Basin Management Plan – Enhanced Ambition Programme will deliver at least 10 new wastewater treatment plant upgrades not funded under the current investment plan where discharges have been identified as being significant pressures on water bodies and impacting on WFD objectives [**CABL #93**]

UWW 7: Uisce Éireann will continue investment in storm water overflows with a minimum of 139 upgrades over the period 2022-2027.

UWW 8: Following the completion of negotiations, DHLGH will undertake transposition into Irish law of the recast Urban Wastewater Treatment Directive.

UWW 9: Following the expected recast Urban Wastewater Treatment Directive the DHLGH will update the criteria for the performance of Combined Storm Water Overflows.

UWW 10: Uisce Éireann will put in place a Research and Innovation Programme on nature-based solutions for small wastewater treatment plants.

UWW 11: As part of the distance to target analysis process led by the EPA, the impact of Sectoral Action Work Plans, including that for urban wastewater discharges, will be assessed as part of the preparation of the 46 Catchment Management Work Plans. Uisce Éireann will publish a Sectoral Action Work Plan. The Sectoral Action Work Plan for urban wastewater discharges will include further detailed information on the targeting of measures to address the 197 water bodies at risk from urban wastewater discharges during the third-cycle.

Where the EPA distance to target analysis indicates that the achievement of WFD objectives in individual water bodies is not possible by 2027 for reasons

of technical feasibility and/or disproportionate costs of delivering urban wastewater treatment improvements, extensions of time may be considered, subject to meeting the relevant criteria in Article 4 of the WFD. The impact of urban wastewater discharges in the vicinity of bathing waters, shellfish waters and designated pearl mussel habitats are being assessed to determine if they are contributing to failures and whether more stringent wastewater treatment standards are required. Uisce Éireann will provide a timeline for both the assessments and the required treatment for all bathing waters, shellfish waters and designated pearl mussel habitats in its Sectoral Action Work Plan. [Timeframe 2024]

UWW 12: Uisce Éireann will engage with LAWPRO with the data required for their work in compiling the 46 catchment work plans and also trialling the Catchment Management Work Plans template in the 5 pilot catchments.

UWW 13: Continue to develop and update the distance to target/Gap Analysis as a tool to reflect Uisce Éireann's understanding of future needs, and consequent investment requirements.

UWW 14: Update the Nutrient Sensitive Areas designations under the Urban Wastewater Treatment Directive.

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 deterioration in 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 consultation on the [Significant Water Management Issues in Ireland](#) and the [draft River Basin Management Plan](#) 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 wastewater 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 nature-based solutions which will have multiple benefits for the environment. A working group was 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 design / planning 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 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 for 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 sustainability of the 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, Land Use Policy and the proposed changes to local authority functions or management structures.
- Identifying any required investment support for the delivery of this strategy, through the 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, interim guidance 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 has been provided.

As mentioned under the previous section on pressures from Urban Wastewater, the update of the Urban Wastewater 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.

Research Pilot projects to examine urban runoff in a number of sites will assist designers understand how the nature-based solutions work in an Irish context. This work will assist policy makers and technical professionals in incorporating appropriate solutions into their long-term plans. Domestic misconnection can cause a direct impact on downstream surface waters. The use of smart technologies to establish where these domestic misconnections may exist will help to find these and reduce their number. Preparing integrated urban drainage management plans 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.

The summary of Actions includes;

Urban Runoff 1: LAWPRO in conjunction with DHLGH to develop recommendations for an implementation strategy for nature-based Sustainable Urban Drainage Systems on a national scale. [CABL #100]

Urban Runoff 2: DHLGH to 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. [Note: The interim guidance was delivered in Q4 2021].

Urban Runoff 3: Develop a National Implementation Strategy for Nature-based Sustainable Urban Drainage Systems on a national scale.

Urban Runoff 4: DHLGH to establish a pilot project to investigate solutions to urban runoff using Nature-based Solutions.

Urban Runoff 5: Additional resources will be provided to LAWPRO to provide specialist support to local authorities in adopting international best practice on nature-based surface water management within planning and infrastructure project delivery (Two staff members by 2025. Cross reference to action under 'Governance/Implementation' measures on local authority resources)

Urban Runoff 6: The DHLGH will work with NIEA to seek Peace Plus funding projects, which will trial Nature-based Solution measures and sustainable technologies.

Urban Runoff 7: Review of outcomes of the Dublin Urban Rivers Life project.

Urban Runoff 8: Oversee the preparation of integrated urban drainage management plans.

6. Domestic Wastewater Discharges (Septic Tanks)

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

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

In total there are **148** water bodies that have a significant impact from domestic wastewater. 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 wastewater treatment systems (such as septic tanks) are highlighted as a pressure on 12% of at-risk water bodies. These domestic wastewater systems are impacting on the water quality in rivers, lakes and groundwater particularly in areas of low soil permeability (e.g. peat and clay soils).

Local authorities are continuing to inspect individual domestic wastewater systems. This is an ongoing measure that will continue under the programme of measures for the forthcoming cycle. There are approximately 500,000 domestic wastewater systems serving a population equivalent of 1.4 million people. The inspection regime requires a minimum of 1,000 inspections in 2022 increasing to a minimum of 1,200 inspection per annum from 2023 to 2026 on individual systems, 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 from local authorities (funded by DHLGH) to upgrade and repair domestic wastewater systems that are:

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

Acknowledging that domestic wastewater treatment systems continue to be a significant environmental pressure, the EPA Code of Practice for Domestic Wastewater 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 potential application of a zero discharge nature-based solutions as part of sustainable approach to domestic wastewater treatment was commissioned by the EPA in 2021. This project aims to examine the potential for zero discharge nature-based solutions, particularly in low permeability soils, which could 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 wastewater discharges and facilitate sustainable rural communities.

Communal discharges are private, community or developer provided wastewater services. Many of these are legacy issues 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. In 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.

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 Uisce Éireann, will inform future policy considerations on resolving sub-standard developer provided infrastructure with sustainable solutions.

Wastewater 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 wastewater 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.

Domestic WW 1: DHLGH will continue to promote and 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. (Timescale 2024).

Domestic WW 2: A review of the National Inspection Plan (NIP) 2018-2021 was 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.

Domestic WW 3: Local authorities to engage with householders to improve general awareness of septic tank maintenance requirements, and to address any failing septic tanks

Domestic WW 4: Local authorities to complete 5,800 inspections between 2022 and 2026 under the National Inspection Programme.

Domestic WW 5: The Department of Housing, Local Government and Heritage to issue a policy direction to Local Authorities regarding Advisory Notices and Local Authorities to enforce advisory notices issued under the National Inspection Plan.

Domestic WW 6: 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.

Domestic WW 7: 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.

7. Unknown Pressures

There are some water bodies 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 water bodies that are at risk of not meeting their environmental objectives. Detailed assessments were undertaken to identify the significant pressures preventing the water bodies from achieving these objectives. From the assessment of 1,649 water bodies at risk: the significant pressures for 212 are still to be fully identified. These unknown pressures are either individual significant pressures or combinations of significant pressures listed elsewhere, so the measures required will be those listed or combinations of measures listed in the Plan.

The majority of these water bodies with unknown pressures are within the Priority Areas for Action. Each of these water bodies 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 Services National Training Group (LASNTG) has commenced 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. The first cycle of this course was completed in 2022 with over 100 learners, and for 2023 enrolment, this will now also be made available to members of the ACRES Cooperation Project Teams, who are responsible for delivering the ACRES CP scheme under the CAP Strategic Plan.

The LASNTG will also prioritise for training development the update of the Agricultural Pollution Inspection Programme.

Unknown 1: The Local Authority Waters Programme (LAWPRO) will conduct assessments of water bodies in Priority Areas for Action where the pressures are unknown to identify the specific issues and actions that are required to protect or restore water quality as necessary.

Unknown 2: Each local authority supported by LAWPRO will conduct assessments of other water bodies where the pressures are unknown (which are not within priority areas for action) to identify the specific issues and actions that are required to protect water quality as necessary.

Unknown 3: The Local Authority Services National Training Group (LASNTG) will provide appropriate training programmes including on Catchment assessment, Integrated Catchment Management, and farm inspections for the staff of local authorities and all implementing bodies.

8. Other Pressures

Impacting on **136** 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.

Some of these pressures, such as invasive alien species and 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 Appendix under Section 12 (invasive alien species) and Section 14 (aquaculture).

In terms of measures for those pressures not highlighted as significant issues, these will be dealt with through the implementation of basic regulatory measures and on a case-by-case basis by the relevant responsible body, using the implementation structures described in the Plan, as and when required.

Other 1: DHLGH will prepare a proposal for enacting abstraction regulations. (Target: End of Q2 2024)

Other 2: The EPA, as competent authority, will work with stakeholders to identify mitigation measures for abstractions determined to be significant pressures, and through the abstraction licensing process, require the implementation of relevant mitigation measures.

Other 3: The need for exemptions will be reviewed as the abstraction licensing process is rolled out.

9. Peatlands

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, including 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 (2015-2025), 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.

Building on the work of the National Peatlands Strategy to date, a public consultation on the mid-term review of the strategy was undertaken in Q2 2021. The purpose of the mid-term review was to adapt to a rapidly changing context as circumstances evolved, with the understanding that goals and actions would need to be updated, thus maintaining a 'living document'. With that in mind, the actions set out in the National Peatlands Strategy have been 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. With finalisation of these EIP projects, both areas have been substantially subsumed into the ACRES East/South East Cooperation Project zone for continued implementation of actions. 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 improve the condition of protected blanket bog and key wetland habitats and support the priority species found there on a cross-border basis (Ireland, Northern Ireland, Scotland). The project has successfully finished, having achieved its targets. The CANN project team produced Conservation Action Plans (27 no.) for a range of sites across the jurisdictions, which were designated as Special Areas of Conservation (SACs) and accumulatively account

for over 25,000 hectares of land. Direct conservation actions were carried out on 3,605 hectares of these SACs with the goal of assisting the habitats and species found at these sites towards favourable conservation status. Erosion control measures were 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. The outputs of this project will continue to inform ongoing peatland restoration measures.

Co-operation across Borders for Biodiversity (CABB) is the second conservation project supported by the INTERREG VA Programme, and concluded in 2021. One of the aims of this project was to restore 2,228 ha of blanket bog across three counties in the border region of Ireland. Conservation measures included 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 2,089 peat dams within c. 35 km of drains in deep blanket bog. This effect on water levels and vegetation was monitored at this site. The outputs of this project will continue to inform ongoing peatland restoration measures.

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

In line with Bord na Móna's accelerated decarbonisation strategy the Enhanced Decommissioning Rehabilitation and Restoration Scheme (EDRRS) was approved by the Government in November 2020. EDRRS encompasses rehabilitation work on approximately 33,000 hectares of Bord na Móna peatlands, spanning 82 bogs, previously harvested for peat extraction for electricity generation.

The funding of €108 million for this scheme is being sourced from the National Recovery and Resilience Fund (NRRF). The Department of the Environment, Climate and Communications administers the scheme and it is regulated by the Department of Housing, Local Government and Heritage, under the National Parks and Wildlife Service. Bord na Móna are undertaking the operational work under this scheme. A Memorandum of Understanding is in place between the two Departments and a set of regulatory controls has been agreed by all three parties. Once rehabilitated, the peatlands will include peat forming bogs and a mosaic of wetlands, grasslands, and native woodlands, protecting the storage of carbon, enhancing biodiversity and contributing to Ireland's

target of carbon neutrality. To date over 11,000 hectares of peatlands has been rehabilitated.

The National Parks and Wildlife Service (NPWS) of the Department of Housing, Local Government and Heritage are progressing with an accelerated programme of restoration on its protected raised bogs. The National Raised Bog Special Areas of Conservation Management Plan 2017-2022, approved by the Government and published in December 2017, sets out how the raised bog special areas of conservation and natural heritage areas are to be managed, conserved and restored and how the needs of turf cutters are to be addressed, including setting out measures promoting linkages to River Basin Management Plans. Restoration of raised bogs is also an action within Ireland's Climate Action Plan and 'Our Rural Future - Rural Development Policy 2021-2025'. Restoring these bogs will provide multiple ecosystem services such as reducing emissions, water and air quality improvements, flood mitigation and enhancing biodiversity. Projects such as the EU LIFE programme '*Restoring Active Raised Bog in Ireland's SAC Network 2016-2022*' support the improvements to peatlands and help achieve these objectives, as well as developing amenity potential. To measure and report on the impact restoration work has on the environment and local climate, a network of greenhouse gas and hydrometric observation sites has been implemented by NPWS and part of on-going monitoring programmes. NPWS intend to continue and expand the national programme of peatland restoration on SAC and NHA raised bogs, blanket bogs and fens.

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. NPWS will continue this programme, including the

development of complementary projects such as enhancing restoration capacity through building projects such as *Natura Communities*, retrofitting programmes to reduce turf cutting in the Natura 2000 network of sites and the development of a nature restoration programme compatible with Ireland's CAP Strategic Plan.

Another LIFE Integrated Project that will seek to address issues around Peatlands is the seven 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 intend to develop and establish an NPWS-coordinated 'Wetland Restoration Scheme' for restoration on fen and other wetland habitats across the Irish Midlands. Under the EU Just Transition Fund, the DHLGH has been awarded €12m for the scheme. The Wetlands Restoration Scheme commenced in Autumn 2023 and will run to the end of December 2026. The scheme will include the development of restoration plans and drainage management plans for all project sites.

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. This project was due to be completed by the end of 2023.

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. In 2022, the Minister for Housing, Local Government and Heritage and EIB Vice-President formally agreed to strengthen cooperation for peatland restoration in Ireland with the European Investment Bank supporting NPWS efforts to accelerate the restoration of peatlands

across the country. This strengthened cooperation will bring together Government and state-owned enterprises, the private sector and local actors under a coordinated strategy for planning and financing peatland rehabilitation.

Recognising the important role peatlands play in helping to protect and restore our natural environment, and their impact on water quality, the EPA identified "Water quality improvements arising from the enhanced restoration" as a topic under their 2021 research call. For the EPA 2022 research call, a research topic titled "A state of knowledge of peatland research past and present to assist the State in the future sustainable management and planning around this major national resource", was identified.

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

Peat 1: Measures set out in the National Peatlands Strategy to be updated into a new Implementation Plan by NPWS.

Peat 2: In support of the Catchment Management Work Plans, the NPWS will publish a Sectoral Action Work Plan. Measures set out in the National Peatlands Strategy to be updated into the Sectoral Action Work Plan by NPWS.

Peat 3: Continuation and expansion of NPWS national programme of peatland restoration on SAC and NHA raised bogs, blanket bogs and fens.

Peat 4: Bord na Móna to oversee the EU LIFE Integrated Project "Peatlands and People".

Peat 5: 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.

Peat 6: DAFM to oversee the implementation of sustainable management practices developed through the Blackstairs Mountains and Wicklow Mountains EIP projects within the ACRES East/South East Cooperation Project zone.

Peat 7: Continuation of the Bord na Móna operated Enhanced Decommissioning, Rehabilitation and Restoration Scheme (EDRRS) to H2 2026.

Peat 8: Continuation of NPWS-led EU LIFE IP Wild Atlantic Nature programme, including the development of complementary projects such as enhancing restoration capacity through building projects such as *Natura Communities*, retrofitting programmes to reduce turf cutting in the Natura 2000 network of sites and development of a nature restoration programme compatible with Ireland's CAP Strategic Plan.

10. Industry, Mines and Quarries

Industry is a significant pressure in **79** 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 **40** water bodies and is the only pressure causing the water body 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. The EPA have identified IPC, IE and waste licenced facilities that are considered a significant pressure on water quality under the WFD, and have prioritised them for enforcement. A site specific enforcement plan has been drawn up for each of the sites and the EPA are carrying out detailed investigations to identify what impact a site may be having on water quality. The EPA will continue to track the progress and implementation of the site specific enforcement plans throughout the third-cycle of the RBMP.

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, Uisce Éireann'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 of a high quality offer to attract foreign direct investment and support indigenous industries cannot be underestimated.

IMQ 1: DHLGH will examine opportunities to further support businesses in taking on a water stewardship approach in their operations.

Action 5.2 (Repeated from Chapter 5 for completeness): The National Technical Implementation Group will identify the issues preventing water quality objectives from being achieved and will identify any further evidence, legislative, policy or implementation gaps that need to be addressed.

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 Uisce Éireann, 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 Department of Health, the Health Service Executive, the Health Protection Surveillance Centre, the Department of Agriculture, Food and the Marine (DAFM), the Irish National Accreditation Board (INAB), the National Standards Authority of Ireland (NSAI), Food Safety Authority of Ireland (FSAI) and the Commission for Regulation of Utilities (CRU).

The Expert Group initially considered drinking water source protection and has made 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.

An added benefit of 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 on drinking water source protection developed by Uisce Éireann and the NFGWS and provide a stronger legal framework for the protection of both surface waters and groundwaters which act as drinking water sources. This in turn will reduce 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, Uisce Éireann, EPA and the NFGWS in developing a source protection strategies to help protect and restore the quality of water in drinking water source catchments and Uisce Éireann's work on Drinking Water Safety Plans. In parallel to the implementation of Drinking Water Source Protection the licensing of water abstractions through regulation to be issued under the Water Environment (Abstractions and Associated Impoundments) Act 2022 will provide greater control of the impact of water abstractions on the water environment ensuring environmental flows are provided to sustain the aquatic ecosystem and habitats.

Drinking Water 1: Development of Drinking Water Source Protection Framework and Guidelines to meet the requirements of the recast Drinking Water Directive, and incorporating the application of abstraction controls under the implementing regulations for the Water Environment (Abstractions and Associated Impoundments) Act 2022.

Drinking Water 2: A Sectoral Action Work Plan for Drinking Water will include measures and plans to address the source protection actions proposed under the Drinking Water Regulations. It will be coordinated by the DW Expert Group with support from Uisce Éireann, NFGWS and LAs.

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 88 species have been identified across the EU as a high priority for management, and 12 of these occur in Ireland. As part of the public consultation on Significant Water Management Issues (SWMI) and the draft River Basin Management Plan, IAS was highlighted as one of the issues to be addressed in the RBMP. While still to be supported by evidence, the following aquatic and riparian species were highlighted in the responses to the SWMI consultation as those needing urgent attention:

- Japanese Knotweed;
- Himalayan Balsam;
- Zebra Mussels; and
- 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 were highlighted in the second-cycle 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; and
- The development of a National Management Plan for Invasive Alien Species. This plan is currently being drafted (led by NPWS) with an expert steering group. Public consultation on the plan will take place in early 2024.

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 previously noted, given the shorter duration of the second RBMP, a number of measures are still in development or have been implemented recently and therefore there is insufficient data to provide scientific evidence of their impact. As a result, the third RBMP will continue to drive the implementation of the measures contained in the second RBMP. In particular, this includes the finalisation of legislation for the implementation of the EU IAS Regulation and the delivery of draft management plans. In addition, Priority Pathway Action Plans (PPAP) for Angling and for Recreational Boating and Watercraft have been published in 2022. A third PPAP for Soils and Spoil is currently at draft stage.

Work is also underway on drafting a National Management Plan for Invasive Alien Species to deliver on the commitment made in the Programme for Government. This will require the convening of a Steering Group to finalise the draft management plan, and public consultation and stakeholder engagement to inform the management plan prior to publication.

In October 2022, the Minister of State for Heritage and Local Government, Malcolm Noonan TD, announced funding for 10 local authorities to appoint Biodiversity Officers as part of a programme to be delivered by the Heritage Council and the City and County Management Association. Approval for an additional 11 positions was announced on 02 February 2023, bringing to 25 the total number of biodiversity officers in local authorities across Ireland. The full national rollout is expected to be completed within two years. This aligns with a commitment in the Programme for Government to tackle the climate and biodiversity crisis, following the Dáil’s declaration of a Biodiversity Emergency in 2019, and the Citizens Assembly on Biodiversity Loss in 2022. In addition to developing a Biodiversity Plan for their area, the new Biodiversity Officers will advise the local authority

on biodiversity related issues and the authority's obligations in relation to protecting biodiversity. They will help local authorities to fully integrate biodiversity conservation into all of their policies, plans and actions, through training and provision of expert advice. Part of their role will also include mobilising community and other resources to tackle invasive species.

In addition, action on IAS will be included as a priority under the Local Authority Biodiversity Grant Scheme during the third RBMP cycle. An increased Community Water Fund operated by LAWPRO, 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.

Invasive 1: Finalise legislation for the implementation of the EU Invasive Alien Species (IAS) Regulation (Timeframe – 2024).

Invasive 2: Implementation of existing management plans and Priority Pathway Action Plans (PPAP) for priority invasive species, and drafting of a new PPAP for Soils and Spoil [see www.invasives.ie].

Invasive 3: In support of the Catchment Management Work Plans, the NPWS will publish a Sectoral Action Work Plan, which will include for the implementation of existing management plans and Priority Pathway Action Plans (PPAP) for priority invasive species, and drafting of a new PPAP for Soils and Spoil.

Invasive 4: Complete negotiations on the recruitment of additional Biodiversity Officers.

The Programme for Government includes a commitment to ensure that each Local Authority has a sufficient number of Biodiversity Officers and Heritage Officers among their staff complement. The Biodiversity Officer Programme is being delivered by the Heritage Council, which is funded by the National Parks and Wildlife Service. There are currently 24 Biodiversity Officers in place in 20 local authorities, of which 16 are under the Heritage Council programme. A further five Biodiversity Officers will start under the Heritage Council programme in early 2024 with plans to have a Biodiversity Officer in each Local Authority by the end of 2024.

Invasive 5: Include action on Invasive Alien Species (IAS) as a priority under the Local Authority Biodiversity Grant Scheme. The Local Biodiversity Action Fund provides Local Authorities with funding to target actions in the National Biodiversity Action Plan. Projects that include the mapping and appropriate treatment of IAS are listed as priorities within this funding stream.

Invasive 6: Develop a National Management Plan for Invasive Alien Species, and bring to public consultation in early 2024.

13. Hazardous Chemicals in the Aquatic Environment

Hazardous chemicals including pesticides, pharmaceuticals and other synthetic substances are used in a wide range of common products ranging from household, industrial and agricultural applications. These substances can find their way into natural water through wastewater effluents, improper disposal, atmospheric deposition and run off from the land. The EPA's *Water Quality in Ireland Report 2016-2021* reported that 50% of the surface water bodies assessed failed to achieve good chemical status, when including failures for ubiquitous substances such as mercury and polyaromatic hydrocarbons (PAHs), which are already widely distributed in the environment due primarily to the combustion of fossil fuels. These substances can persist for decades even after their emissions have ceased and many are capable of long-range transport from their place of origin. When these substances are excluded from the assessment, 88% of water bodies assessed achieved good chemical status. It can be expected that the concentrations of these substances will fall as the sources are reduced.

Controls on these substances at EU and national level can be expected to be more appropriate than catchment specific remediation measures. Through Ireland's National Hazardous Waste Management Plan 2021-2027, actions focussed on enhancing the prevention, collection and treatment of hazardous waste have been identified including programmes for promoting the use of less hazardous alternatives and the collection of household and farm hazardous waste. Ireland is a signatory of the Minimata Convention which promotes the phasing out of mercury in products and processes. The closure of peat power stations and introduction of bans on the combustion of smoky coals are also likely to result in a reduction of the levels of mercury and PAHs being deposited.

When ubiquitous substances are excluded from the assessment the chemical status failure rate decreases to 12% of water bodies. The information on chemical status is presented in this way to help identify those water bodies which are being impacted by non-ubiquitous substances likely to have come from local sources. These water bodies need measures to remove these substances from the environment. Measures to achieve environmental standards for

these substances (cypermethrin, cadmium or lead) are more appropriate at the catchment or water body level.

The monitoring for priority substances has continued to evolve with a greater emphasis in the 2016-2021 period on targeted monitoring. The increase in the number of chemical status failures compared to previous years, is attributed to the fact that "the 2016-2021 monitoring programme included more targeted monitoring in areas where there are known or suspected sources of priority substances"⁷.

Since the publication of the second RBMP in 2018, the requirements of the Environmental Quality Standards (EQS) 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. Furthermore, Ireland will work with the European Commission on their proposal to amend the Water Framework Directive and the EQS Directive and Groundwater Directive to update the lists of pollutants and quality standards therein. This work aims to better protect our citizens and our water bodies against hazardous chemicals.

Pesticides

Control of pesticides used in agriculture and forestry are key elements of ensuring Ireland maintains good chemical status in as many water bodies as possible. As outlined in the latest EPA Water Quality Report, just over 10% of failures in water bodies were due to the presence of pesticides and herbicides, mainly heptachlor and cypermethrin. Heptachlor is no longer used as an insecticide but cypermethrin continues to be used in forestry and agriculture. A new measure around the handling, use and disposal of sheep dip (which contains cypermethrin) has been added to the Programme of Measures on foot of the EPA report findings, which aims to protect water quality from its toxic impacts.

7 EPA Water Quality in Ireland Report 2016-2021 <https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/water-quality-in-ireland-2016--2021-summary-report.php>

Furthermore, in 2020, 33 drinking water supplies had pesticide concentrations above the required standard and of those exceedances, two-thirds were attributed to the presence of MCPA⁸, an herbicide used in the control of rushes in grassland. 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, Uisce Éireann, local authorities, LAWPRO, the farming community and pesticide manufacturers and suppliers. This group works together to raise awareness of the need to use pesticides responsibly. Implementation 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 11 – Drinking Water Source Protection). The publication of an Interim Pesticides Strategy by Irish Water (now Uisce Éireann) provides a risk management framework which is made up of three key pillars – (i) collaboration (ii) understanding risk and (iii) managing risk⁹, and seeks 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 substances with the aim of developing a new list of RBSPs for inclusion in updated legislation in 2023.

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 contribute to 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:

HazChem 1: 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)

HazChem 2: DHLGH and EPA will input into the recently commenced EU work to revise the list of Priority Substances and Priority Hazardous Substances. This will include liaison with the EU Commission in relation to the proposed amendments to the EQS Directive.

HazChem 3: Teagasc, ASSAP and DAFM, with support from LAWPRO, will implement specific actions in high risk catchments to protect water quality from toxic impacts arising from the handling, use and disposal of sheep dip.

8 EPA 'Drinking Water Quality in Public Supplies 2020'. <https://www.epa.ie/publications/compliance--enforcement/drinking-water/annual-drinking-water-reports/87838-EPA-Public-Report-2020-full-File-revised.pdf>

9 'Irish Water Interim Pesticide Strategy: A collaborative approach with catchment stakeholders'. <https://www.water.ie/docs/IW-AMT-STR-010-External.pdf>

14. Aquaculture

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

Stakeholders raised concerns during the Significant Water Management Issues (SWMI) and draft River Basin Management Plan consultation process in relation to the potential impacts on water quality from the aquaculture industry. 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.

Water quality and finfish farming

The potential impact from finfish farming includes 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. Monitoring and compliance programmes for these activities are in place with reports available on the Department of Agriculture, Food and the Marine's website. EPA and Marine Institute monitoring and assessment data suggests that aquaculture areas are having an impact on ecological status in 7 water bodies: 6 rivers and 1 transitional.

Licences are granted following consideration of the likely effects on the environment of the proposed operations. When the Minister for Agriculture, Food and the Marine grants a licence, it is subject to conditions. 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 Uisce Éireann. The legislation also provides for a period of public consultation.

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.

Environmental assessment reports such as Appropriate Assessments are available online alongside licence application forms and information on current licences. DAFM is continuing to improve the aquaculture licensing system including greater ease of 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.
3. DAFM will consider the current aquaculture licensing guidelines update the process/guidelines, if required.

Protecting shellfish production areas

Shellfish production areas need to be protected so that the quality of the shellfish waters adequately supports shellfish life and growth. The environment in which shellfish grow affects both their viability, and their quality as a food source for human consumption.

Shellfish areas include the areas of aquatic habitat used for bivalve and gastropod molluscs, including oysters, mussels, cockles, scallops and clams where these are harvested for human consumption.

There are 60 shellfish production areas in Ireland based on the 2023 annual review of classifications.

The Water Framework Directive (WFD) would maintain the same protection to shellfish waters as the original Shellfish Waters Directive that was repealed in 2013.

To protect shellfish water, Ireland must

1. designate waters that need protection in order to support shellfish life and growth
2. set physical, chemical and microbiological requirements that designated shellfish waters must either comply with or try to improve
3. establish pollution reduction programmes for the designated waters

The potential for contamination of shellfish arising from land-based activities was highlighted during the public consultation.

To future protect Shellfish Waters in Ireland, DHLGH will review the designation of shellfish waters in Ireland. This will include consideration of monitoring, assessment and protection measures. This process will involve:

1. A review, and where necessary an update, of the quality standards that shellfish waters must meet to ensure adequate protection of the habitat for shellfish. 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. A particular focus will be given to the numerical standards for microbial monitoring.
2. Make amendments to regulations to provide for the review and confirmation of existing shellfish waters designations and the designation of new shellfish waters by the Minister for Housing, Local Government and Heritage.

Measures to address aquaculture pressures and protect shellfish areas

Aqua 1: Review of consents causing impacts: DAFM will conduct a periodic review and, where necessary, update of controls contained in aquaculture consents. [Timeframe – 2024]

Aqua 2: Enhanced integration of WFD into Aquaculture Consents: DAFM to enhance links between the aquaculture authorisation and the objectives of the Water Framework Directive. [Timeframe – 2024]

Aqua 3: Online Aquaculture licensing: To encourage the active involvement of all interested parties DAFM is to launch an online mapping viewer of licensed aquaculture sites in Ireland including access to licence and licence application information [Timeframe – 2024]

Aqua 4: Enhanced Protection for Designated Shellfish Production Areas: DHLGH will examine the need for amendments to legislation and whether a new management framework for shellfish waters in Ireland is needed. [Timeframe – 2026]

Aqua 5: Complete the National Strategic Plan for Sustainable Aquaculture, including water quality measures.

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) was 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 as soon as possible 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 strategic level forward planning and development planning can prevent future development from inadvertently causing deterioration in water quality or impacting the physical condition of water bodies, while also supporting the delivery of improvements to 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 and both interpreting and adapting them into policies and actions that can be implemented through the development plan and development management frameworks.

Following the public consultation process and publication of the final guidelines, a comprehensive training course on implementing the new guidelines will be designed and delivered for practitioners.

The development of guidelines and provision of training to practitioners will provide the planning authorities with a suite of tools to facilitate the determination of the potential impact of development (from development plans to individual development projects) on the WFD status of a water body. These tools will facilitate the following aims:

- Avoidance of inappropriate development in or near water bodies, which may risk the achievement of the WFD's environmental objectives or the conservation of WFD protected areas.

- Ensure the effective management of risks from new development permitted near water bodies that may risk the achievement of the WFD's environmental objectives or the conservation of WFD protected areas.
- Ensure best practice sustainable water quality management for all new development.
- Improve the understanding of the RBMP process and its objectives among planning authorities, applicants, their agents and the public.
- Ensure that the consideration of WFD requirements is proportionate to the plan level, risk, scale, nature and location of development proposed.
- Provide practical steps and methods to ensure that relevant development plans are consistent with the RBMP and the requirements of the WFD.
- Provide practical steps and methods to ensure planning decisions take account of risks and avoid or mitigate the adverse effects of inappropriate development on WFD objectives.
- 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.
- 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 mechanism for supporting the delivery of WFD objectives and improving our water environment as required by the RBMP, through all levels of the planning process. This will ensure a consistent approach is adopted throughout the country to give effect to the new water and planning legislative proposals. This legislation will also enable the identification and management of developments where exemptions from adherence to the Water Framework Directive [Article 4(7)] 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 Solutions (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. The Department of Housing, Local Government and Heritage published a best practice interim guidance document¹⁰ in advance of further guidelines entitled, 'Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas'.

There will be a reliance on Local Authorities 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 wider Local Authority structures.

Land-Use 1: Finalise guidelines for the incorporation of the Water Framework Directive into the planning system and roll out of training on the new water and planning guidelines to practitioners.

Land-Use 2: Legislative provision to give effect to the new Water and Planning Guidance to be progressed.

10 <https://www.gov.ie/en/publication/10d7c-nature-based-solutions-to-the-management-of-rainwater-and-surface-water-runoff-in-urban-areas-best-practice-interim-guidance-document/>

www.gov.ie/RBMP

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