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Gníomhaireacht Comhshaoil Thuaisceart Éireann
Norlin Airlan Environment Agency
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River Basin Management Plan for Northern Ireland 2021 – 2027

An Agency within the Department of Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

Gníomhaireacht de chuid na Roinne Talmhaíochta, Comhshaoil agus Gnóthaí Tuaithe

An Agency wi'in the Depairtment o Fairmin, Environment an' Kintra Matthers

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Foreword

Water is fundamentally important to daily life and the natural environment. Delivering water quality improvements is a key priority and I am determined to lay the foundations for improvements in water quality whilst considering the needs of all sectors of society.

The Third River Basin Management Plan (2021-2027) identifies a programme of measures outlining the actions required to protect and improve all water bodies including rivers, lakes and marine (coastal and transitional) water bodies as well as groundwater.

It is important to acknowledge that owing to the absence of Ministers and functioning institutions significant time was lost and this plan is now being published towards the end of the third cycle which runs from 2021 to 2027. Whilst we continue to deliver the actions within this Plan focus is already upon the development of the fourth cycle plan which must be ambitious and progressed in consultation with stakeholders in a timely manner.
We have used the delay since the draft River Basin Management Plan was published in April 2021 to continue the engagement with thematic working groups of key stakeholders. This work progressed the identification of more specific water body measures, with local measures being identified in one of the priority catchments during the first part of the cycle. The outcomes of this work are included within this reviewed and updated plan.

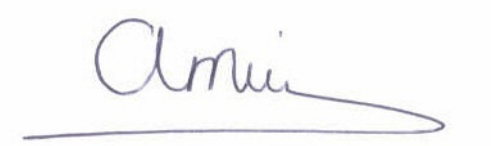
I have also considered the findings of the Office of Environmental Protection (OEP) and the Northern Ireland Audit Office in the review of this third cycle plan. In addition, I confirm that a number of their recommendations will be taken forward as part of the development of the fourth cycle plan.

A review of the priority areas has been conducted to respond to the blue-green algae crisis in Lough Neagh and to ensure delivery of measures to meet the requirements within the Lough Neagh Report and Action Plan.

Scientific evidence provides the essential underpinning of the environmental objectives, and it is important that robust science continues to support the actions within the plan and to inform the fourth cycle.

It is clear that the challenges associated with Lough Neagh will also form a significant driver for the fourth cycle plan, for which planning has already begun and involves full stakeholder engagement at all stages of development. An opportunity will also be available to provide feedback on the contents of this revised third cycle plan, to further shape the fourth cycle plan.

It is only by working together that we, as a society and a community, can both minimise and ultimately reverse the damage that has been done. It is my vision that our water bodies are at 'good' status or better and support biodiversity and a sustainable economy, contributing to the health and well-being of everyone.



Andrew Muir MLA

Minister of Agriculture, Environment and Rural Affairs

Executive summary

Northern Ireland's water resources are managed and protected using a catchment-based approach which includes rivers, lakes and groundwater as well as coastal and transitional water bodies. The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 require the production and implementation of a RBMP in six yearly cycles. The RBMP takes an integrated approach, identifying those water bodies which can be classified as being at 'good or better' status. It also sets the objectives and a programme of measures for the next six-year cycle to help improve those water bodies which are classified as below 'good' status.

The 3rd cycle RBMP period runs from 2021-2027. Northern Ireland Environment Agency (NIEA) presents this river basin management plan (the plan) for the 3rd cycle RBMP period. The plan provides a summary of the health of Northern Ireland's water environment (the status of water bodies), but also sets out our targets (objectives) and actions (programme of measures) on how we want to improve our water environment in the current river basin planning cycle. The plan covers the North Western, Neagh Bann and North Eastern River Basin Districts (RBDs).

This River Basin Management Plan (RBMP) was finalised in October 2022 but could not be published at that point as, in the absence of an Executive, it was not possible to secure the necessary approvals. The final RBMP therefore predates the blue/ green algae issue in Lough Neagh in summer 2023. A Lough Neagh Report and Action Plan[1] specifically to address the blue green algae and water quality issues was published in July 2024. The actions in the Lough Neagh report will build on and complement the objectives to improve water quality across Northern Ireland contained in this RBMP. Lough Neagh and its seven inflowing rivers have also been prioritised for local management actions, within this plan. The Northern Ireland Water Framework Directive Statistics Report 2021 and the online map viewer provide full details of the status of our waterbodies. The 2021 classification of surface water bodies indicates that there has been very little change since 2015 when 32 % of all surface water bodies were at 'good or better' ecological status compared to 31 % in 2021. For groundwater bodies, 68 % achieved good chemical status in 2015, compared with 71 % in 2021.

[1] https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Lough%20Neagh%20Report%20and%20Action%20Plan.pdf

Chapter overview

Chapter 1 explains why there was a delay in the publication of the plan and provides an update on the draft RBMP and linkages to other relevant policies and developments. It describes how we work together with our counterparts in Ireland to manage our shared water bodies, liaise with colleagues in Great Britain on technical matters and provides a summary of the economic analysis of water use and the 3rd cycle Programme of Measures.

In **Chapter 2** summary statistics on the current ecological status for surface waters (rivers, lakes, coastal & transitional water bodies) and chemical status for groundwater are presented.

Chapter 3 provides an overview of the status of protected areas, which are dependent on the water environment: either on water quality or the volume, flow or levels of water.

Chapter 4 describes the key pressures acting upon our water environment as a result of land use, mostly related to agricultural and sewage.

Chapter 5 explains the statutory objectives for all water bodies for 2027. The chapter gives an overview of how our water bodies were initially prioritised for action using the matrix proposed in the draft plan. The chapter also includes the subsequent re- prioritisation process following the publication of the Lough Neagh Report and Action Plan.

Chapter 6 provides an update on the measures from the 2nd cycle river basin management plan. Approximately 96 % of measures are complete or on track to be achieved, whereas 4 % of measures are not being progressed. It also describes key measures that have been implemented since the last RBMP.

Chapter 7 presents the programme of measures for the 3rd cycle RBMP by pressure type. The measures also include Research and Development, which will help to deliver the objectives of the RBMP in the various key sectors. These measures will improve our understanding of environmental pressures on water and appropriate actions to address them.

Key findings

The 2021 classification of surface water bodies indicates that there has been very little change since 2015 when 32 % of all surface water bodies were at ‘good or better’ ecological status compared to 31 % in 2021. For groundwater, the number of groundwater bodies at good chemical status improved slightly from 2015 (68 %) to 2021 (71 %). However, this is mostly related to changes in monitoring. This means that Northern Ireland did not achieve the objectives of the 2nd cycle RBMPs to have 70 % of its water bodies at ‘good or better’ status by 2021.

The regulations set an objective that the department aims to achieve a good status by 2027 for all water bodies apart from when exemptions apply. Considering the stagnation in the overall percentage of water body status at 'good or better' status, it is highly unlikely that Northern Ireland will achieve good status in all water bodies by 2027 without urgent, substantial and holistic measures in the 3rd cycle river basin management plan and beyond.

The key pressures acting upon our water environment are related to nutrients as well as organic pollutants and are attributed to agricultural land use activities and sewage related impacts. As a result, the key measures relate to the reduction of nutrients:

- provide support and advice on soil health through soil testing and one to one advice: The innovative Soil Nutrient Health Scheme will allow farmers to more accurately match nutrient applications to crop need, therefore reducing excess runoff to the water environment. Participation in the scheme will be required to qualify for Farm Sustainability Payments from 2026.
- Reduce the use of chemical fertilisers, through increased implementation of nutrient management planning and more efficient use of livestock manures to meet crop nutrient requirements
- address pressures from sewage infrastructure through capital investment as part of Price Control Period 2021 (PC21)
- implement a new Integrated Plan for Drainage and Wastewater Management in Greater Belfast
- reform regulation of point source discharges to achieve better environmental outcomes including a review of consenting decision-making processes to move towards a catchment-based approach, and a review of the compliance assessment methodologies for industrial, private sewage point source discharges and water utility discharges.
- reform agriculture policy in Northern Ireland following EU exit

Other key measures relate to chemicals and pesticides; abstraction, fisheries and morphology; invasive alien species, forestry and waste & contaminated land.

Conclusions

Northern Ireland did not achieve the objective of the 2nd cycle RBMPs to have 70 % of its water bodies at 'good or better' status by 2021.

The main pressures acting upon our water environment are related to nutrients as well as organic pollutants and are mainly attributed to agricultural land use activities and sewage related impacts. Hence key measures relate to the reduction of nutrients and pollutants from these sectors. The plan also includes key target measures to address pressures resulting from chemicals and pesticides; abstraction, fisheries and morphology; invasive alien species, forestry and waste & contaminated land.

Chapter 1 – Introduction

1.1 Delay in publication of the RBMP

This third cycle River Basin Management Plan (RBMP) was finalised in October 2022 but could not be published as it required Executive approval. It predated the blue/ green algae issue in Lough Neagh in summer 2023. A Lough Neagh Report and Action Plan to address the blue green algae and water quality issues was published in July 2024. The actions in the Lough Neagh report will build on and complement the objectives to improve water quality across Northern Ireland contained in this RBMP. To avoid further delay in making the final plan available to the public, the RBMP is being published broadly in its 2022 form. However there has been a change to the priority areas, in line with the Lough Neagh Report and Action Plan. More details can be found in Chapter 5. The Programme of Measures contained in this plan commenced implementation when the plan was first agreed. Progress is being monitored through sector-specific working groups which have been meeting biannually. Work will commence in 2025 in preparation for the 4th cycle RBMP for 2027-2033.

1.2 Update from the draft RBMP

The Department of Agriculture, Environment and Rural Affairs (DAERA) published the draft 3rd cycle River Basin Management Plan (draft plan) for public consultation (April 2021 – October 2021). The development of the draft plan followed the feedback received from the public consultation on Significant Water Management Issues (SWMI) for Northern Ireland (December 2019 – June 2020). The consultation on the draft plan included the draft Programme of Measures covering the 6-year period from the start of 2022 to the end of 2027. Additional information including detailed supporting documents, method statements and technical reports for the draft plan can be found on the DAERA website. The feedback we received has helped to shape and influence this final RBMP.

The Water (Amendment) (Northern Ireland) (EU Exit) Regulations 2019 ensure that the Water Framework Directive (as transposed) and the various supporting pieces of water legislation continue to operate in Northern Ireland after 1 January 2021. These supporting regulations are listed at Schedule 2 of The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017. Integrated catchment planning through the preparation and implementation of a river basin management plan is a key element in implementing the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017.

The regulations take an integrated approach to the protection, improvement and sustainable use of the water environment. It applies to groundwater and to all surface water bodies, including rivers, lakes, transitional (estuarine) and coastal waters out to one nautical mile. NIEA Catchment Data Map Viewer has been produced for the 3rd cycle river basin plan. This map viewer helps you explore and download information about the water environment. It supports and builds upon the data in the river basin management plan. The maps include the River Basin Districts (RBDs) and their sub-units, the surface water bodies (water body category, ecological status or potential and chemical status), the groundwater bodies (aquifer type, quantitative status and chemical status) and the monitoring sites. The new map viewer has enhanced functionality allowing users to compare several different data sets across multiple years and use selection/ reporting tools within the map extent. The viewer will be regularly updated in line with the river basin management planning cycles.

1.2.1 This plan

This updated River Basin Management Plan fulfils the statutory requirement for DAERA to provide a business plan for the management of our water resources for six years (January 2022 to December 2027). The plan sets out the status of our water bodies; describes the progress we have made towards achieving our objectives for 2021; sets environmental objectives for 2027, identifies priority catchments; and provides information about the Programme of Measures for the 3rd cycle RBMP to address the pressures acting upon the water environment.

1.3 Existing Plans & Projects which are key for 3rd cycle RBMP

The River Basin Management Plan links with key policy areas such as green growth, agriculture, land use, biodiversity, tourism, recreation and flood protection.

Figure 1: Key plans & strategies associated with the RBMP (click on link in each bubble for more information)

The Department's Sustainable Agriculture Programme promotes efficient practices through greater innovation and capacity whilst protecting the environment. It includes a Farming with Nature Package as well as Farming for Carbon measures to restore habitats and reduce impacts from farming linking to the Executive's Green Growth Strategy. Some of the most significant, water-related, current and long-term plans, that the Department will be seeking to ensure alignment with during the 3rd cycle RBMP, are highlighted in Figure 1. Further information can be found by clicking on the link in the bubbles in Figure 1 or from Chapter 1 in the draft RBMP.

1.4 Working together

We have a number of cross-border water bodies, whose management we share with our counterparts in Ireland. To support this ongoing work a joint document, outlining the

approach on how we managed our “Our Shared Waters” and how we can ensure they meet their environmental objectives, will be published shortly after this plan. Coordination is ongoing during the 3rd cycle River Basin Management Plan through various working groups which form part of the WFD Governance structure and NIEA are represented at each of these Governance groups:

- National Technical Implementation Group (NITG)
- Border Regional Operational Committee
- North West Water Forum
- North South Rivers and Lakes Group

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

Theme 5 of the PEACE PLUS Programme ‘Supporting a sustainable and better-connected future’ includes investment areas that support the aims and objectives of the 3rd cycle RBMP. The main pressures acting on our water environment in our cross-border catchments are related to excess nutrients and runoff. Investment area 5.3 aims to reduce inputs into our water bodies through nature-based solutions and sustainable catchment solutions. Investment area 5.4 aims to introduce Water Quality Improvement Programme to enable a collaborative cross-border approach to the management and improvement of water quality in selected water bodies. Proposed investment areas also look to address problems with raw water which is fundamental to sustainable catchment management, including facilities for treatment of wastewater and drinking water.

The Department also participates in the UK Technical Advisory Group (UKTAG) on the implementation of the Water Framework Directive Regulations. UKTAG is underpinned by a number of technical task teams that develop common approaches on monitoring the water environment, classification methodologies (i.e. how to assess the status or health of the water environment) and environmental quality standards.

1.5 Economics Summary

Water is a life-critical resource that we all rely on. Catchments and their water resources are a key environmental and economic asset within Northern Ireland, delivering significant benefits to society through the ecosystem services that they provide. These services include drinking water, wastewater assimilation, angling, tourism (e.g. boating) and cultural heritage.

The supporting document 'Economic Analysis of Water Use' presents an assessment of water use and a description of water services within Northern Ireland's river basin districts. It also outlines how forward planning takes place in the sector and how water services are to be funded over the 3rd River Basin Management Plan cycle to 2027.

In the supporting document 'Economic Analysis of 3rd Cycle Programme of Measures', the planned measures with regard to economic aspects of water use are set out and evaluated, both quantitatively and qualitatively as initially assessed in 2022.

The section below provides a brief summary of the findings from these analyses.

1.5.1 Costs and Benefits of Measures

The analysis undertaken for this 3rd cycle considered the costs as determined in 2021 and benefits of a pre-determined combination of measures believed to be effective in its overall contribution to the restoration of all catchments in Northern Ireland.

Achieving the water quality objectives proposed in this plan will cost in the region of an additional £2.3bn (as assessed in 2022) across the six-year period, subject to funding availability. This cost is expected to be shared by the public and private sectors.

Historically water quality has been underfunded, leading to nutrient pollution, increased flood risk and a large number of economically constrained towns across the country. Two thirds of the total cost of this plan pertains to proposed capital expenditure under Northern Ireland Water's Price Control 21 period[2], to address the capacity of the sewerage network and treatment works. This included investing £78m during the first 3 years of this cycle through, an integrated plan for drainage and wastewater management in Greater Belfast. In future RBMP cycles we anticipate that the principles advocated in this Plan will be rolled out across Northern Ireland to inform future drainage investment. The Utility Regulator ensures the effectiveness and efficiency of expenditure in this area through the economic regulation of Northern Ireland Water.

[2] Utility Regulator PC21 Final Determination – Main Report PC21 FD - Main Report 02.00.pdf (uregni.gov.uk)

Beyond sewage and wastewater infrastructure, the next most significant area of expenditure within this RBMP is for measures that improve nutrient balances and reduce runoff from the agricultural sector. This includes £37.6m to support the roll out of Lidar testing and soil management training through the Soil Nutrient Health Scheme, which aspires to provide a baseline, and promote better on-farm nutrient management in due course.

As well as the benefits of the Programme of Measures in terms of improved water quality status, there will be significant recreational, aesthetic and financial benefits for the general public, the water industry, industry and the agricultural sector, not to mention a significant contribution to the mitigation of adverse climate change impacts.

More information on how these costs and benefits were derived and the assumptions made, can be found in the full 'Economic Analysis of 3rd Cycle Programme of Measures' report.

1.5.2 Water Services and Cost Recovery

The EU Directive[3] as transposed into Northern Ireland Regulations[4] emphasises the promotion of sustainable water use. In line with Regulation 23, and to ensure compliance with the terms of Northern Ireland Water's Licence[5], the costs of providing water and sewerage services are apportioned between each of the customer groups (including households) on a fair and equitable basis.

In the absence of domestic charges, households will continue to be encouraged to use water efficiently through targeted education and public awareness campaigns. During 2022/23, NIW's education team delivered over 200 educational school visits and virtual talks on its key water efficiency messages to primary and secondary schools and conducted over 60 community visits. The continued roll out of metering in the agricultural and industrial sectors will incentivise efficient use of water resources and help achieve the aims of the regulations and keeps water services consistent with the key principles around sustainable use of natural resources such as the polluter-pays and user-pays principles[6].

[3] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (legislation.gov.uk)
[4] The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 (legislation.gov.uk)
[5] Water licence | Utility Regulator (uregni.gov.uk)
[6] The User-Pays Principle calls upon the user of a natural resource to bear the cost of using natural capital. The User-Pays Principle is a variation of the Polluter-Pays Principle that states that the polluter should bear the cost of measures to reduce pollution according to the extent of either the damage done to society or the exceeding of an acceptable level (standard) of pollution. Source: Water-Growth-and-Finance-policy-perspectives.pdf (oecd.org)

Chapter 2 – Water Framework Directive Statistics Summary

NIEA operates a rolling monitoring programme for water bodies within each river basin management planning cycle. The 2021 classification of surface water bodies indicates that there has been very little change since 2015 when 32 % of all surface water bodies were at 'good or better' ecological status compared to 31 % in 2021. For groundwater bodies, 68 % achieved good chemical status, compared with 71 % in 2021. The Northern Ireland Water Framework Directive Statistics Report 2021 and the online map viewer presents the previous and 2021 classification results for each of the water body types:

- river water bodies
- lake water bodies
- coastal and transitional water bodies
- groundwater bodies

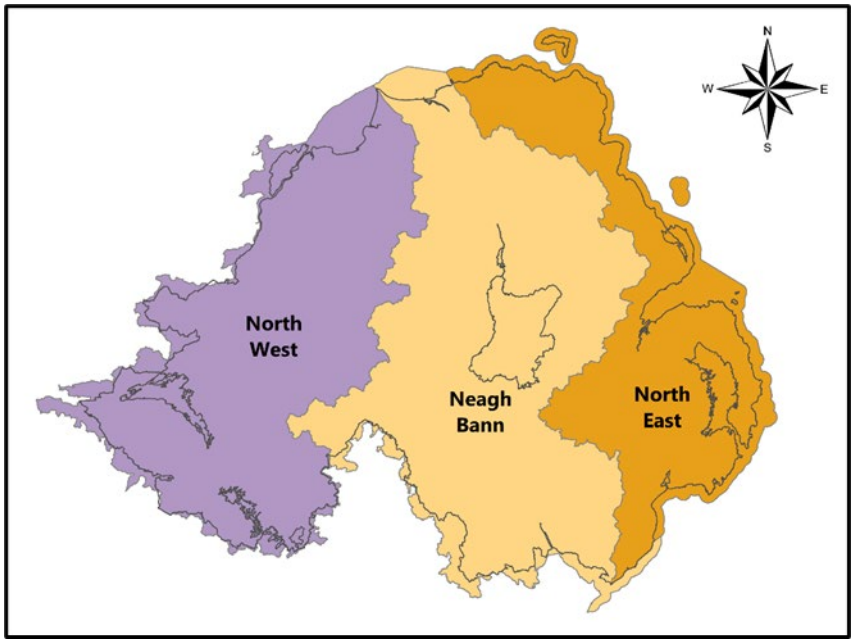
Figure 2 of the Statistics Report shows how ecological status and chemical status for surface water bodies are combined to give an overall surface water status in one of five classes: bad; poor; moderate; good; and high. Groundwater is assigned to either good or poor status for chemical quality and water quantity. Chemical status and quantitative status form together overall groundwater body status. The status of a water body is determined by the lowest test element and follows the one-out all-out rule.

In 2018 new priority substances were monitored and for the first time ubiquitous, persistent, bioaccumulative, toxic (uPBT) substances were assessed as part of the chemical status. These substances were detected at all monitored surface water stations in Northern Ireland which resulted in all of the stations failing. Due to the persistent nature of these so-called 'forever' chemicals within the second cycle, the Statistics Report has also presented chemical status of surface water bodies excluding uBPT substances to allow comparison with chemical status prior to the introduction of monitoring for these substances.

The ecological status (represented in the Statistics Report by the green box) will be used as the key indicator of water body status for surface water bodies throughout this plan, as the key pressures (see chapter 4) acting upon our water environment are mostly related to agriculture and sewage. These pressures release excess nutrients and organic pollutants, respectively, into water bodies. For groundwater bodies the chemical status will be used as the key indicator, as key pressures and failures are reflected in chemical status. To address

the key pressures a Programme of Measures (see chapter 7) has been proposed to mitigate them.

Figure 2: Map of River Basin Districts in Northern Ireland

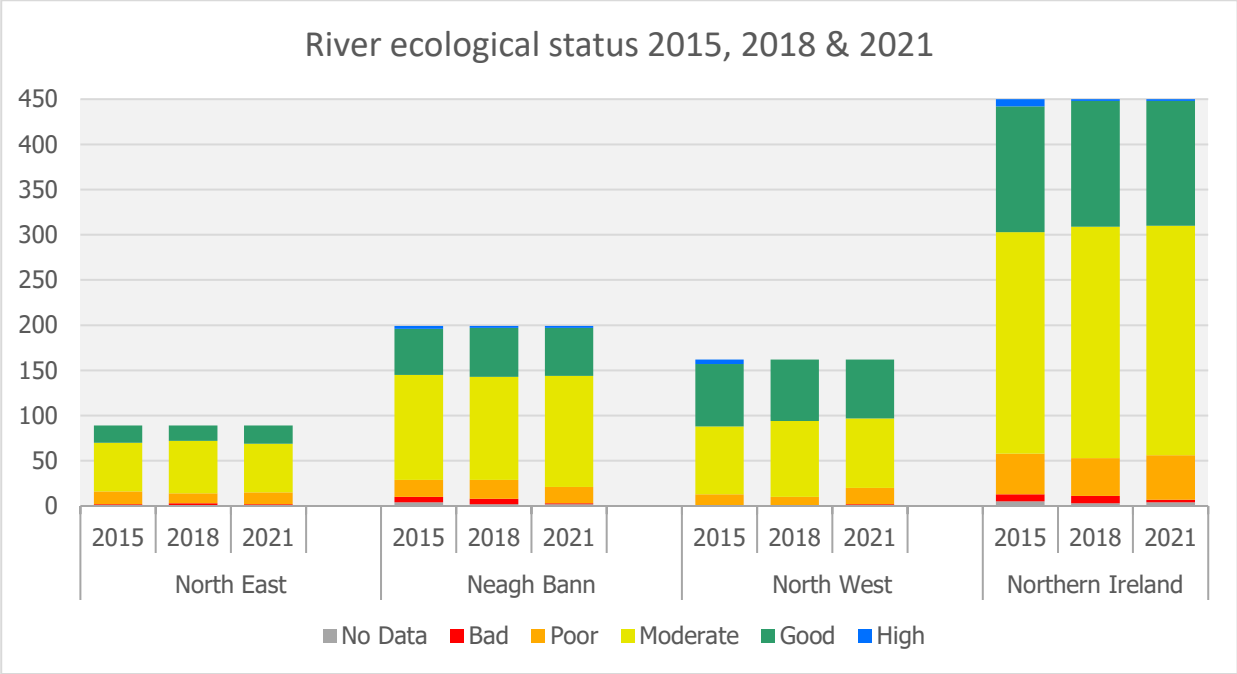


2.1 Rivers

There are 450 river water bodies monitored in Northern Ireland: 162 river water bodies are located in the North Western RBD, 199 river water bodies are in the Neagh Bann RBD and 89 are located in the North Eastern RBD.

The data in Figure 3 refers to the ecological status. In 2015, 147 (33 %) river water bodies were classified as good or high status. In 2018,141 (31 %) achieved good or high ecological status. In 2021,140 rivers (31 %) achieved good or high ecological status.

Figure 3: River ecological status 2015, 2018 & 2021



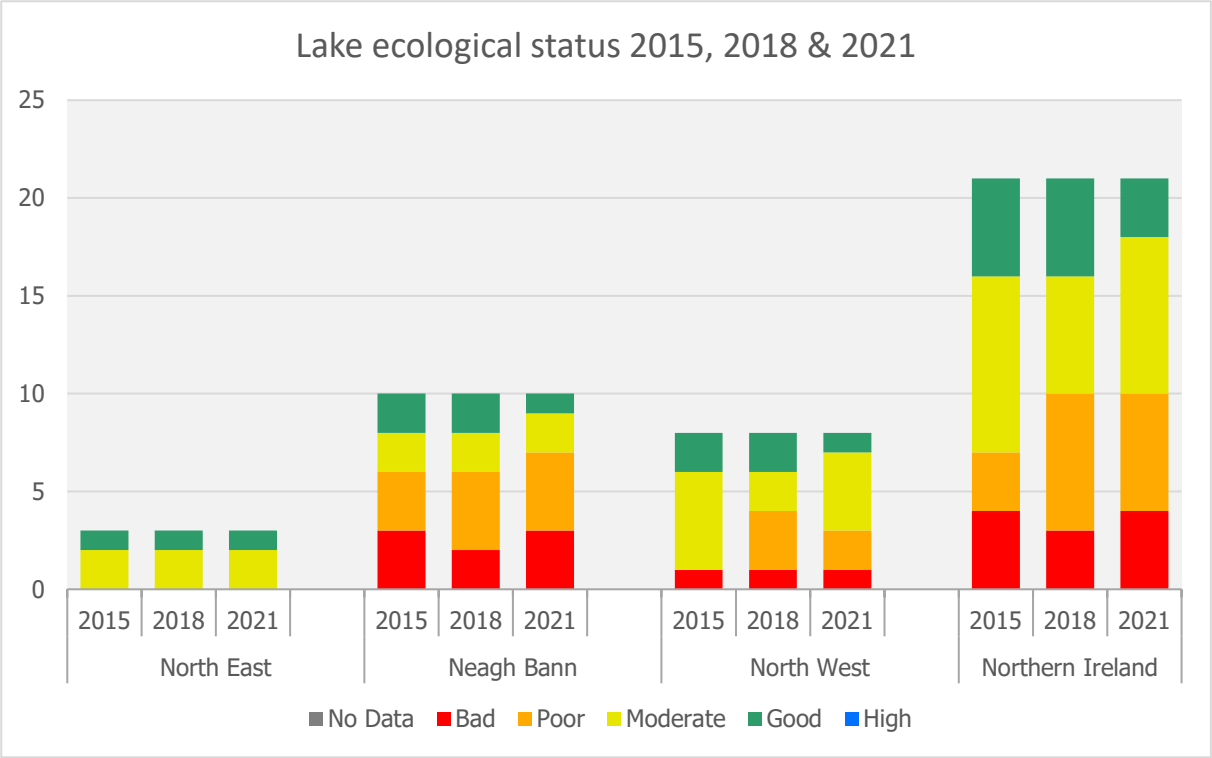
2.2 Lakes

There are 21 lake water bodies in Northern Ireland, 8 of which are located in the North Western RBD, 10 are located in the Neagh Bann RBD and 3 are located in the North Eastern RBD.

In 2015, 5 (24 %) of the 21 lake water bodies in Northern Ireland were classified as good or high for ecological status[7] and 16 (76 %) lake water bodies were classified as 'moderate or worse'. In 2018, 5 (24 %) achieved good for ecological status and 16 (76 %) lake water bodies were classified as 'moderate or worse'. In 2021, 3 (14 %) lakes were classified as good ecological status with 18 lakes (86 %) classified as 'moderate or worse'.

[7] This includes ecological potential for Heavily Modified Water Bodies

Figure 4: Lake ecological lake status for 2015, 2018 & 2021

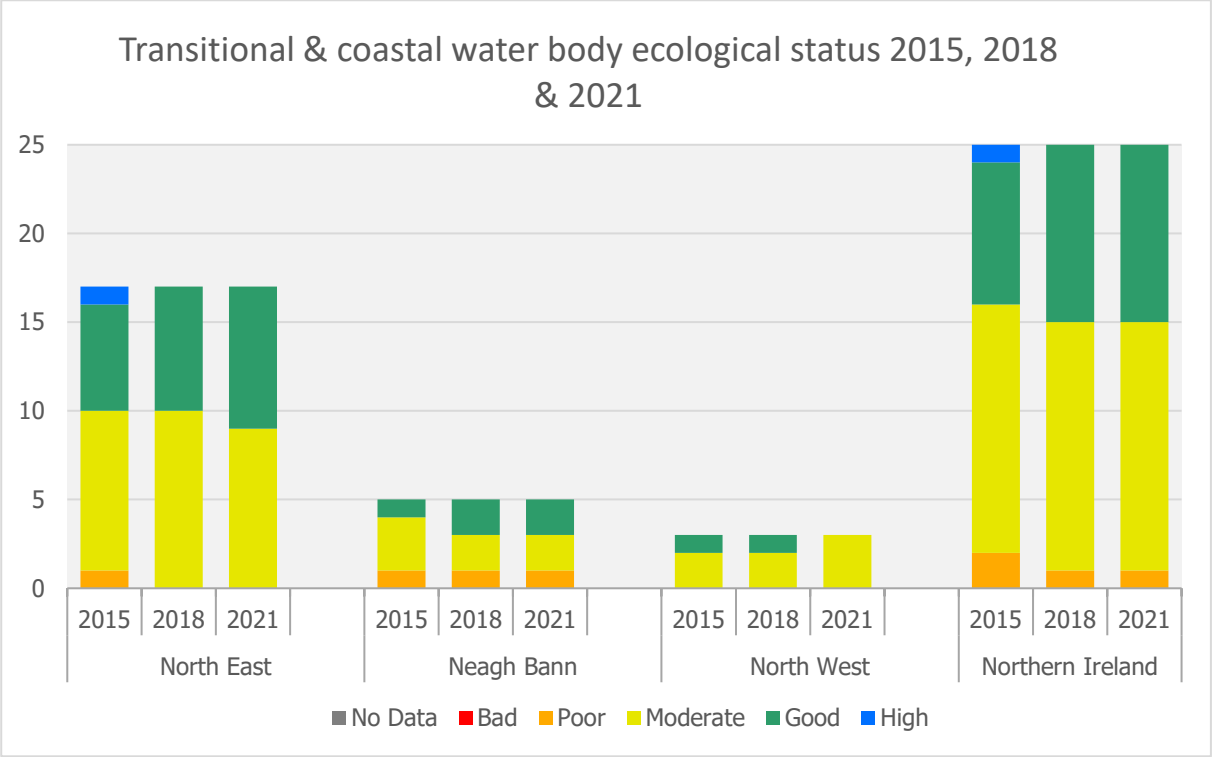


2.3 Transitional & coastal water bodies

There are 25 transitional & coastal water bodies in Northern Ireland, 3 of which are located in the North Western RBD, 16 are located in the Neagh Bann RBD and 17 are located in the North Eastern RBD.

The data in Figure 5 refers to the ecological status of Northern Ireland's 25 transitional & coastal water bodies. In 2015, 1 (4 %) water body achieved high ecological status and 8 (32 %) achieved good ecological status. In 2018, 10 (40 %) achieved good ecological status. In 2021, 10 (40 %) achieved good ecological status.

Figure 5: Transitional & coastal water body ecological status 2015, 2018 and 2021

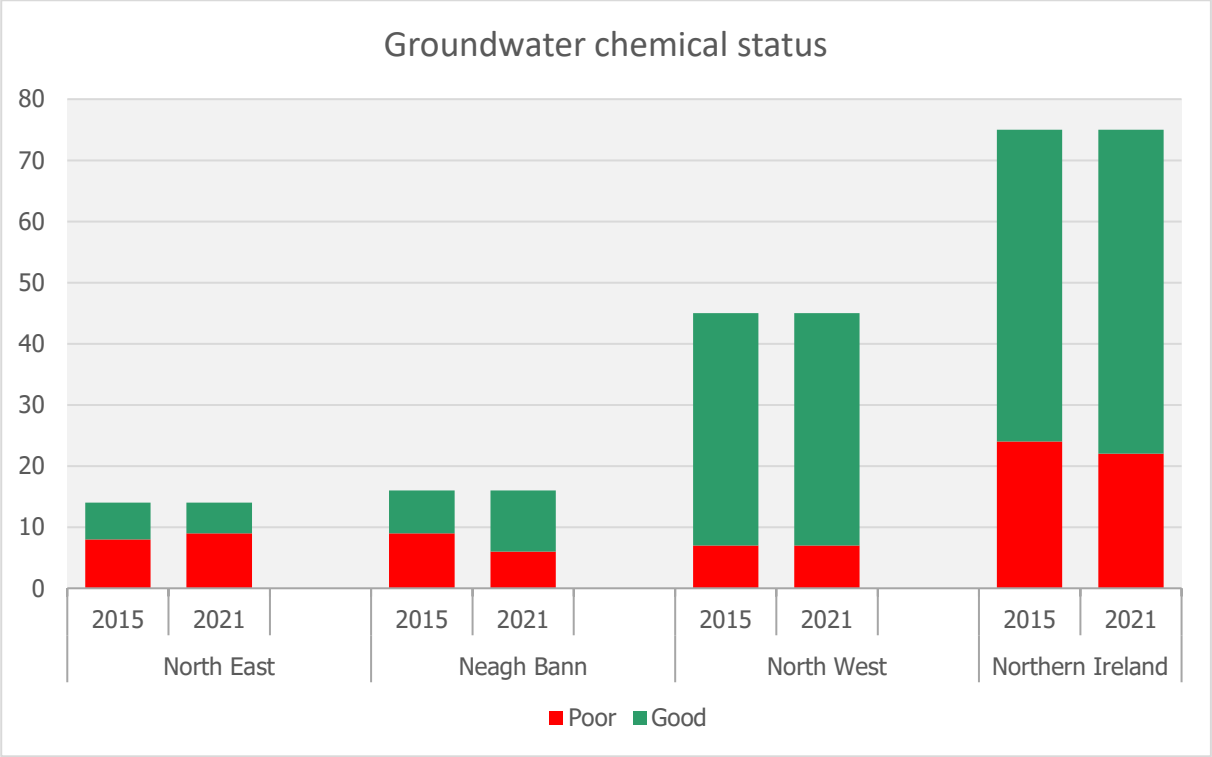


2.4 Groundwater

There are 75 monitored groundwater bodies in Northern Ireland, 45 of which are located in the North Western RBD, 16 are located in the Neagh Bann RBD and 14 are located in the North Eastern RBD.

The key pressures (Chapter 6) are reflected by the chemical status of groundwater bodies. The data compares the 2015 and 2021 chemical status for groundwater for 75 water bodies of which 51 (68 %) achieved good chemical status in 2015. In 2021, 53 (71 %) achieved good chemical status. See Figure 6 below.

Figure 6: Groundwater chemical status 2015 & 2021



Chapter 3 – Protected Areas

All river basin districts within Northern Ireland support important habitats and wildlife, but also human and economic uses of water including areas previously identified as requiring special protection under existing legislation.

The protected areas to be considered under The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 are:

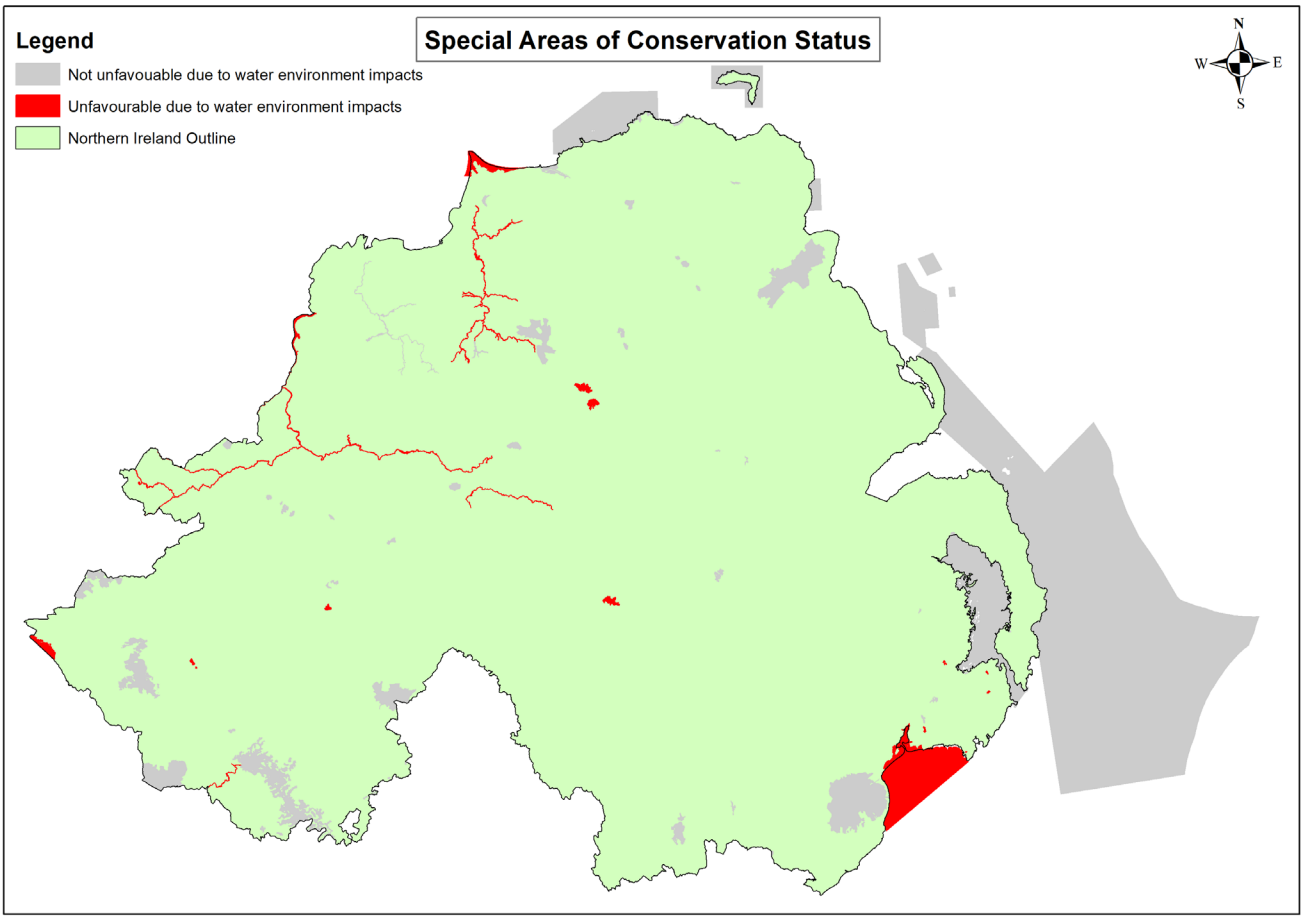
- Protected Areas (designated for the protection of habitats or species) – see section 3.1
- Groundwater dependent terrestrial ecosystem sites (GWDTE) – see section 3.2
- Bathing waters – see section 3.3
- Shellfish waters – see section 3.4
- Drinking water protected areas (DWPA) – see section 3.5
- Urban waste water sensitive areas – more information can be found on the DAERA webpage.
- Nitrate vulnerable zones – a Nutrients Action Programme has been applied throughout the whole territory of Northern Ireland and more information can be found on the DAERA webpage.

Further details of the above can be found in the supporting document “Protected Areas - an update for the 3rd cycle RBMP 2021-27”.

3.1 Protected Areas – Areas designated for the protection of habitats or species

Northern Ireland has a total of 74 UK national network sites (formerly Natura 2000 sites) which are designated under the Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland). The most up to date assessment indicates that 20 % of sites are in unfavourable condition due to pressures from the water environment (see below).

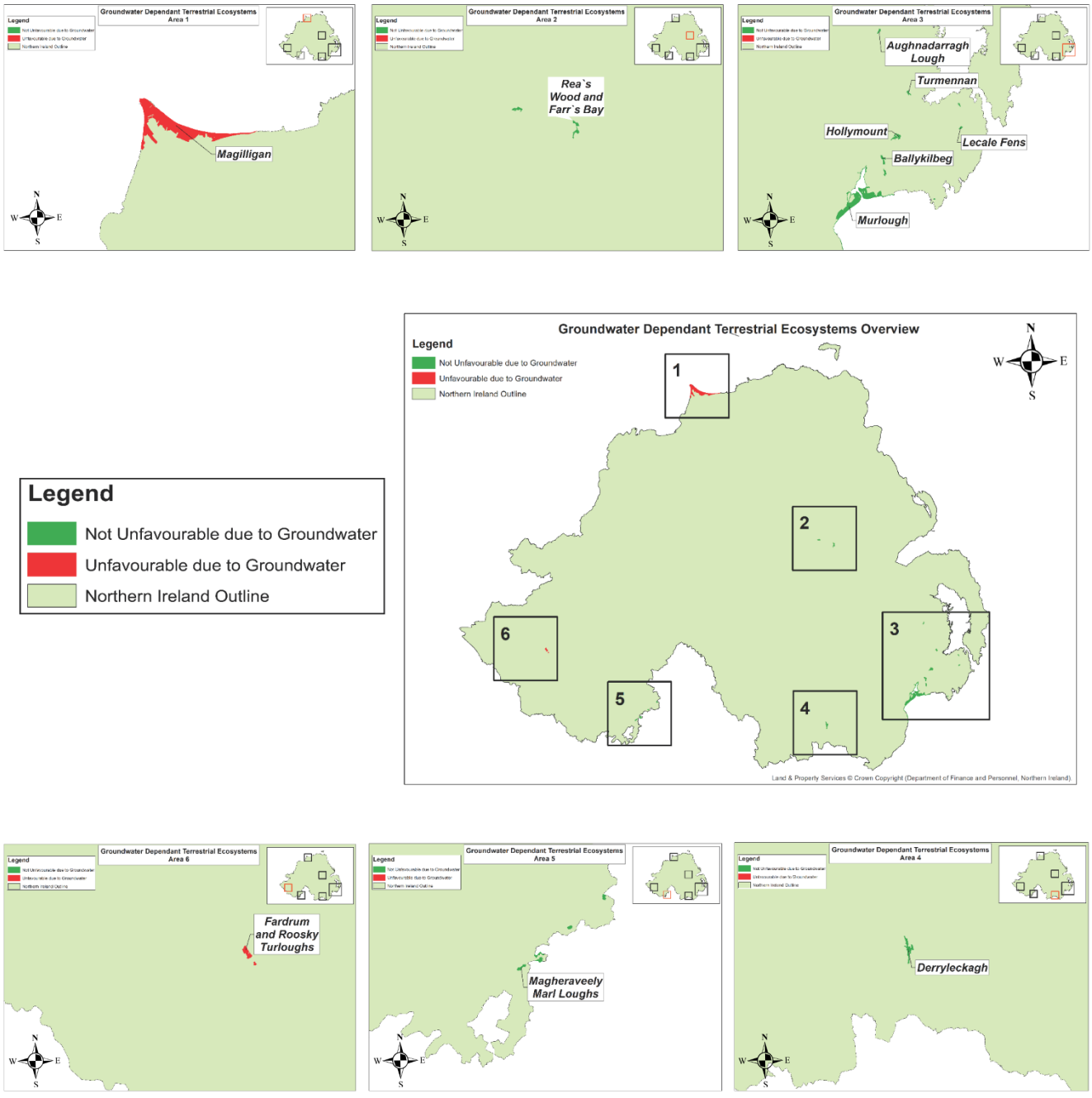
Figure 7: Map showing the conservation status of surface water dependent protected sites impacted by pressures from the water environment.



3.2 Groundwater dependent terrestrial ecosystem sites

Groundwater dependent terrestrial ecosystems (GWDTE) are assessed as part of groundwater chemical and quantitative status. In total there are 9 GWDTE in Northern Ireland and two of them are considered to be at poor status (Magilligan and Rooskey Turlough) due to impacts from groundwater quality or quantity (see Figure 8 below).

Figure 8: Map showing the status of Groundwater dependent terrestrial ecosystems (GWDTE)



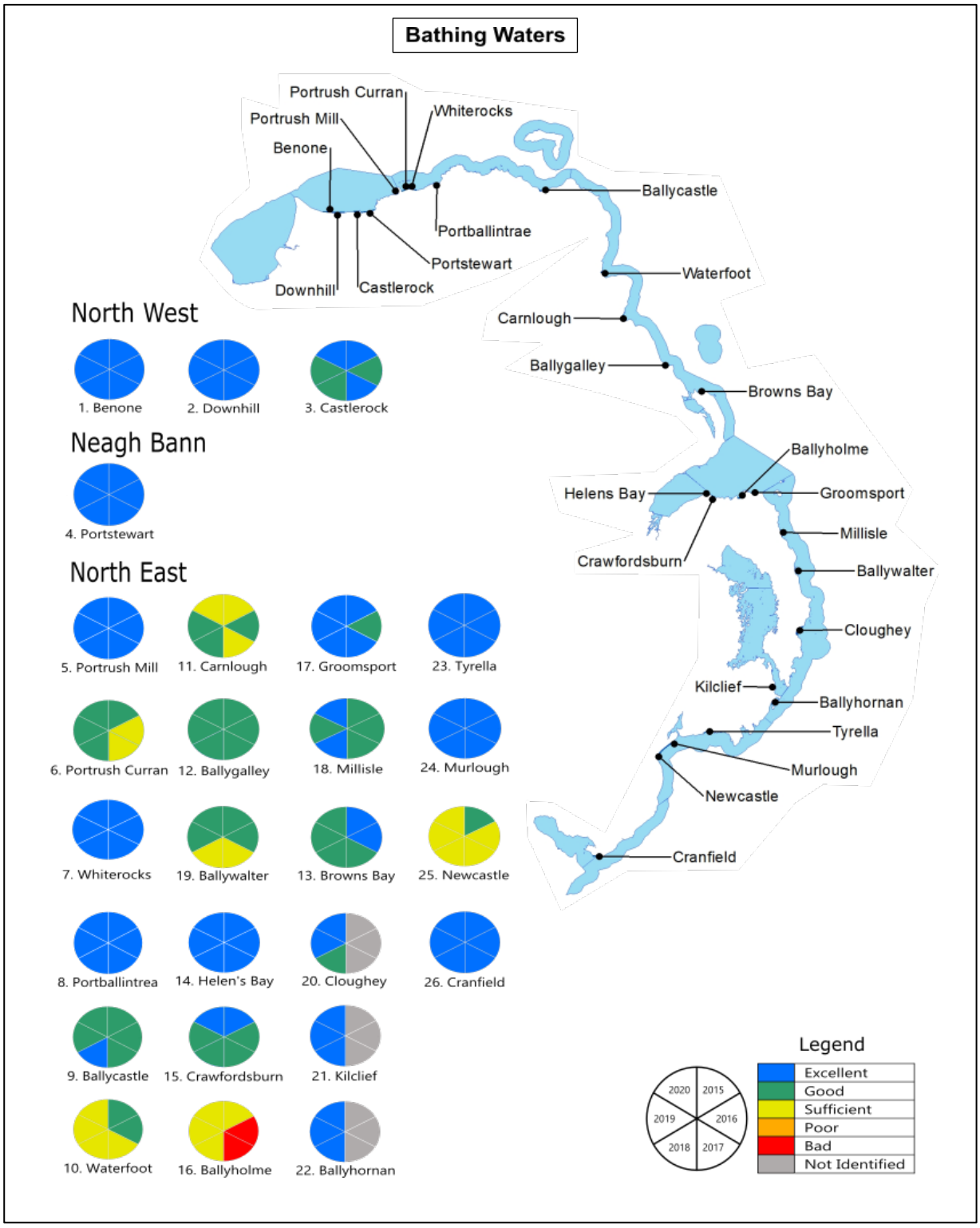
3.3 Bathing Waters

In Northern Ireland 26 sites are formally identified as bathing waters along our coast. There were no identified freshwater bathing waters (lakes or rivers) in Northern Ireland in 2022, although a review process has been initiated in 2022 looking at all areas. DAERA works in partnership with Keep Northern Ireland Beautiful (KNIB), Northern Ireland Water (NIW), community groups, local councils and other landowners like the National Trust to manage our

bathing waters and beaches through a Better Beaches Forum. A summary of bathing water compliance during the last cycle is shown in the diagram below.

Figure 9. Further information regarding bathing waters can be found on the DAERA website.

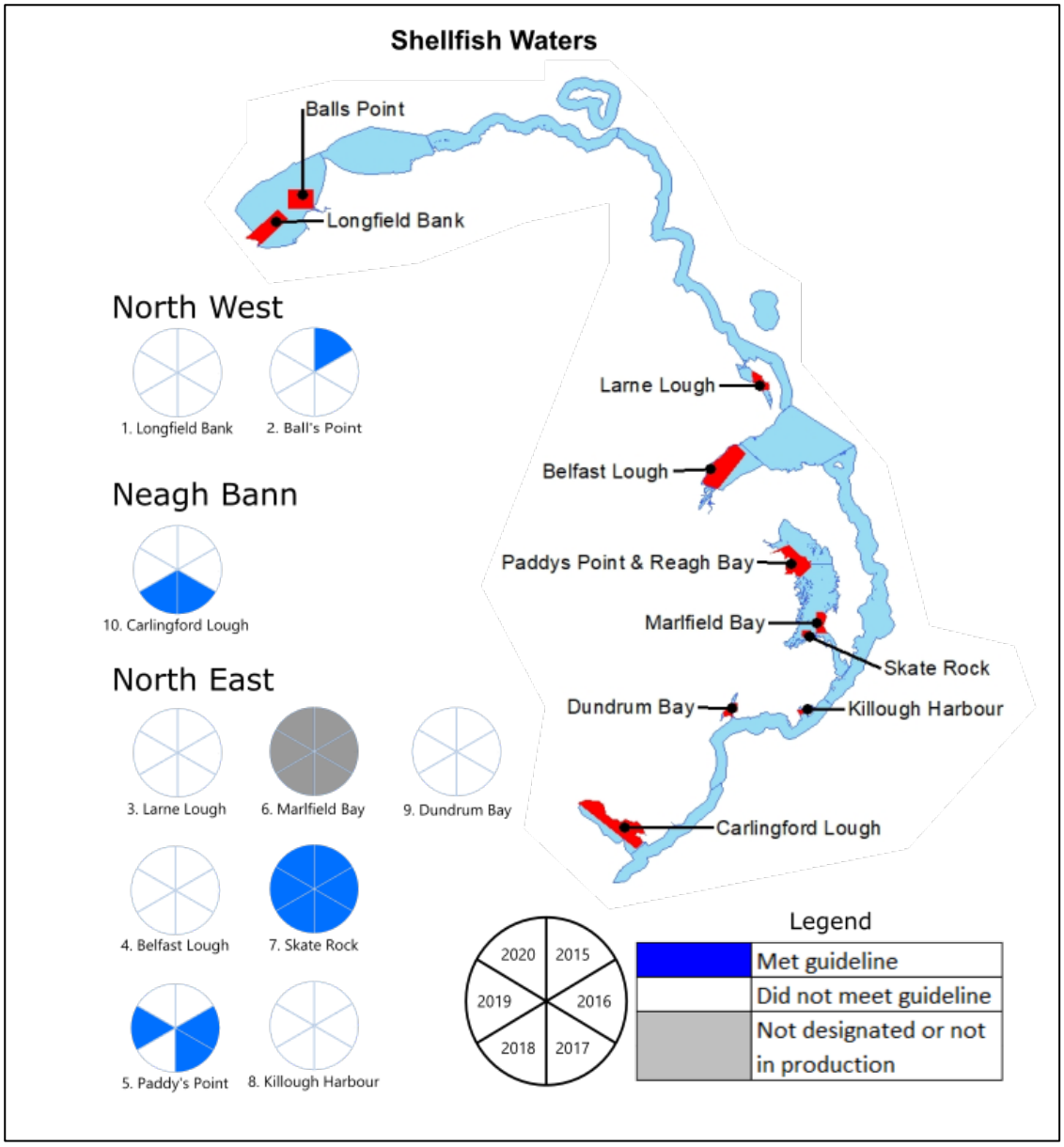
Figure 9: Compliance status of bathing waters shown from 2015 to 2020.



3.4 Shellfish Waters

Shellfish Water Protected Areas are areas designated for the protection of shellfish growth and production. Good water quality is important for the production of high-quality shellfish. In Northern Ireland there are 10 Shellfish Water Protected Areas, which were designated under the Shellfish Waters Directive and are subsequently managed under the Water Framework Directive. These are now classified under The Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (Northern Ireland) 2015. The compliance status of the Shellfish Water Protected Areas status are shown in Figure 10 below.

Figure 10 Compliance status of Shellfish Water Protected Areas from 2015 to 2020



3.5 Drinking water protected areas (DWPA)

Drinking Water Protected Areas (DWPAs) are identified and designated under Article 8 of The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 and aim to enhance the quality of raw water used as a source for drinking water supplies, and to reduce the need for additional treatment to be provided. In Northern Ireland, there are 26 surface water DWPAs and 65 groundwater DWPAs (see Figure 11 & Figure 12 below).

Figure 11: Compliance status of the raw water in surface water DWPAs

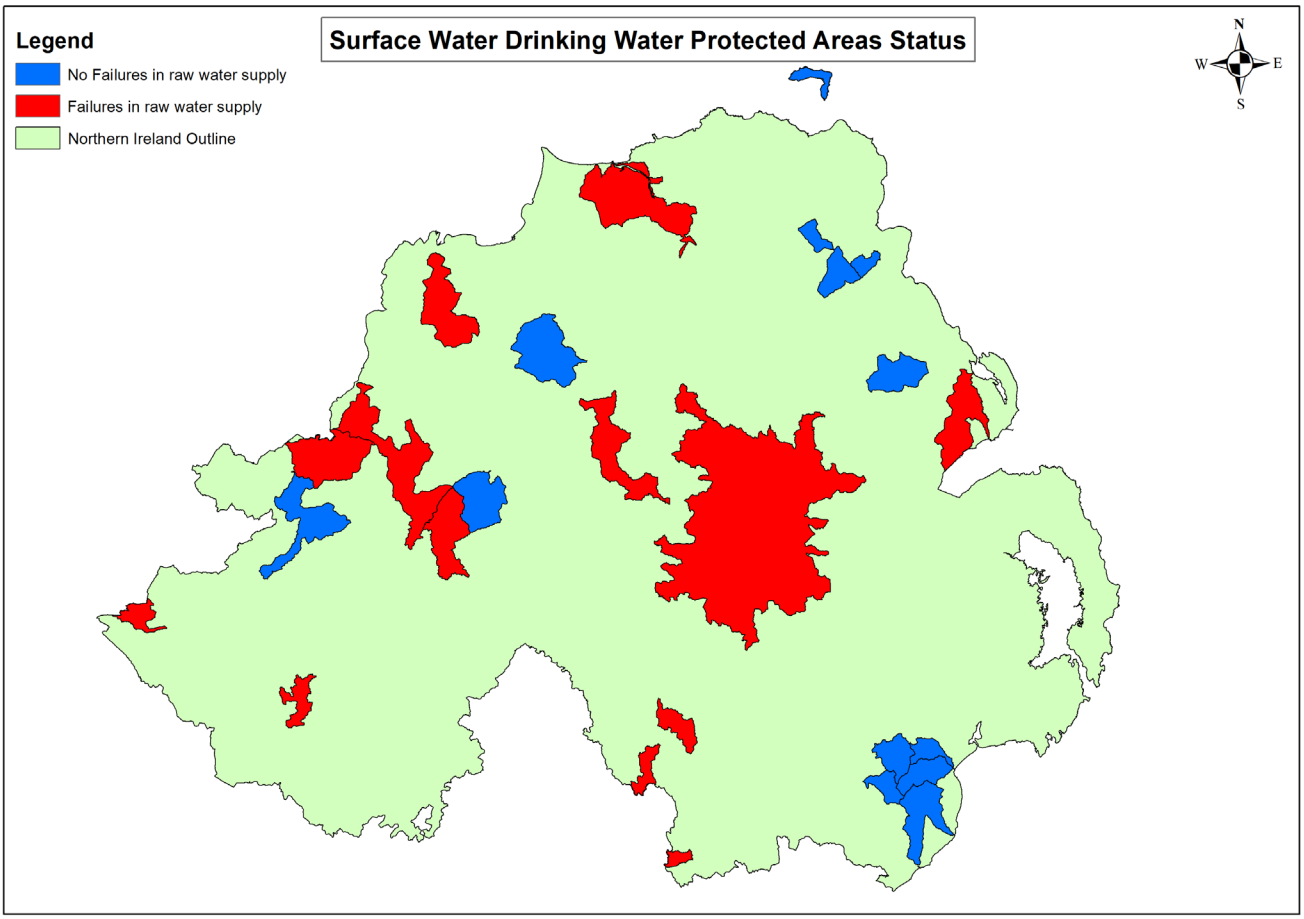
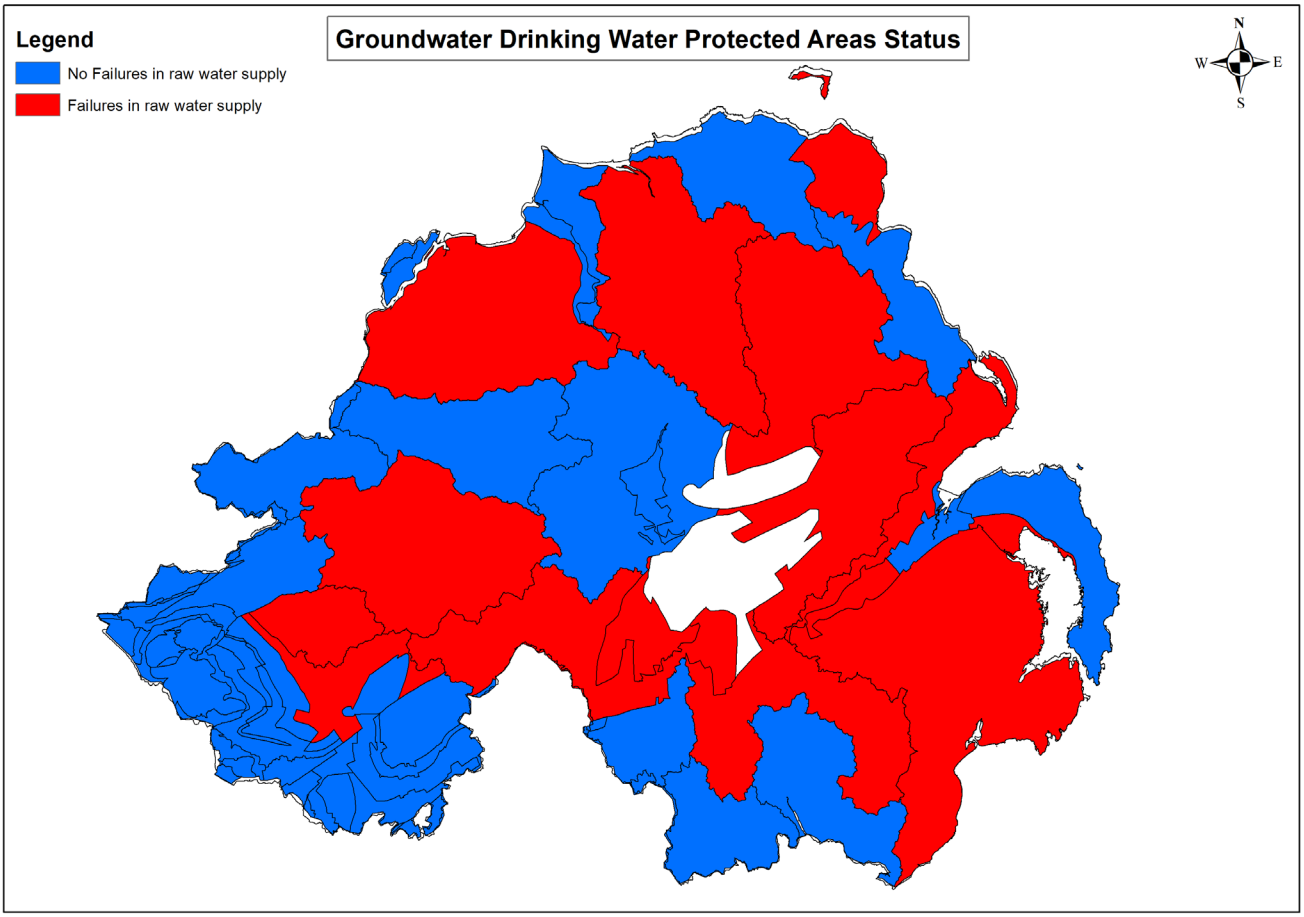


Figure 12: Compliance status of the raw water in groundwater DWPAs



Chapter 4 - Pressures

Significant pressures contribute to impacts on water bodies and their status. Pressures are a result of human land use activities, for example landfill sites; historic land uses; agricultural activities; daily use of water resources in households, manufacturing and the business sector resulting in diffuse and point-source discharges to the water environment. 'Significant' means that the pressure contributes to an impact that may result in failing to meet the WFD objectives of having at least good status.

4.1 Key pressures

The draft 3rd cycle River Basin Management Plan explains that the key pressures acting upon our water environment are excess nutrients and organic pollutants. These are released into the water environment as a result of land use, mostly related to agricultural and sewage related pressures. More details can be found in chapter 6 of the draft plan as well as the supporting document 'Agricultural Nutrients and Water Quality'.

Water quality monitoring data can be used as an indicator of how many of our river water bodies are impacted by excess nutrients or organic pollution. Excess nutrients may indicate agricultural activities impacting on water bodies, while organic pollution may indicate impacts from sewage pressures. However no direct link to a specific source can be made using these indicators without additional source apportionment work.

Excess nutrients within a water body can be identified in our rivers through the following three parameters of the monitoring programme:

- Higher than expected levels of Soluble Reactive Phosphorus (SRP) a direct nutrient input
- A shift in the diatom community towards nutrient favouring species
- A shift in the macrophyte community towards nutrient favouring species

Organic impacts, resultant from organic pollutants within a water body can be suggested through the following three parameters of the monitoring programme.

- Lower than expected dissolved oxygen levels
- Higher than expected ammonia levels
- A shift in the invertebrate community toward more pollutant/ extreme environment tolerant species

All six parameters indicating either likely impacts from agricultural activities or sewage pressures on our water environment contribute to the ecological status of river water bodies. More information on the ecological status of water bodies can be found in chapter 2, the online map viewer and the Northern Ireland Water Framework Directive Statistics Report 2021. In the statistics report the ecological status is represented by the green box.

Based on the analysis of our river water body monitoring, we have found that 51 % of river water bodies may be impacted by agricultural land use pressures, 26 % by sewage related pressures and 22 % by both.

AFBI [D. G. Doody et al (2020)] published an analysis of the Substance Flow Analysis (SFA) for Phosphorus (P) in the Northern Ireland food system as part of the RePhoKUS project. The project found that over 60 % of P losses to our water bodies originate from agriculture and over 30 % can be attributed to sewage related impacts.

The study found a regional P imbalance between demand and supply, with supply far outstripping demand and a resulting food system P efficiency of 38 %. Northern Ireland has too much P in its food system driven by livestock demand.

The report also highlights that in 2017 there was an excess of 10,300 tonnes of P in Northern Ireland, above what is required for agricultural production. On an annual basis, 7,300 tonnes of this P is accumulating in our soils, which is an economic loss for farmers and has the potential to impact on our water quality well into the future.

4.2 Work underway to map pressures

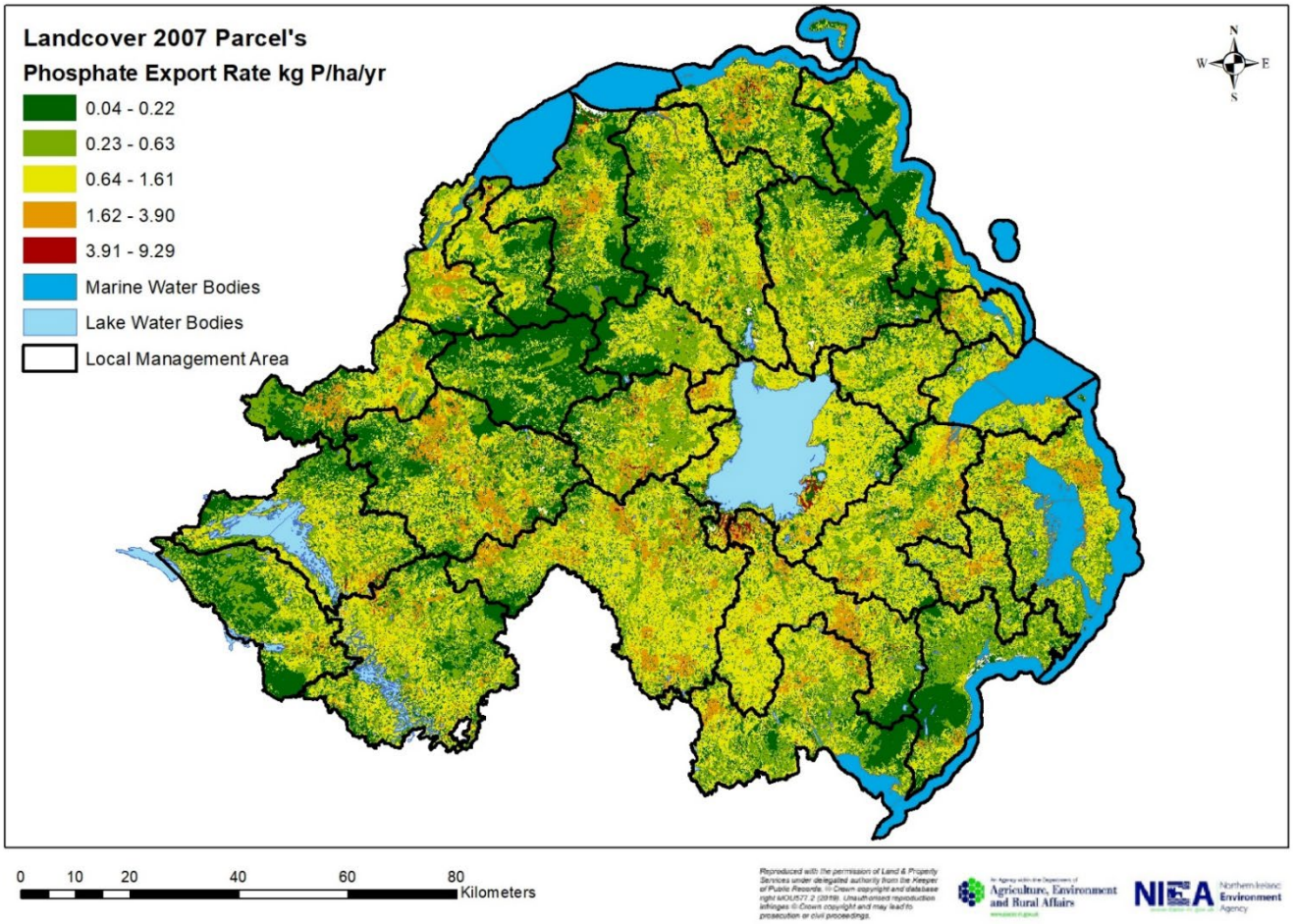
4.2.1 Phosphorus risk mapping

Work is already underway to map these pressures in more detail. Detailed information on the Programme of Measures can be found in chapter 7.

AFBI researchers, as part of the CatchmentCARE project, trialled a GIS based modelling approach that identifies land parcels that have a higher risk of Phosphorus loss, also referred to as P export, to the water environment. The work was carried out for the Blackwater catchment in the Neagh-Bann RBD and is based on a tool (source load apportionment model - SLAM) developed by the EPA in Ireland [E. M. Mockler et al (2018) and I. Packham et al (2014)]. The model takes into account land use characteristics, soil drainage properties and for agricultural land uses (grassland and arable) P loading, slurry and chemical fertiliser application data.

Northern Ireland Environment Agency staff have developed the trial further and extended the GIS model to all of Northern Ireland. The map produced helps to identify those areas that have a higher risk of runoff of P. The risk layer will help to inform prioritizing actions in catchments further. The map shown in Figure 13 below shows that lower risk areas are found in upland areas, whereas higher risk areas are pre-dominantly found in counties Armagh and Down as well as some other catchments. The map will be superseded as new data becomes available.

Figure 13: Map of P risk layer showing the phosphate export rate kg P/ (ha · a) across Northern Ireland.



4.2.2 Wastewater Reform Programme

NIEA has commenced a wastewater reform programme that aims to review its consenting methodologies and strengthen its regulatory compliance assessments of NI Water's wastewater treatment works (WwTWs) and collection systems. The reform programme also aims to bring environmental performance reporting for wastewater treatment in Northern Ireland into alignment with UK reporting requirements. This programme will improve the

protection of water quality and sensitive waters (UK national network sites - formerly Natura 2000 sites, Shellfish Waters and Bathing Waters) and will contribute to the wider delivery of Water Framework Directive (WFD) Regulations objectives.

The current priorities of this regulatory reform programme include improvements at WwTWs for:

- flow compliance,
- unannounced sampling
- monitoring priority substances

In addition, priority reform elements for collection systems, comprise of Event Duration Monitors (EDMs) and Environmental Modelling. The installation of EDMs will allow NI Water to monitor discharges from Combined Sewer Overflows (CSO) and Emergency Overflows (EOs) with priority to installing these monitors within 2 km of bathing waters or shellfish waters. The delivery of Integrated Environmental Modelling (IEMs) by NI Water will provide supporting evidence and justification on the need to reform the consenting approach.

The reporting of this new monitoring data will be supported by a new digital platform and data management capability. This data will aid our understanding of the effectiveness of NI Water's sewerage treatment system, inform targeted investment and improve regulatory compliance with the aim of protecting public health and the environment.

Chapter 5 – Objectives for 2027 and prioritisation of water bodies

5.1 Objectives for 2027

The statutory objectives for our water bodies are set out in the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 which transposed the Water Framework Directive (WFD, 2000/60/EC) into Northern Ireland law. The regulations require the department to aim to achieve good status of all water bodies by 2027, unless exemptions apply. For some specified priority substances the 'good chemical status' objective is extended to 2033 or 2039. Deadlines can also be extended due to natural conditions, processes and technical limitations. In line with the regulations, the objective is to achieve 100 % 'good ecological status' for surface waters and 100 % 'good chemical & quantitative status' for groundwater by 2027. Further details on objectives for each water body can be found in the supporting documents on objectives.

The regulations provide for more stringent objectives to be set for protected areas where required. For UK national network sites, NIEA continues to use Environmental Quality Standards (EQS) to assess status and set objectives for the supporting surface water bodies. EQSs are applied to surface waters as a minimum for regulatory decision making. However, where a surface water is also designated for its nature conservation value, such as a river Special Area of Conservation (SAC), more stringent specific standards for certain parameters may be deemed appropriate by the Statutory Nature Conservation Body (SNCB). The role of SNCB is performed by the Natural Environment Division of Northern Ireland Environment Agency.

The Water Framework Directive Statistics Report 2021 shows that only 31 % of surface water bodies (rivers, lakes, marine) are at good ecological status almost unchanged from 2015 (32 %). Similarly, the number of groundwater bodies at good chemical status only improved slightly from 68 % in 2015 to 71 % in 2021. Although improvements in water body status have been made over the last two cycles, this progress has unfortunately been offset by deterioration in other water bodies. From the resulting stagnation in the overall percentage of water body status at 'good or better status' it is highly unlikely that Northern Ireland will achieve good ecological status in all water surface water bodies (100 % status objective) and good chemical status in all groundwater bodies by 2027 without urgent, substantial and holistic measures across all society.

The timeframe for all waterbodies to achieve good status depends on the individual pressures and their duration and intensity with which they are impacting on the water environment. The scale of improvements required can only be achieved in phases exceeding the timescale of one river basin planning cycle. Once the source of the pressures is reduced or eliminated it will take time for waterbodies to recover. For example, research by AFBI (Timescale of reduction of long-term phosphorus release from sediment in lakes) indicates that Lough Neagh would take over 40 years to achieve good ecological status, if all inputs were stopped immediately. This is reflected in the exemptions applied under Regulation 16 as detailed in the supporting documents.

From this it can be seen that the timeframe consists of an implementation period of the measure, plus a recovery period of the water body.

5.2 Prioritisation of waterbodies

The prioritisation of catchments is required, because resources (both manpower and funding) are finite and the time frame of a river basin planning cycle is short in order to achieve the full scale of improvements required.

At the beginning of the 3rd river basin planning cycle a matrix approach was used to prioritise catchments for actions. The matrix approach was outlined in the draft plan and considers changes in the classification status of the water body between 2015 and 2021 and impacts on protected areas related to the water environment. The priority ranking was then considered within a holistic catchment setting and priority Local Management Areas (LMAs) selected. These were: Roe, Strule and South Down. Further information can be found in the supporting document on prioritisation.

Strategic priorities, where catchment improvements are expected to take longer than a river basin planning cycle, were also considered. In support of DfI's 'Living with Water Programme' both the Belfast Lough and Lagan LMAs were included in the list of initially prioritised water bodies, resulting in a total of five prioritised LMAs.

Further investigations for the Roe LMA were completed identifying local pressures and required measures at water body level – see supporting document 'Local Measures for the Roe LMA'. The local actions will be implemented by our delivery partners e.g. KAS (Knowledge Advisory Service at CAFRE).

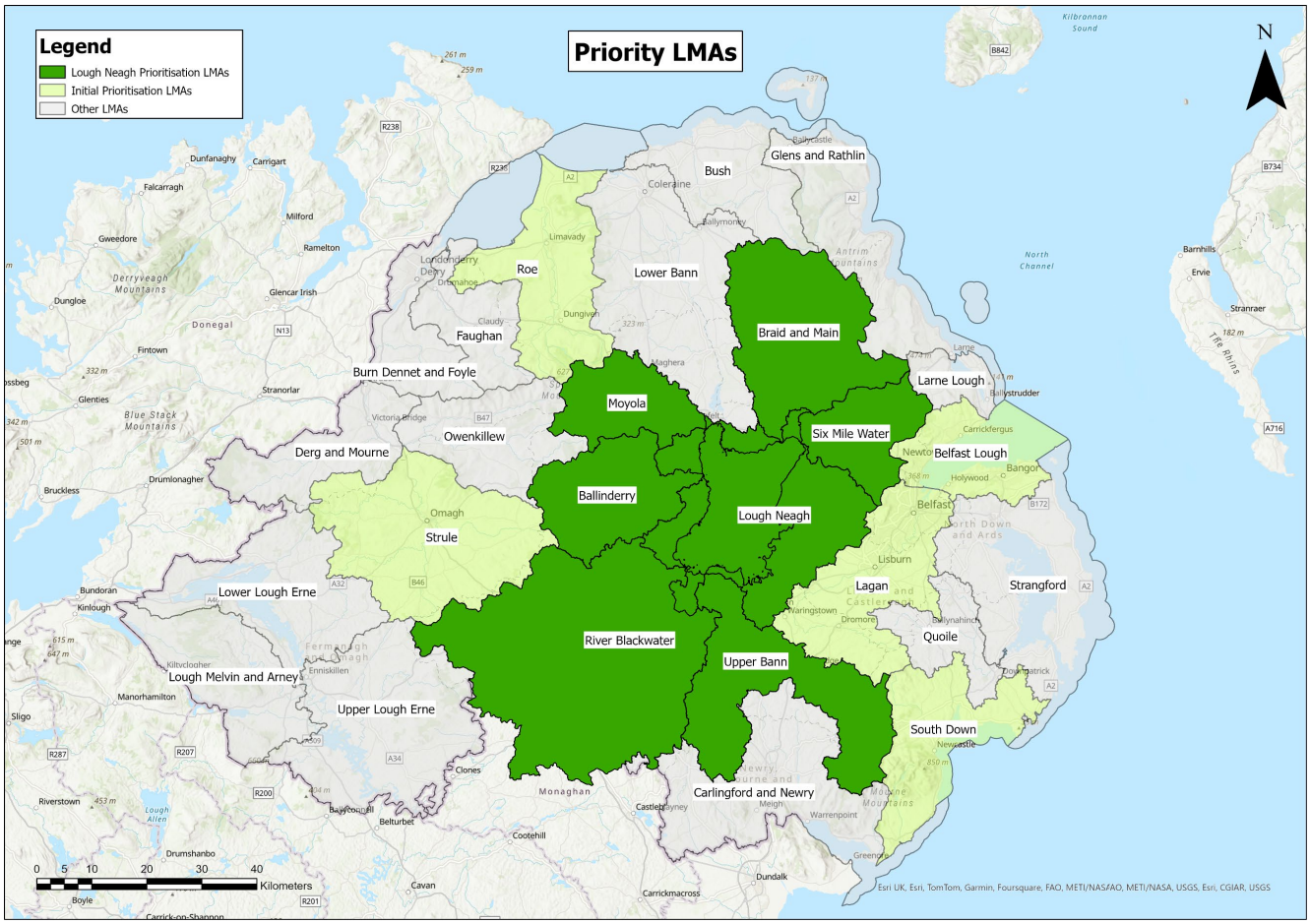
Lough Neagh did not change its ecological status (bad) between 2015 and 2021 and timelines for improvement far exceed the 2027 target. That is why Lough Neagh was not included in the initial prioritisation.

Following the emergence of the blue-green algae issues in Lough Neagh during summer 2023, the prioritisation of water bodies was re-visited. As a result, the seven LMAs flowing into Lough Neagh have been prioritised:

- Braid and Main LMA
- Six Mile Water LMA
- Upper Bann LMA
- River Blackwater LMA
- Ballinderry LMA
- Moyola LMA
- Lough Neagh (Peripherals) LMA

Figure 14 shows the map of prioritised LMA at the beginning of the river basin planning cycle as well as the LMA prioritised to address Lough Neagh.

Figure 14: Map showing initially prioritised LMAs and Lough Neagh LMAs



Chapter 6 – Implementation of 2nd cycle Programme of Measures (2015 to 2021)

6.1 Assessment of the existing Programme of Measures

The implementation of the Programme of Measures (PoMs) falls to a number of key stakeholders, but ultimately everyone living in Northern Ireland has to play their part by assessing their behaviours towards a more sustainable use of our precious water resource. The delivery and implementation of the PoMs is overseen by the WFD Project Board and regular engagement with stakeholders initially occurred through the WFD Strategic Planning and Resources Group (SPAR). The SPAR Group was replaced by a number of sector focus groups to facilitate working remotely during the Covid pandemic. The key stakeholders include: NI Water, DfI Water and Drainage Policy Division, DfI Rivers and DfI Roads, AFBI, Loughs Agency, local councils, Rivers Trusts, Ulster Farmers Union, Ulster Angling Federation; the private sector; NGOs, the community, research and voluntary sectors; and the general public, working together with DAERA. Active engagement between delivery partners and stakeholders is key for the successful delivery of measures through partnerships and catchment projects.

The catchment projects implemented can be viewed on the NIEA Catchment Data Map Viewer.

At the beginning of the 2nd cycle NIEA faced uncertainty regarding funding for INTERREG VA projects and agri-environment schemes. This ultimately resulted in a delay in implementation of the Key Target Measures (KTMs) identified in the 2015 plans. However, 96 % of the 136 KTMs are now achieved or on track to be achieved with the remaining 4 % not being taken forward. The positive impacts on water quality resulting from these may not be seen for several years. As well as the measures introduced in 2015, a number of measures have started since then and these will continue into the 3rd cycle including:

- The Shared Waters Enhancement and Loughs Legacy (SWELL) project, which has made improvements to sewage treatment works in Lough Foyle and Carlingford Lough, investing approximately €35 million.
- CatchmentCare was focussed on three cross-border water quality improvement projects in the Finn, Blackwater and Arney Catchments. As well as installing groundwater monitoring stations to better understand groundwater in the catchments and the interaction between groundwater & surface water bodies, the project ran an

incentive scheme for land improvements, for example, in stream and riparian works, fencing and installation of livestock drinkers. CatchmentCare promoted best practice and a number of guidance leaflets and educational resources have been developed and are available on the project webpage. The project worked with local farmers to identify areas of high risk from nutrient runoff by producing risk maps and carrying out soil sampling. This five-year project invested £13.8million.

- Source to Tap (StT) was focussed on the River Erne and River Derg catchments developing sustainable catchment scale solutions for the protection of rivers and lakes in the Erne and Derg catchments, which are the main sources of our shared drinking water. Source to Tap has delivered a learning and outreach programme (available online) to inform and empower the public about their role in protecting our clean and healthy environment. The project also had land-incentive trials working with farmers to adopt sustainable land management practices that help reduce herbicide residue and soil escaping from the land into rivers. The trials included weed-wiping, rush topping, and stock fencing and clean/ dirty water separation projects, farm track improvements and solar powered drinkers for livestock. It was a 5-year project with an investment of €5.3million.
- The Living with Water Programme is a multi-agency initiative headed by the Department for Infrastructure to develop a Strategic Drainage Infrastructure Plan (SDIP) for Belfast to support economic growth, protect the environment and address flood risk. In November 2021, following endorsement by the NI Executive, the Department for Infrastructure (DfI) published the 12-year, £1.4 billion Living with Water in Belfast Plan. In 2023, NI Water increased the cost estimate of its elements of the Belfast Plan by £700m, pushing the overall costs from £1.4 to £2.1 billion. An affordability review conducted by DfI in response to this increase has concluded that the original 12-year timescale is no longer achievable. Delivery of the projects in the Belfast Plan will be taken forward by individual partners as normal business at a scale and pace achievable within available budgets.
- Price Control 21 (PC21) is a seven-year plan from 2021 to 2028 which outlines how NI Water will improve clean water services, wastewater services and infrastructure in Northern Ireland. The business plan includes increased capital investment at a nominal cost of approximately £2 billion as determined by the Utility Regulator. This

will begin to address the lack of capacity in wastewater services and start to relieve development constraints.

- The Sustainable Agricultural Land Management Strategy for Northern Ireland was published in 2016 and contained recommendations aimed at reducing phosphorus levels and managing agricultural land to improve both on-farm nutrient use efficiency and environmental performance. Following this, in 2017/18 a pilot study was undertaken by AFBI in the Upper Bann catchment, sampling 7,340 fields and providing soil nutrient and lime status information together with runoff risk maps to 513 farm businesses in the area. In 2018/19 a further soil pilot was undertaken within the Colebrooke and Strule river catchments where 9,736 fields were sampled and results provided to 578 farm businesses.

  The success of the pilot catchment work has resulted in a four-year DAERA-funded project on soil health – the Soil Nutrient Health Scheme – that was launched in March 2022, and aims to sample every farmed field in Northern Ireland. The scheme will, through AFBI and CAFRE, provide farmers with:

  (i) detailed information on the nutrient status of their soils
  (ii) runoff risk maps for nutrient loss to waterbodies for each field sampled
  (iii) estimates of carbon stored in their soils and as above ground biomass for each farm
  (iv) training on the interpretation of soil nutrient reports and generation of farm nutrient plans.

  This will be key to the delivery of more environmentally sustainable agriculture in Northern Ireland.

- DAERA also established a new Knowledge Advisory Service (KAS) in April 2018 as a new single advisory service aimed at supporting Northern Ireland's farm and food businesses to promote better integration of environmental advice to support farmers and the agri-food sector.

- The Nutrients Action Programme Regulations (NAP) were made in April 2019 and replaced the Nitrates Action Programme and Phosphorus Regulations 2015-2018. The NAP Regulations apply to all agriculture land in Northern Ireland and require farmers who claim the Basic Payment Scheme and other direct payments to comply with the NAP Regulations through Cross Compliance Verifiable Standards.

- The Environmental Farming Scheme (EFS) is DAERA's agri-environment scheme and has been designed to address specific environmental needs, primarily relating to biodiversity and water. EFS provides support to farmers to protect water quality including the fencing of waterways and creating riparian buffer zones. Some 5500 farmers are participating in the scheme. After four tranches, ~ 2500 km of water course stabilisation with fencing and ~ 250 km riparian margins have been implemented at a cost of £17.2 million. Approximately 60,000 hectares of land is managed under EFS agreement.

6.2 Inner Dundrum Bay Priority Catchment Working Group – Case study

The Inner Dundrum Bay Priority Catchment Working group was established in 2017 as a pilot programme to examine:

- how water management issues are being addressed within DAERA; and
- how to improve catchment working within DAERA.

The group also includes partners from other Agencies including NI Water, AFBI and the Food Standards Agency. It is hoped that collaborative working will ultimately improve water quality in both Dundrum Bay and the wider catchment. For further details see the Case Study below.

The reason for selection of the catchment was that it is failing to meet its objectives set in the RBMP and a deterioration has also been measured in shellfish quality. The failing elements in the coastal water are macroalgae and angiosperms (linked to nutrient enrichment), Dissolved Inorganic Nitrogen (DIN) and Escherichia coli (*E. coli*) in shellfish flesh. Some of the rivers in the catchment are also failing on nutrients (SRP) and benthic invertebrates.

In addition to extensive ongoing DAERA monitoring, NI Water has conducted detailed surveys in the Bay and catchments since 2015. A first report, produced in 2017, concluded that 80 % of the microbial loading over the Dundrum shellfishery was from the Carrigs River. A further study conducted over summer 2017 and reported in September 2018, demonstrated that in dry conditions, 80 % of the microbial loading in the Carrigs River is from ruminant sources (e.g. cattle), and that this proportion increases in wet weather. In the combined loadings from the Carrigs and Moneycarragh, 88 % of the *E. coli* loading is from ruminant sources.

The group has representation from DAERA, AFBI, Food Standards Agency in NI, NI Water and their consultants. This has provided an excellent mechanism to share information on the catchment as a whole and to raise awareness of the totality of the issues. It has also been useful to explain the linkages between agricultural practices, waste-water issues and water quality.

Although agriculture is the biggest contributor in the catchment, the studies have identified further work is required at waste water treatment works at Annsborough and Clough to reduce both bacteria and nutrients.

The Priority Catchment Working Group approach has been resource-intensive, but successful in helping to understand the complexity and catchment links in managing water quality. The failure to show improvement at this stage is disappointing, but perhaps not unexpected, as NI Water is still carrying out upgrades, and the uptake of the existing Environmental Farming Scheme (EFS) within the catchment has been limited.

The project has identified that interventions like providing riverbank fencing and/ or riparian buffer strips and pasture pumps in key sections of the catchment would contribute towards reducing the loading from agricultural pollution.
The DAERA Knowledge Advisory Service (KAS) is designed to give advice on the holistic development of farm and food businesses, where economic and environmental performance

are linked. The group has linked with KAS to incorporate advice on water quality within its service.

In 2021, DAERA's Sustainable Catchment Programme (SCP) was initiated following the success of the Source-to-Tap Interreg Programme in the Erne and Derg catchments. The SCP works in partnership with The Rivers Trust as a facilitator to liaise with farmers across key catchment areas to identify issues and implement a wider range of water quality improvement measures than are available in the EFS. The SCP is a voluntary programme that provides independent advice and grant support for farmers to address agricultural pressures on water quality. Each participating farm business is surveyed by a Rivers Trust advisor who draws up a bespoke Water Environment Management Plan (WEMP). The farmer can then apply for capital funding to implement water quality improvement measures identified in the WEMP. This helps to ensure effective targeting of "the right measures in the right place", The approach has been endorsed by agricultural stakeholder organisations including the UFU and the NI Grain Trade Association.

The SCP is currently active in the Carrigs River catchment which drains into Inner Dundrum Bay. Approximately £20.6k worth of interventions have been completed in the catchment in financial year 2021-22, ranging from riverbank fencing, installation of water troughs and pasture pumps to bespoke measures designed to solve issues on each individual farm.

The SCP has proven to be a successful model in Dundrum and has expanded to operate in the Ballinderry, Upper Bann and Owenkillew river catchments for the 3rd cycle RBMP. Since 2021 approximately £2.6m worth of water quality improvement measures have been implemented in these key catchment areas.

Action 15 within the Lough Neagh Action Plan is to scope the expansion of the SCP to other areas within the Lough Neagh Catchment.

Chapter 7 - Programme of Measures for the 3rd cycle RBMP 2021-2027

This chapter lists the Programme of Measures (PoMs) to improve the status of our water bodies. The Programme of Measures has been updated to incorporate stakeholder comments from the public consultation of the draft RBMP and a series of key sector focused workshops held during 2021. The PoMs have been split into key sectors set out in sections 7.1 to 7.6 and covers the period of the 3rd cycle river basin management plan (1 January 2022 to 31 December 2027). The PoMs also outline where Research and Development will help to deliver the objectives of the RBMP in the various key sectors.

This cycle of PoMs has been shaped by the experiences of the first and second cycle of river basin management plans and we are concerned that we are not making progress in improving our water environment. We know that we need to improve, and careful consideration has been given to ensuring better on-the-ground delivery of measures. This is driven by the need to make better progress, understand how effective our measures are and what is required to improve water body status including water quality.

The main agricultural pressure on water quality in Northern Ireland comes from nutrient enrichment (pollution) from excess phosphorus applied to farm land in manures and fertilisers. Getting the fundamentals right at farm level is key: soil analysis, nutrient management planning, reducing phosphorus inputs and best practice in the efficient management of manures and fertilisers.

The proposed measures to address diffuse and point source pollution of surface and groundwater from agriculture include:

- **Soil Nutrient Health Scheme (SNHS)**: The innovative SNHS will provide farmers with important information on soil nutrient levels for each field on their farm. The scheme will allow farmers to more accurately match nutrient applications to crop need, therefore reducing excess runoff to the water environment. Participation in the scheme will be required to qualify for Farm Sustainability Payments.
- **NAP (Nutrients Action Programme)**: The NAP is implemented through the Nutrient Action Programme Regulations (NI) 2019 (as amended). The NAP promotes measures that address pressures on water quality from agricultural sources. The NAP applies to all farms in Northern Ireland and includes requirements for fertilisation plans when applying chemical phosphate fertiliser and high phosphorus manures, and

reduced phosphate limits for extensively managed grassland. The NAP is currently under review, with updated NAP regulations expected to come into force in 2026.

Wastewater treatment is essential for our health and wellbeing and to the economic prosperity in Northern Ireland. The current underfunding of our waste water systems means that some of the sewerage networks and wastewater treatment works across Northern Ireland are at, or nearing, capacity, meaning future connections for new developments may not be accepted by Northern Ireland Water.

The proposed measures to address diffuse and point source pollution of surface and groundwater from sewage networks and wastewater treatment works include:

- **Living with Water in Belfast: An Integrated Plan for Drainage and Wastewater Management in Greater Belfast**. This is a multi-agency initiative headed by the Department for Infrastructure to develop a Strategic Drainage Infrastructure Plan (SDIP) for Belfast to support economic growth, protect the environment and address flood risk.
- For the **Price Control 2021** period (PC21), covering a seven-year period from 2021 to 2028, the Utility Regulator determined a draft business plan submitted by Northern Ireland Water. The final business plan includes increased capital investment at a nominal cost of approximately £2 billion. This will begin to address the lack of capacity in wastewater services and start to relieve development constraints.
- The development an Integrated **Ecosystem Modelling (IEM)** approach which allows for the assessment of environmental impact from all sources, in line with integrated catchment management practices to address River Basin Management pressures acting upon the water environment.

New measures have been highlighted in green in Tables 1 to 6. Some of the actions in DAERA's Lough Neagh Report and Action Plan provide more detailed information and have been referenced in the applicable measures in Tables 1 to 6 below.

7.1 Key Sector: Agriculture

Pressure type: Diffuse and point source pollution

Table 1 provides a list of measures to address diffuse and point source pollution of surface and groundwater from agriculture during the 3rd cycle RBMP. Actions under drinking water, chemicals and pesticides are also relevant to agriculture. The actions highlighted in green are new measures for the 2021-2027 cycle.

Table 1: Measures to address diffuse and point source pollution of surface and groundwater from agriculture

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
1	Reduce nutrient pollution from agriculture	Continued application of the Nutrients Action Programme (NAP) through the Nutrients Action Programme Regulations (Northern Ireland) 2019 (as amended) which came into operation on 11 April 2019.[8] This NAP builds on previous NAPs and has additional measures to promote more efficient nutrient management and best practice.[9] The NAP is under review, with updated NAP regulations expected to come in to force in 2026. Relates to Action 22 of the Lough Neagh Action Plan: 'Complete the Statutory Review of Nutrients Action Programme' by March 2025.	DAERA,CAFRE	Regulation & policy
2	Advisory services for agriculture	Continue training and advice through the Knowledge Advisory Service (KAS). It supports Northern Ireland's farm and food businesses, where economic and environmental performance is inextricably linked. Relates to Action 3 of the Lough Neagh Action Plan: 'Provision of training in compliance and environmental performance to slurry spreading contractors' to commence in 2025.	DAERA,CAFRE	Education & advice

[8] https://www.legislation.gov.uk/nisr/2019/81/contents
[9] www.daera-ni.gov.uk/sites/default/files/publications/daera/new-nap-measures-information-for-farmers-11-July-2019.PDF

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
3	Reduce nutrient pollution from agriculture	Support the Soil Nutrient Health Scheme to roll out soil testing by 2026 and LiDAR surveys and continued advice and education packages on the reduction in use of chemical fertiliser and the importance of soil nutrient management and soil fertility.	DAERA, AFBI, CAFRE	Incentive
4	Reduce nutrient pollution from agriculture	Work with the industry to improve the efficiency of livestock production and reduce the Phosphorus surplus in the NI Agricultural sector. Reduce the level of phosphorus excreted by livestock, whilst ensuring nutritional requirements are met and maintaining production, animal welfare and economic viability. Promote the adoption of new technologies to enable more efficient use of feed. Provide support and advice on improving quality, yields and utilisation of forage on livestock farms, to achieve reductions in nutrient excretion.	DAERA, NIGTA, CAFRE	Education & advice
5	Reduce nutrient pollution from agriculture	Assist NI to improve water quality and meet its net zero targets by supporting the development and implementation of innovative on and off farm processing solutions for manure/ slurry through the Sustainable Use of Livestock Slurry (SULS) Small Business Research Initiative.	DAERA,CAFRE	Education & advice
6	Reduce nutrient pollution from agriculture	Continue to promote the adoption of environmentally beneficial technology, such as Low Emission Slurry Spreading Equipment (LESSE), through advice and appropriate financial support.	DAERA,CAFRE	Education & advice
7	Measures to reduce sediment from soil erosion and surface run-off	Continued delivery and implementation of the Environmental Farming Scheme (EFS) (or future replacement scheme) and the Sustainable Catchment Programme (SCP) measures to protect water bodies, including riparian buffer zones and tree planting options. Monitor and evaluate the effectiveness of these measures. Relates to Actions 15 and 19 of the Lough Neagh Action Plan: 'Scope the expansion of the SCP into more Lough Neagh catchment areas' and 'Continue Lough Neagh Environmental Farming Scheme Group Project'.	DAERA, AFBI, CAFRE	Incentive

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
8	Measures to reduce sediment from soil erosion and surface run-off	Prioritise 3 catchments and using spatial technology, identify areas of livestock poaching and focus advice and measures to resolve.	DAERA,CAFRE	Education & advice
9	Advisory services for agriculture	Development of collaborative catchment actions to be taken forward within Priority water bodies during the 3rd cycle RBMPs.	DAERA,CAFRE	Education & advice

7.2 Key Sector: Urban Development

Pressure type: Diffuse and point source pollution

Table 2 provides a list the supplementary measures to address diffuse and point source pollution of surface and groundwater from sewage during the 3rd cycle RBMP.

Table 2: Measures relating to urban development and sewage

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
10	Construction or upgrades of wastewater treatment plants	Upgrades of Wastewater Treatment Works and infrastructure as set out in the price control period PC21 (2021-2028) subject to funding availability Relates to Action 12 of the Lough Neagh Action Plan: 'Subject to funding availability seek to deliver on the Lough Neagh wastewater schemes as set out in the price control determination with a focus on reducing nutrient loading, especially phosphorus and nitrogen' Timescale – long-term > 12 months.	NI Water	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
11	Reduce nutrient pollution from sewage	Develop an Integrated Ecosystem Modelling approach which allows for the assessment of environmental impact from all sources. Develop new operational procedures with NI Water to allow the use of the model outputs for Lough Foyle, Belfast Lough and Carlingford Lough to inform the consenting requirements for NI Water asset upgrade.	NI Water, AFBI, DAERA	Regulation & policy
12	Natural water retention measures	Implement the Integrated Plan for Drainage and Wastewater Management in Greater Belfast. (Living with Water Programme as committed in New Decade New Approach). at a pace and scale achievable within available budgets. Consider expanding as an approach to other urban centres in Northern Ireland where appropriate and within available budgets.	NI Water, DAERA, DfI, local authorities & key enabling partners	Regulation & policy
13	Reduce nutrient pollution from sewage & industry	Deliver outputs of the wastewater reform programme & review the regulation of point source discharges to achieve better environmental outcomes. Review consenting processes and decision-making processes to move towards a catchment-based approach and review the compliance assessment methodologies for sewage and industrial point source discharges.	DAERA	Regulation & policy
14	Reduce nutrient pollution from sewage & industry	Review of NI Water discharge consents and the NI Water Compliance Assessment to take account of the outputs from the wastewater reform programme.	DAERA	Regulation & policy
15	Reduce nutrient pollution from sewage	Carry out a pilot study on the impact of hotspot areas of both domestic discharges and private Wastewater Treatment systems to gather evidence to inform the delivery of future sustainable sewage management for NI.	DAERA, NI Water	Regulation & policy
16	Reduce nutrient pollution from sewage Natural water retention measures	Continue to find and encourage mechanisms to incorporate sustainable solutions in new developments. The LWWP will deliver a number of pilot SuDS schemes to support the management of water in Belfast.	DAERA, DfI, local authorities & key enabling partners	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
17	Reduce nutrient pollution	Continue to work together to address the issue of misconnections. DfI bringing forward legislation that will enable misconnections to be resolved in 2025/26	NI Water, DfI, DAERA	Regulation & policy
18	Reduce nutrient pollution from sewage	Continue to work together to deliver Sustainable Wastewater Treatment Technologies, subject to available budgets. NIEA has been working with NI Water on the development of these technologies to ensure the treatment meets the WFD requirements.	NI Water, DAERA	Regulation & policy
19	Reduce nutrient pollution	Continue support & implementation of the ConnectRight campaign, a partnership of water companies and environment agencies in the UK who are working to reduce water pollution from drains and sewers.	NI Water, DAERA	Education & advice
20	Construction or upgrades of wastewater treatment plants	Implement the PEACE PLUS project bid to secure funding to upgrade sewage treatment facilities in cross-border catchments.	NI Water, Irish Water,	Incentive
21	Reduce nutrient pollution from sewage	Continue to work together on reforming the application process for private sewage infrastructure, which protects the environment and enables development through long-term sustainable wastewater solutions.	DAERA, NI Water	Regulation & policy
22	Reduce nutrient pollution from sewage	Develop and implement an agreed approach to secure NI Water adoption of private sewage infrastructure.	DAERA, NI Water	Regulation & policy
23	Education and awareness	Development of a General Public media campaign educating society at different levels on the value of water and everyone's individual responsibility to take action to reduce use and protect the resource. Relates to Action 7 of the Lough Neagh Action Plan: 'Deliver a Lough Neagh Catchment wide awareness campaign' by 31 March 2025.	DAERA, DfI, NI Water & key stakeholders	Education & advice

7.3 Key Sector: Drinking Water, Chemicals & Pesticides

Pressure type: Diffuse and point source pollution

Table 3 provides a list of the supplementary measures to address diffuse and point source pollution of surface and groundwater bodies from chemicals & pesticides during the 3rd cycle RBMP. Actions under agriculture and urban development are also relevant to the protection of Drinking Water.

Table 3: Measures relating to drinking water, chemicals & pesticides

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
24	Measures for the phasing-out of emissions, discharges and losses of Priority Hazardous Substances or for the reduction of emissions, discharges and losses of Priority Substances	Establish a Northern Ireland Regulators Forum for Chemicals & Pesticides to ensure a collaborative approach across Northern Ireland to regulation and enforcement.	DAERA & key regulators	Regulation & policy
25	Measures for the phasing-out of emissions, discharges and losses of Priority Hazardous Substances or for the reduction of emissions, discharges and losses of Priority Substances	To undertake Surveillance Monitoring during the 3rd cycle RBMP for pesticides that exceeded their EQS or the Drinking Water Standard during the 2nd cycle RBMP. Expand the number of pesticides to be monitored to include a number of high use pesticides in NI.	DAERA	Regulation & policy
26	Measures for the phasing-out of emissions, discharges and losses of Priority Hazardous Substances or for the reduction of emissions, discharges and losses of Priority Substances	Consider the need for the provision of a Disposal Scheme in Northern Ireland for no longer authorised pesticides, similar to the schemes that have occurred in Donegal & Wales.	DAERA, Water Catchment Partnership, Local Councils	Incentive
27	Measures for the phasing-out of emissions, discharges and losses of Priority Hazardous Substances or for the	Carry out a Public Sector Estate pilot of pesticide reduction or elimination (with the exception of use for invasive alien species eradication).	DAERA, NICS, Local Councils	Education & advice

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
	reduction of emissions, discharges and losses of Priority Substances			
28	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue Management Group between NI Water, Water Management Unit and the Drinking Water Inspectorate for Northern Ireland to share information on monitoring, pollution incidents, catchment initiatives and emerging pollutants.	DAERA, NI Water	Regulation & policy
29	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue monitoring pharmaceutical contaminants in the aquatic environment including antibiotics, as an extension of the EU Watch List, WFD Regulations.	DAERA	Regulation & policy
30	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue the development of methods of analysis for Targeted Screening covering high use Agrochemicals not on WFD monitoring list.	DAERA	Regulation & policy
31	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Carry out research and further investigation into the source of the chemicals causing poor groundwater chemical status.	DAERA	Research
32	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue Water Catchment Partnership, consisting of representatives from NIEA, Ulster Farmers Union (UFU), NI Water, DAERA and the Voluntary Initiative to help address significant water quality issues caused by pesticides in Northern Ireland.	NI Water, DAERA, UFU	Education & advice
33	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Investigate ways to ensure the valuable educational initiatives and incentives from the Source to Tap project can be used as a blueprint for other Drinking Water Catchments.	NI Water, DAERA, AFBI	Education & advice
34	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Prepare & Implement PEACE PLUS bid to secure funding for catchment interventions to reduce loading of chemicals and pesticides in raw water.	PEACE PLUS delivery partners	Incentive

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
35	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue to work together on projects to protect drinking water catchments e.g. Sustainable Catchment Action Management Plans (SCAMP).	NI Water, RSPB, DAERA	Education & advice
36	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue to work together to implement projects to reduce bankside erosion and improve water quality e.g. the Glenedra River Riparian Tree Planting Project.	NI Water, Woodland Trust, Loughs Agency	Education & advice
37	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue work on the Mourne Mountain Wildfire Project.	NI Water, The Mourne Heritage Trust, DAERA, NIFRS	Education & advice
38	Drinking water protection measures (e.g. establishment of safeguard zones, buffer zones etc.)	Continue to work together to ensure forestry activities are planned and managed in order to minimise impacts on water quality.	NI Water, Forest Service	Regulation & policy
39	Research, improvement of knowledge base reducing uncertainty	Continue to support research into the distribution, abundance and impacts of plastic pollution in Northern Ireland's freshwater ecosystems.	DAERA, QUB	Research
40	Research, improvement of knowledge base reducing uncertainty	Continue monitoring antibiotic concentrations and undertake Antimicrobial Resistance (AMR) testing in Northern Ireland's aquatic environment as part of the NI AMR Action Plan to provide a better understanding of the potential risks to the environment and both human and animal health.	DAERA, ABFI, QUB, NI WATER	Regulation & policy

7.4 Key Sector: Abstraction, Fisheries & Morphology

Pressure type: Water quantity & flow, morphology

Table 4 provides a list of the supplementary measures to address impacts from water quantity, flow and morphology on surface and groundwater during the 3rd cycle RBMP.

Table 4: Measures relating to Abstraction, Fisheries & Morphology

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
41	Protection of fisheries and allow fish migration	Carry out a review of the Fisheries Act (Northern Ireland) 1966. The review will allow an assessment of legislation needs for fish passage for species other than salmon, sea trout, trout and eels which are already provided for under the Act.	DAERA	Regulation & policy
42	Protection of fisheries	Continued enforcement of the Fisheries Act (Northern Ireland) 1966.	DAERA, Inland Fisheries	Regulation & policy
43	Protection of fisheries and allow fish migration	Carry out a Water reform & review of the compliance assessment methodologies for abstraction to include site inspection programme findings and Inland Fishery observations.	DAERA	Regulation & policy
44	Protection of fisheries	Implement the North Atlantic Salmon Conservation Organisation (NASCO) habitat improvement projects utilising a variety of targeting methods including, habitat assessments, fisheries data sets, WFD fish monitoring results and recommendations etc. a broad suite of improvement tools to be utilised.	DAERA, Inland Fisheries	Regulation & policy
45	Protection of fisheries	Implementation of conservation and protection initiatives outlined within Eel management plans, NASCO Implementation plans and DAERA Inland Fisheries, Fishery Management Plans.	DAERA, Inland Fisheries	Regulation & policy
46	Improving longitudinal continuity (e.g. establishing fish	Carry out an assessment and prioritisation for the easement of barriers to fish migration.	DAERA, Inland Fisheries	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
	passes, demolishing old dams)			
47	Research, improvement of knowledge base reducing uncertainty	Utilisation of research to develop and implement applied projects to conserve, protect and improve fish populations and habitats.	DAERA Inland Fisheries	Regulation & policy
48	Improvements in flow regime and/ or establishment of ecological flows	Continue to work collaboratively on the regulation of abstractions ensuring sustainable abstraction and protection of fish passage and habitats.	DAERA	Regulation & policy
49	Protection of fisheries and allow fish migration	Continue to tackle the Deemed Authorisations and license activities appropriately securing sustainable water abstraction, protection of fish passage and fish habitat.	DAERA	Regulation & policy
50	Protection of fisheries and allow fish migration	Finalise the Fish Farm Operational Procedure to facilitate the licensing of the Deemed Fish Farms supporting the growth of sustainable Aquaculture Industry alongside protecting water resource, fish passage and fish habitat.	DAERA	Regulation & policy
51	Protection of fisheries	Ongoing participation in the statutory planning process.	DAERA, Inland Fisheries	Regulation & policy
52	Protection of fisheries	Ongoing consultation and engagement with cross border partners on transboundary issues.	DAERA, Inland Fisheries	Regulation & policy
53	Improvements in flow regime and/ or establishment of ecological flows	Ensure the sustainable regulation of NI Water abstraction including linkage with groundwater on increased use as a resource for industry and NI Water.	DAERA	Regulation & policy
54	Protection of Groundwater	Carry out a review of groundwater abstractions and their compliance monitoring data in groundwater bodies that fail for saline intrusion. Work with stakeholders to identify possible suitable mitigation measures.	DAERA	Regulation & policy

7.5 Key Sector: Non-Native Invasive species, Forestry, Waste & Contaminated land

Pressure type: Invasive species & diffuse and point source pollution from forestry and waste & contaminated land

Table 5 provides a list of the supplementary measures to address diffuse and point source pollution of surface and groundwater from forestry and waste & contaminated land and the impact of Invasive Alien Species (IAS) during the 3rd cycle RBMP.

Table 5: Measures relating to Forestry, Waste & Contaminated land and Invasive Alien Species (IAS)

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
55	Measures to prevent or control the input of pollution from forestry	Continue to implement the UK Forestry Standard (UKFS)	DAERA, Forest Service	Regulation & policy
56	Measures to reduce sediment from soil erosion and surface run-off	Undertake removal of conifers and creation of buffers in riparian areas through implementation of forest plans and retain naturally regenerating and colonising native woodland to improve interception of surface water flow.	DAERA, Forest Service	Regulation & policy
57	Measures to reduce sediment from soil erosion and surface run-off	Promote 'Forests for Our Future' through forestry grant schemes for creation of new woodland supplying a wide range of ecosystem services including flood mitigation	DAERA, Forest Service	Regulation & policy
58	Measures to prevent pollution from waste & contaminated land	DAERA to prepare an Options Paper to help inform any future decision on the implementation of a contaminated land regulatory regime for Northern Ireland.	DAERA	Regulation & policy
59	Measures to prevent pollution from waste & contaminated land	Carry out an assessment of the environmental impacts of high-risk legacy waste sites on the water environment.	DAERA, local authorities, Industry, DfI	Regulation & policy
60	Measures to prevent pollution from waste & contaminated land	Continue working with partners, including the planning system, to support delivery of land contamination remediation.	DAERA, local authorities Industry, DfI	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
61	Remediation of contaminated sites (historical pollution including sediments, groundwater, soil)	Seek to exercise powers to ensure remediation of Mobuoy Road Waste Site.	DAERA	Regulation & policy
62	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Continue to implement the Enforcement of the Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019. It is an offence to keep; permit to grow, cultivate or reproduce; transport (to, from or within Northern Ireland); place on the market; use or exchange any species that is included on the 'Species of Union Concern list'	DAERA	Regulation & policy
63	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Continue to raise awareness and when necessary, enforcement procedures on land owners to prevent the spread and eventually remove from their land those species classified as Widely Spread Species (WSS), which include riparian species such as Himalayan balsam and giant hogweed and aquatics such as parrots feather, under the Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019	DAERA	Education & advice
64	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Continue to work together to prevent the introduction of invasive alien species (IAS) into Northern Ireland. Liaise with Partnership Against Wildlife Crime Northern Ireland (PAWNI) to ensure certain species are not being traded, e.g. slider terrapins.	DAERA	Regulation & policy
65	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Ensure funding streams e.g. the Environment Fund and Environmental Farming Scheme (EFS) (or future replacement schemes) incorporate options for the removal of IAS to ensure landowners fulfil their responsibilities under the Invasive Alien Species (Enforcement and Permitting) Order (Northern Ireland) 2019.	DAERA	Incentive
66	Measures to prevent or control the adverse impacts	Continue to raise public and other stakeholder awareness of IAS and provide advice including guidance on control methods and	DAERA	Education & advice

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
	of invasive alien species and introduced diseases	identification information e.g. awareness raising campaigns such as 'Clean, Check, Dry' & 'Be Plant Wise'.		
67	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Continue to maintain, update, develop and promote the 'Invasive Species Northern Ireland' website, which provides resources on IAS, including identification guides and management methods. Continue to produce rapid response contingency plans for newly arrived high risk species/diseases such as crayfish plague.	DAERA	Education & advice
68	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Develop and implement Pathway Action Plans (PAPs) for angling, recreational boating and horticulture to prevent the introduction and reduce the spread of IAS.	DAERA	Regulation & policy
69	Measures to prevent or control the adverse impacts of invasive alien species and introduced diseases	Continue to promote and encourage the use of official reporting systems to submit sightings of IAS, CEDaR online recording - https://www2.habitas.org.uk/records/ISI or the iRecord app - https://irecord.org.uk/app/	DAERA	Education & advice

7.6 Key Sector: Other

Pressure type: All pressures

Table 6 provides a list of the supplementary measures to address all pressures on surface and groundwater during the 3rd cycle RBMP.

Table 6: Measures for other pressures

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
70	Research, improvement of knowledge base reducing uncertainty	Consider outputs of Integrated Ecosystem Modelling (IEM) to achieve the most sustainable outcomes. Ensure sustainable solutions to reduce nutrient inputs into coastal water bodies, in	NI Water, DAERA	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
		line with integrated catchment management practices to address River Basin Management pressures acting upon the water environment.		
71	Research, improvement of knowledge base reducing uncertainty	Develop and implement a programme of catchment-based research projects to better understand the impacts of land use on water status in the Northern Ireland context. Consolidate current projects to provide a long-term research platform, through AFBI and other research partners.	DAERA	Research
72	Research, improvement of knowledge base reducing uncertainty	Further investigate the use of new technology, real-time water quality monitoring, and rapid assessment techniques as part of catchment research projects and investigations.	DAERA, AFBI	Research
73	Research, improvement of knowledge base reducing uncertainty	Continue to expand the research base on nature-based solutions and 'blue carbon' to inform habitat restoration, catchment and coastal-based interventions to improve resilience and to mitigate against the impacts of climate change.	DAERA, AFBI	Research
74	Research, improvement of knowledge base reducing uncertainty	Investigate setting up small bursary scheme to support MSc students during their research project with additional costs to address NIEA research needs.	DAERA	Research
75	Education and awareness	Consider the viability of an Education Officer for DAERA.	DAERA	Education & advice
76	Protected Areas	Develop site specific Conservation Management Plans for freshwater and marine protected areas which will determine the pressures and threats affecting the wellbeing of the important habitats and species of these sites and identify all the management actions required to address these issues. Relates to Action 6 of the Lough Neagh Action Plan: 'Scope a Conservation Management Plan for Lough Neagh' by 31 March 2025.	DAERA	Regulation & policy

	Key Targeted Measure	Measure	Delivery Partners	Measure Type
77	Education and awareness	Continue to support Citizen Science which promotes ownership of the water ways to local residents through monitoring their own water quality.	DAERA	Education & advice
78	Education and awareness	Continue the Environment Challenge Fund for community led targeted water improvement projects.	DAERA, Local Councils Community groups, NGOs	Incentive
79	Education and awareness	Continue to promote and support the establishment of Rivers Trusts.	DAERA	Incentive
80	Adaptation to climate change	Continue to utilise the Coastal Forum to work in partnership on coastal management issues including improving the coastal change baseline and monitoring; developing pilot studies for coastal management; developing policy options for the future and improving education and awareness.	DAERA, DfI, Local Councils, National Trust	Regulation & policy
81	Adaptation to climate change	Publish a climate change adaptation policy in the adopted Marine Plan for Northern Ireland which will guide how decision-makers should consider climate change adaptation in the marine and coastal area.	DAERA	Regulation & policy
82	Adaptation to climate change	Carry out a consultation on the review of bathing waters, which include seas, lakes and rivers, and consider whether the bathing period should be extended following the rise in popularity of year-round open water dips. The Department will consider the recommendations of the Office of Environmental Protection report (published 19 November 2024) on the Review of Bathing waters in Northern Ireland and update measures appropriately.	DAERA	Regulation & policy
83	Adaptation to climate change	DAERA will work with DfI and a range of delivery partners to consider sustainable flood risk management in addition to water status pressures at a catchment level.	DAERA, DfI	Regulation & policy

Abbreviations

- AMR - Antimicrobial Resistance
- AFBI: Agri-Food and Biosciences Institute
- APSFR: Areas of Potentially Significant Flood Risk
- CAFRE: College of Agriculture, Food & Rural Enterprise
- DAERA: Department for Agriculture, Environment and Rural Affairs
- DfI: Department for Infrastructure
- DHPLG: Department of Housing, Planning and Local Government; Ireland
- DWI: Drinking Water Inspectorate in Northern Ireland
- DWPA: Drinking water protected area
- EFS: Environmental Farming Scheme
- EPA: Environmental Protection Agency; Ireland
- EQS: Environmental Quality Standard
- GSNI: Geological Survey of Northern Ireland
- GWDTE: Groundwater Dependent Terrestrial Ecosystem
- HMWB: Heavily Modified Waterbodies
- IEM: Integrated Ecosystem Model
- IFI: Inland Fisheries Ireland
- KAS: Knowledge Advisory Service
- LiDAR: Light Detection and Ranging
- LMA: Local Management Area
- LAWPRO: Local Authority Waters Programme; Ireland
- LWWP: Living with Water Programme
- LTWS: Long Term Water Strategy
- NAP: Nutrient Action Programme
- NASCO: North Atlantic Salmon Conservation Organization
- NBRBD: Neagh Bann River Basin District
- NCMC: National Coordination and Management Committee
- NERBD: North Eastern River Basin District
- NI: Northern Ireland
- NICS: Northern Ireland Civil Service
- NIEA: Northern Ireland Environment Agency
- NIW: Northern Ireland Water

- NPWS: National Parks and Wildlife Service; Ireland
- NWRBD: North West River Basin District
- NTIG: National Technical Implementation Group
- OPW: Office of Public Works; Ireland
- PfG: Programme for Government
- POM: Programme of Measures
- RBD: River Basin District
- RBMP: River Basin Management Plan
- SCAMP: Sustainable Catchment Area Management Plan
- SDIP: Strategic Drainage Infrastructure Plan
- SGZ: Safeguard zone
- SFA: System Flow Analysis
- SNBC: Statutory Nature Conservation Body
- SRP: Soluble Reactive Phosphorus
- SWMI: Significant Water Management Issues
- UFU: Ulster Farmers Union
- uPBT substances: ubiquitous (present, appearing or found everywhere), persistent, bioaccumulative and toxic substances
- WFD: Water Framework Directive

Map viewer and supporting documents

The 3rd cycle River Basin Management Plan is supported by the NIEA Catchment Data Map Viewer and a number of supporting documents that are available on the DAERA website:

- Supporting document for the River Basin Management Plan (2021-2027): Groundwater Final Classification Methodology Overview 2021
- Supporting document for the River Basin Management Plan (2021-2027): Final Groundwater Classification Methodology General Chemistry Test 2021
- Supporting document for the River Basin Management Plan (2021-2027): Faughan Groundwater Body Chemical Classification 2021
- Supporting document for the River Basin Management Plan (2021-2027): Groundwater Final Classification Methodology Surface Water Quantitative Test
- Supporting document for the River Basin Management Plan (20212027): Final Classification Methodology Surface Water Chemical Test 2021
- Supporting document for the River Basin Management Plan (2021-2027): Final Classification Methodology Water Balance Test 2021
- Supporting document for the River Basin Management Plan (2021-2027): Final Classification Methodology Trend Assessment and Point for Trend Reversal 2021
- Supporting document for the River Basin Management Plan (2021-2027): Final Classification Methodology DWPA 2021
- Supporting document for the River Basin Management Plan (2021-2027): Final Classification Methodology - GW - GWTDE
- Supporting document for the River Basin Management Plan (2021-2027): Final Classification Methodology- GW – Saline Intrusion 2021
- Supporting document - Faughan GWB ~ Annex 1 Assessment of damage Decision Document for Mobuoy Road Waste
- Supporting document - Faughan GWB ~ Annex 1 Assessment of damage Decision Document for Mobuoy Road Waste (Duplicate Document)
- Comparison of SRP status in 2015 and 2021 classification for third cycle plans
- Assessment of Deteriorating River Water Bodies Based on 2021 classification for external use [Revised 22 02 2023]
- Lake Classification updated with WFD2021 Classification
- Lake Objective Setting for the 3rd River Basin Management Plan

- Selection of donor river water bodies to be used to classify river water bodies with no monitoring station
- Invasive Alien Species and their use in Water Framework Directive Classification
- Assessment under WFD of coastal river waterbodies (Coastal Interbasins) (CIB) - with proxy status
- Specific Pollutants in River and Lake Waterbodies 2021 Classification
- Priority Substances (Chemical Status) in River and Lake Waterbodies 2020
- River and Lake Monitoring and Classification Methodology
- River and Lake Surveillance and Operational Site Selection 11Jan2023
- Heavily Modified and Artificial Water Bodies (Rivers) 2021
- Quantification of phosphorus release from sediments in Methodology to Identify Surface Water Dependant Sites within the UK National Site Network that are in unfavourable condition due to water related impacts
- Lough Neagh and factors affecting the recovery of water quality
- Methodology to Identify Surface Water Dependant Sites within the UK National Site Network that are in unfavourable condition due to water related impacts
- Agricultural Nutrients and Water Quality - June 2021
- Synopsis of Responses to Consultation on the Significant Water Management Issues - June 2021
- Draft 3rd cycle River Basin Management Plan 2021-2027
- NI Water Framework Directive Statistics 2021
- Timescale of reduction of long-term phosphorus release from sediment in lakes
- Supporting Document for final plan - Protected Areas
- Supporting Document on prioritising water bodies for final plan
- Supporting Document - Update on 2nd Cycle Programme of Measures
- Synopsis of final RBMP consultation responses
- Economic Analysis of the Programme of Measures - River Basin Management Plan 2021 ~ 2027
- Economic Analysis of Water Use - September 2022
- Supporting document - Stakeholder Engagement during the third cycle RBMP
- Supporting Document – Local Measures for the Roe LMA Measures

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Gníomhaireacht de chuid na Roinne
Talmhaíochta, Comhshaoil agus Gnóthaí Tuaithe

An Agency wi'in the Depairtment o
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