Northern Ireland Environment Agency
Resource Efficiency Division

Department of Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

Our reference: DAERA/22-273.

[redacted]

via email: [redacted]

NIEA Lisburn
Water Management Unit
17 Antrim Road
Tonagh
Lisburn
B28 3AL

Email: WMU.FOI@daera-ni.gov.uk

08 September 2022

Dear [redacted],

Environmental Information Regulations 2004

With regard to your request for information received by the Department on 11 August 2022 which sought information on nutrient pollution in UK rivers, I can advise that the Department has completed its search and can confirm that it holds the information you requested which we have collated below.

Nutrient Water Management

How many river catchments are in Northern Ireland and how many KMs/miles of area do they cover?

Northern Ireland has 450 river catchments totalling an overall coverage of approximately 13874 km^2/ 8621 $miles^2$.

How many of these river catchments have you identified as failing nutrient pollution targets, such as those defined by the Joint nature Conservation Committee – and can you point me to any recent reports on these rivers and what is being done to protect them?

The 2021 WFD statistics report is available on the DAERA webpage: https://www.daera-ni.gov.uk/publications/northern-ireland-water-framework-directive-statistics-report-2021. Table 3a and Figure 3a (Ecological status of river water bodies) provide information based on WFD targets and show that 67 % of rivers were at less than good ecological status. Northern Ireland uses WFD standards for the classification of river water bodies as per the Water Framework Directive (Classification, Priority Substances and Shellfish Waters) Regulations (Northern Ireland) 2015: https://www.legislation.gov.uk/nisr/2015/351/contents

Ecology status for individual river water bodies is available on our map viewer: https://www.daera-ni.gov.uk/articles/daera-map-viewers Please use the first viewer (water information request viewer) and click on layer 'WFD status 2021 – Ecological River Status 2021'.

Nutrient pollution targets for rivers are set under the Water Framework Directive (WFD) based on Soluble Reactive Phosphorus (SRP) and the status of the biological elements that respond to nutrient pressures i.e. macrophytes and diatoms. For each of these elements the waterbody is assigned a status on a 5 band system ranging from High to Bad. High or Good (Good or Better) indicate that the standards have been met. Moderate, Poor and Bad (Moderate or Worse) indicate that the targets have been failed. The Nutrient Class is based on any one of these three parameters failing to meet Good status. Please note that the status is assigned at the waterbody level as this is the reporting unit used by the WFD. The most recent assessment was made in 2021 based on data collected up to the end of 2020.

Table 1: 2021 WFD assessment for SRP, Macrophytes and Diatoms**.**

WFD Status	**WFD2021 Macrophyte River Waterbody Class**	**WFD2021 Diatom River Waterbody Class**	**WFD2021 SRP River Waterbody Class**	**Nutrient Class**
HIGH	265	91	69	29
GOOD	110	212	183	171
MODERATE	44	117	145	190
POOR	5	4	30	38
BAD	0	0	0	0
NO DATA	26	26	23	22
TOTAL	450	450	450	450
Numbers				
Good or Better	375	303	252	200
Moderate or Worse	49	121	175	228
Percentage				
Good or Better	83.3	67.3	56	44.4
Moderate or Worse	10.9	26.9	38.9	50.7

The draft River Basin Management Plan was published in 2021 and includes the draft Programme of Measures providing information on the actions proposed to protect and restore the water environment in Northern Ireland. The report and accompanying information is available from our website: https://www.daera-ni.gov.uk/consultations/consultation-draft-3rd-cycle-river-basin-management-plan-2021-2027

The latest statistics for nutrients in rivers, for data to the end of 2021, were published in the NI Environmental Statistics report in May 2022. The report can be found here Northern Ireland Environmental Statistics Report (daera-ni.gov.uk)

Issues with increasing river phosphorus impacting on water quality are well documented; a supporting document to RBMP is published here Agricultural Nutrients and Water Quality June 2021_0.pdf (daera-ni.gov.uk)

The Nitrates Directive (91/676/EEC) aims to improve water quality by protecting water against pollution caused by nitrates from agricultural sources. In particular, it is about promoting better management of animal manures, chemical nitrogen fertilisers and other nitrogen-containing materials spread onto land.

The requirements of this Directive were enshrined into the domestic legislation covered at the weblink below, and this remains in place following EU exit. https://www.daera-ni.gov.uk/articles/nitrates-directive

The enrichment of waters by nutrients, or eutrophication, is one of the major issues for water quality in Northern Ireland, particularly in relation to freshwaters. Department of Agriculture, Environment and Rural Affairs (DAERA) is committed to a cross-sectoral approach, taking action across all sectors contributing to the problem. To address pollution from wastewater, reviews are carried out under the Urban Waste Water Treatment Directive (UWWTD) (91/271/EEC) and deal primarily with the management actions required by Northern Ireland Water (NIW) to protect waterways of Northern Ireland. Further details can be found at the weblink here https://www.daera-ni.gov.uk/articles/review-sensitive-areas

In terms of targets defined by JNCC, the data we hold relates to the condition of the special features on NI rivers designated as Areas of Special Scientific Interest. Details of the sites and their features is available on the Natural Environment map viewer.

NIEA assesses the condition of protected sites using a methodology known as Common Standards Monitoring (CSM), or Condition Assessment. This method was developed as a rapid means of assessing the health, or condition, of selection features on protected sites. CSM was developed by the four UK country conservation agencies under the guidance of the Joint Nature Conservation Committee (JNCC) Common Standards Monitoring guidance | JNCC - Adviser to Government on Nature Conservation.

The special features as they pertain to NI rivers are shown below (Table 2) along with the condition of those features at the last date (year) of monitoring. Your attention is also drawn to the most recent reports on the condition of European features, known as Article 17 reporting, which outlines the status of the same features at a NI, UK level, and indeed any other member of the EU. Whilst it has been some time since the special features have been monitored, the Article 17 report will provide a more contemporary analysis across the region, together with an assessment of the relevant pressures and threats on these

features. We will have similar information for designated lakes which could be provided if required.

Table 2: Special feature and monitoring of designated waterbodies

Feature Type	Site name	Last monitoring date	Condition
Atlantic Salmon	Lough Melvin	01/01/2014	Favourable
Atlantic Salmon	River Foyle and Tributaries	01/01/2011	Favourable
Atlantic Salmon	River Roe and Tributaries	01/01/2011	Favourable
Atlantic Salmon	River Faughan and Tributaries	01/01/2013	Favourable
Atlantic Salmon	Owenkillew River	01/01/2011	Unfavourable

Feature Type	Site name	Last monitoring date	Condition
River habitat	Glenarm Woods		null
River habitat	Shimna River		null
River habitat	Glenballyemon River		null
River habitat	Western Mournes & Kilfeaghan Upper		null
River habitat	White Water River		null
River habitat	Marlbank		null
River habitat	Upper Ballinderry River	01/01/2011	Unfavourable
River habitat	Cladagh (Swanlinbar) River	01/01/2011	Unfavourable
River habitat	Owenkillew River	01/01/2011	Unfavourable
River habitat	River Foyle and Tributaries	01/01/2011	Unfavourable
River habitat	River Roe and Tributaries	01/01/2011	Unfavourable

Feature Type	Site name	Last monitoring date	Condition
Otters	Upper Ballinderry River	01/01/2016	Favourable

Otters	Owenkillew River	01/01/2015	Favourable
Otters	River Foyle and Tributaries	01/01/2015	Favourable
Otters	River Roe and Tributaries	01/01/2010	Favourable
Otters	River Faughan and Tributaries	01/01/2015	Favourable

Feature Type	**Site name**	**Last monitoring date**	**Condition**
Freshwater Pearl Mussel	Owenreagh River		null
Freshwater Pearl Mussel	Upper Ballinderry River	01/01/2011	Unfavourable
Freshwater Pearl Mussel	Cladagh (Swanlinbar) River	01/01/2011	Unfavourable
Freshwater Pearl Mussel	Owenkillew River	01/01/2011	Unfavourable
Freshwater Pearl Mussel	Tempo River	01/01/2011	Unfavourable

NIEA is also leading on the development of Conservation Management Plans (CMPs) for all Special Areas of Conservation (SAC) including sites with habitats and species dependent on freshwater / groundwater which can be impacted by poor nutrient status. These include the following rivers; Cladagh (Swanlinbar) River, Owenkillew River, River Faughan and Tributaries, River Foyle and Tributaries and River Roe and Tributaries. The CMPs define the necessary conservation measures within the SAC required to move the site features towards favourable condition, and therefore provide a framework for conservation action and delivery going forward.

The development of a CMP involves completing an established 5 stage process which includes, producing a habitat map of the site; completing a pressures and threats assessment; undertaking stakeholder engagement; establishing the necessary conservation measures; and finally completing a Habitats Regulations Assessment. Development of all of the SAC river's CMPs are underway, with the majority well advanced through the stages of the process.

When the final draft CMPs are completed, habitats across the sites will have been mapped, pressures and threats identified, and recommended management actions

developed, in conjunction with stakeholder input, which will better inform the decision making process for managing our SAC rivers.

What is your total annual budget for nutrient management in waterways? (reducing nutrient levels in rivers).

The key pressures acting upon our water environment are excess nutrients resulting from agricultural land use and pressure related to sewage infrastructure. Approximate costs relate to our Programme of Measures that forms part of the River Basin Management Plan (a six year period), however that includes all our water bodies, not just rivers. It is therefore not possible to give just one annual figure. All estimates provided relate to the six year period and also include spending outside DAERA.

A significant proportion of the costs for implementing measures that reduce the impact from agricultural land use is for on-farm equipment. Specifically, Low Emission Slurry Spreading Equipment (LESSE) funding will continue for farmers through the Farm Business Improvement Scheme, which has been running from 2016 as part of the EU Rural Development Programme. The expected budget for the remainder of the scheme until 2024 is £9 million, with around a third of that designated for LESSE equipment. Any public funding in this case is matched 40:60 by industry.

The updated Nutrient Action Programme Regulations were enacted prior to the beginning of this 3rd River Basin Management Plan cycle and have a direct impact on industry. However, the significant additional costs of £7 million over the third cycle are likely only incurred by farm businesses that are investing in new LESSE or new outdoor slurry storage. https://www.daera-ni.gov.uk/news/application-low-emission-slurry
DAERA have estimated that the expenditure on Environmental Farming Scheme (EFS) projects linked to water quality within this cycle will approximate £1.17m. https://www.daera-ni.gov.uk/topics/rural-development/environmental-farming-scheme-efs .

For the Soil Nutrient Health Scheme, around £38m of the cost to the public sector is for the soil sampling & analysis and LiDAR mapping of all of NI. The capital costs of the SNHS amount to £9.5m over the 5-year period. Resource costs of the soil analysis carried out by AFBI are expected to be £27.7m. https://www.afbini.gov.uk/news/soil-nutrient-health-scheme-project-launched .

Improvements to sewage infrastructure are delivered through Northern Ireland Water's Price Control 21 (PC21) process. This price control is based on the out workings of the Utility Regulator's PC21 Final Determination of NI Water's investment needs for this period and it includes capital investment of £2,086m in nominal terms. https://www.uregni.gov.uk/pc21-final-determination

How many staff do you employ to deal with and respond to river pollution incidents like spills/reports of breaches of water regulations?

There are 47 members of staff in HQ and Field Staff dealing with and responding to river pollution incidents.

How many staff are employed to monitor/test nutrient levels in rivers (and is this their exclusive role, or do they have to combine this with other duties?)

The Water Chemistry Group undertakes quality assured chemical analysis of NI's aquatic environment. A freshwater nutrients laboratory consisting of three analysts and a laboratory manager oversee all nutrient analysis for freshwater monitoring programmes. A Team Leader also has oversight of the freshwater nutrients laboratory alongside a number of other analytical testing areas. The staff working in that area are responsible for analysis, reporting and the quality assurance of data produced.

There are 38 Field Staff in River Basin Districts undertaking monitoring which is combined with other duties.

Macrophyte and diatom sampling are carried out by 5 freshwater ecology staff. These staff also have many other duties associated with monitoring, assessment and investigations of water quality issues in rivers and lakes across NI.

How many sample sites to do you test, and how many times do you test these sites per annum?

The number of sites tested for Nutrients, macrophytes, diatoms are shown in Table 3 and frequency in Table 4.

Table 3: The number of river sites monitored, and number of samples collected for nutrient analysis, macrophytes and diatoms for the period 2015 to 2020

Freshwater monitoring	2015	2016	2017	2018	2019	2020
Number of river sites sampled for nutrient analysis	477	476	474	474	473	471
Number of rivers samples for nutrient analysis collected each year	5724	5712	5688	5688	5676	2447
Number of river sites sampled for river diatoms each year	183	183	152	152	164	156
Number of samples collected for river diatom analysis each year	366	315	303	304	328	312
Number of sites sampled for river macrophytes each year	64	40	115	183	49	11

Please note the reduction in the number of samples collected for nutrients in 2020 was due to Covid restrictions

Table 4: The frequency of monitoring for Macrophytes, Diatoms and Nutrient monitoring

Element	Monitoring Frequency
Macrophytes	Once in six years
Diatoms	Four times in six years
Nutrients	Monthly each year

Agricultural land management:

What is your budget for enforcement, and inspection of compliance with, agricultural regulations, in relation to improving water quality from nutrients and bacterial sources?

The total staff costs is £866,351 for cross compliance enforcement and inspections.

What is your budget for enforcement, and inspection of compliance with the Nutrient Action Programme, in relation to improving water quality from nutrients and bacterial sources?

We are unable to differentiate between agricultural regulations and Nutrient Action Programme only compliance costs.

How many farms are there in Northern Ireland and what is the current compliance rate of agriculture with these regulations?

We can provide the number of farms claiming single farm payments. There were 24,529 farms in 2021. Table 5 below indicates compliance from the planned inspection progamme for the last four years as there were a reduced number of cross compliance inspections in last two years due to covid.

Table 6 shows the compliance rate for all NIEA inspections so also includes reactionary inspections from water pollution or referrals from the public as well as the planned inspections.

Table 5: indication of compliance rate from NIEA planned farm inspections

Year	Number of planned farm inspections	% of farms breached under cross compliance
2018	271	25.8
2019	284	20.8
2020	130	23.8
2021	132	12.9

Table 6: indication of compliance rate from all NIEA farm inspections

Year	Number of farm inspections	% of farms breached under cross compliance
2018	330	40.6
2019	352	35.2
2020	223	54.7
2021	220	44.5

How many staff do you employ to ensure compliance with these regulations, and is this their exclusive role?
There are 26 staff (includes 6 vacancies) that manage all work areas relating to these regulations. Their work relates to agricultural regulations; however, this is not exclusively enforcement and includes derogation administration, groundwater authorisations and planning consultations.

Do these staff have the power to enforce regulations?
Yes though this is mainly through cross compliance.

If you require any clarification, believe that any part of your request has been overlooked, misunderstood or misinterpreted, please contact me in the first instance to see if it is a matter that can be resolved.

If you are unhappy with the manner in which your request for information has been handled or the decision to release/withhold information, you have the right to request a formal review by the Department. If you wish to do so, please contact The Review Section either by e-mailing daera.informationmanager@daera-ni.gov.uk or by post at The Department of Agriculture, Environment and Rural Affairs, Data Protection & Information Management Branch, Floor 2, Jubilee House, 111 Ballykelly Road, Ballykelly, Limavady BT49 9HP, within two months from the date of this letter.

If after such an internal review you are still unhappy with the response, you have the right to appeal to the Information Commissioner at Wycliffe House, Water Lane, Wilmslow, CHESHIRE, SK9 5AF, who will undertake an independent review of the Department's decision.

Yours sincerely,

[redacted]

[redacted]
North and West River Basin District Manager

***Sustainability** at the heart of a living, working, active landscape valued by everyone.*