



Cumann Lucht Bainistíochta Contae agus Cathrach  
County and City Management Association

# Review of Local Authority Natural Water Functions and Resources

Interim Proposal (for 2023) in relation to improving agricultural compliance under the Good Agricultural Practice for the Protection of Waters Regulations

As a follow up to the EU Commission Decision of April 2022 re. Ireland's Nitrates Derogation.

Submitted on behalf of the CCMA Water, Environment and Emergency Planning Committee

9<sup>th</sup> November 2022

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## 1. INTRODUCTION

Water quality is often described as a “wicked problem” meaning that it is multi sectoral, complex issue and therefore difficult to solve. The following can also be stated:

- It is a human fabricated issue i.e. it is not a nature problem.
- Every catchment setting is unique, therefore there is no single solution and there will always be incomplete knowledge.
- It is never one issue but a combination of several.
- Catchments are dynamic living places; pressures change, land use changes and peoples use of the catchment changes.
- There are no right and wrong answers.

In response to the decision of the European Commission earlier this year, in relation to Ireland’s derogation from the 170kg nitrogen limit imposed by the Nitrates Directive (91/676/EEC), this interim proposal is focused on the area of agriculture.

There are 2 objectives to be considered in this proposal, water quality and compliance with the Good Agricultural Practice for the Protection of Waters Regulations, commonly refer to as the GAP Regs or Nitrate Regs. Improvement and protection of water quality is the primary focus of this interim proposal, but it also includes regulatory compliance.

### a) Rationale for an interim proposal

The Project to Review Local Authority Natural Water Functions and Resources is due for completion in December 2023 with the first phase covering agriculture, Bluedot Catchments, Freshwater Pearl Mussel and Drainage Districts to be completed by the end of 2022. The review, should a need be identified, includes the development of a business case for new structures and resources. This business case, with prior approval of the CCMA (County & City Management Association), would then be submitted to the PSROG (Public Service Reform and Oversight Group) for their approval. Concurrent discussions would also take place with DHLGH and other bodies in regard to implementation of the business case. It is anticipated, if funding becomes available, that identified staff resource requirements would be on the ground in mid-2024.

In April 2022, Ireland secured an extension of its Nitrates Directive<sup>1</sup> Derogation for agriculture from the European Commission (EU CION) however this was a qualified approval as water quality in Ireland had declined over the previous 3-year monitoring period. The EPA’s most recent Water Quality Report published on the 14<sup>th</sup> October 2022 showed further decline and stated: *“While the decline in water quality of our rivers and lakes is relatively small (one and three percent of waterbodies respectively), the number of estuaries and coastal water bodies in satisfactory condition has decreased by almost 16 percent and 10 percent respectively. These declines are mostly along the southeast and southern coasts where nitrogen emissions from agricultural activities are having a significant negative impact on water quality.”*.

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<sup>1</sup> COUNCIL DIRECTIVE of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC)

The derogation is to be reviewed again in 2 years as opposed to the normal 4 yearly review. Further, an interim review is to be conducted in June 2023 in which data from 2022 is required by the Commission.

**Paragraph 19** of the Commission decision sets out a number of issues which are to be addressed:

*“Yearly administrative controls and field inspections should be increased to 10 % of farms benefiting from an authorisation. Field inspections should be based on a sound methodology, including risk assessment, random controls and the results of controls of the previous year. The national authorities should review the agricultural inspection programme carried out by the local authorities as well as the resources required to perform the inspections. Dissuasive sanctions (including economic) should be applied. Complaints or reports of non-compliance from citizens, non-governmental organisations or whistle-blowers should be followed up.”*

Should water quality, administrative controls and field inspections not improve the Commission will reduce Ireland’s derogation from 250kg/N to 220kg/N per year with further sanctions to apply in subsequent years.

Considering the immediacy of action required in response to the Commission derogation decision and to follow on from the provision of the €600,000 to local authorities in 2022 in this respect, this interim proposal was developed and is submitted to DHLHG for consideration under 2023 budgetary provisions.

## **b) Ireland’s response to commission decision**

DHLGH engaged with the EPA and local authorities through the CCMA to develop a programme in response to the Commission decision. This has included a review of local authority agricultural inspection numbers which in recent years have been falling steadily.

The foundations for the response over the 2023 -2025 period include:

- Development of a National Agricultural Inspection Programme Plan. i.e. a targeted risk-based approach including review of policy.
- Review existing inspection programme and develop approach for 2023 with working group. To be led by EPA.
- Design and roll out training for LA staff.
- Develop approach to capturing data in the short and long term. This will assist in identifying the reasons for non-compliance and thus inform Ireland’s Nitrate Action Plan.
- Consideration of technology to assist inspections – drones, satellites, etc.
- Application of a Compliance Assurance System Best International Practice

To kick start this programme, DHLGH provided €60,000 in 2022 to each of the 10 local authorities (€600,000 in total) with the greatest number of water bodies at risk from agriculture. This money is to be used to commence a programme of water quality farm inspections based on risk.

## **c) EPA priority inspection programme**

As part of the response to the Commission, the Good Agricultural Practice for the Protection of Waters Regulations (GAP Regs) which implement the Nitrates Directive in Ireland, were amended to provide for the EPA to have oversight and give directions to local authorities in relation to monitoring and

inspections to be carried out. The EPA are also the assigned body to review the implementation of the regulations and are required to submit a report to the Minister with the results of that review.

The EPA in April 2022 commenced a review of local authority implementation with a view to developing a priority programme of local authority inspections. Two webinars were convened in September 2022 to inform local authorities of the EPA review and outline a local authority inspection programme for 2022-23.

#### **d) Summary of interim proposal**

##### **Firstly:**

Although implementation actions are still in development, the underlying requirement of the Commission is for more action on the ground with detailed reporting. The delaying factor in implementation of required actions will be the process of procuring personnel/resources to carry out farm inspections. Hence the development of this interim proposal.

Using the recently developed discipline of catchment science and management combined with the experience of LAWPRO (Local Authority Waters Programme) and ASSAP (Agricultural Sustainability Support and Advisor Programme) a methodology has been developed to ascertain the level of action required in the agricultural arena to reduce impacts on water quality.

It has been determined that 4,057 farm inspections is required annually to improve water quality and compliance with the GAP Regulations. This would require 57 no. inspectors in addition to existing local authorities' resources. Cost estimates for the period 2023 to 2027 area provided below. (see Appendix 5 for detailed breakdown of costs).

Investigators would be taken on at assistant scientist level with the total costs in year 1 estimated at €4,829,299

##### **Secondly:**

There is no central data system in relation to local authority agricultural inspections, with each local authority maintaining their own unique system which ranges from paper only records to fully computerised systems and combinations of both.

There is a need for a central data system to be able to respond to the Commission with the detailed data required and also to be able to monitor, analyse and review progress.

A simplified system using MS Excel has been developed by the EPA to kick start the inspection programme. In the medium and long term, a dedicated reporting system is required. To engage a consultant to scope the development of such a system, tying it in with existing systems such as the WFD APP, NEMIS, etc, will cost € 26,000 and take 2 to 3 months approximately. Following this scoping, the specification for an inclusive system to meet the needs of local authorities, EPA and reporting to EU would be known.

##### **Thirdly:**

Training and CPD needs to be addressed. In preliminary discussions with the ESNTG it is estimated that €35,000 is required to update the existing agriculture investigations training course, a sum of €22,800 is required to deliver the training to the 57no. proposed investigators and €7,000 to run an annual CPD event.

Catchment science and management knowledge is a pre-requisite for conducting agricultural investigations. This is delivered through the ESNTG and facilitated by LAWPRO. Once an investigator has received catchment science and management training (8 days), they will also require annual CPD. LAWPRO and LASNTG have estimated that this would cost €84,200 and €7,000 to run an annual CPD event.

**Table 1:** Estimate of costs, 2023 to 2027

Year	Number of Staff	*Develop Data Management (scoping study only in 2023)	Training & CPD	Total Funding required per year
2023	57	€ 26,000	€ 142,000	<b>€4,829,299</b>
2024	57		€ 14,000	<b>€4,330,711</b>
2025	57		€ 14,700	<b>€4,497,245</b>
2026	57		€ 15,435	<b>€4,665,538</b>
2027	57		€ 16,207	<b>€4,832,598</b>

\* scoping study will layout pathway and costs for development of a national data management system to meet LA, EU and EPA requirements)

\* See Appendix D for costs detail.

## 2. REVIEW AND DEVELOPMENT OF BUSINESS CASE

### a) Progress with Review of Local Authorities' Water Functions and Resources Project.

On the 27<sup>th</sup> September 2021, DHLGH published Ireland's draft River basin Management Plan for consultation. This document had been in development over the previous number of years through bilateral discussions and meetings with relevant agencies and bodies. Local authorities acknowledged and recognised the central role they would have in implementing the final plan and through existing regional water committees, facilitated by LAWPRO, commenced discussions around the resources and structures required to deliver on their responsibilities.

The CCMA engaged with DHLGH to lay the groundwork for a review of local authority action in the natural water function area (Note: the term, natural water is used to distinguish this area of work from drinking water and wastewater collection and treatment). A project board was established in September 2021 under the chairmanship of John Mulholland, Chief Executive, Laois County Council to carry out this review.

The project board prepared a Project Initiation Document (PID) and submitted it to the Public Service Reform and Oversight Group in November 2021. This document was approved in January 2022 at which point the Project Board established a project team with the aid of funding from DHLGH.

The project is looking at the following areas in a series of phases through 3 sub-committees:

1. Water Framework Directive – River Basin Management Plan (including Water Pollution Acts)
2. Agriculture
3. Bathing waters
4. Environmental complaints
5. Hydrometrics
6. Marine Strategy Framework Directive
7. Planning application process & planning development plan process
8. Public Participation – PPNs and LCDCs
9. Public Health – Private (public) water supplies
10. Section 4 discharge licencing
11. Septic tanks – domestic wastewater treatment systems
12. Shellfish waters
13. Urban misconnections
  - a. Urban areas
  - b. Surface Water Network Management
14. WFD sampling programme
15. Drainage Districts
16. Local Authorities Waters Programme (LAWPRO)
17. Abstractions
18. Blue/Green Infrastructure
19. Blue Dot Catchments & Freshwater pearl mussel
20. Drinking Water Safety Plans
21. Invasive species
22. Data Management & IT

Also added to the above list is, Red Dot Programme, LAWPRO, Training (LA Staff and communities) and Environmental Awareness.

To date a survey of local authority resources has been completed and will be compared against a similar survey carried out in 2015. To ensure comparative figures were received from local authorities each local authority was visited and a qualitative interview conducted. This also provided individual local authorities an opportunity to input into the project and influence the outcomes.

It is intended to publish a report on the survey and qualitative interview when all are completed, in November 2022.

#### **b) Initial results from survey of LA staff numbers engaged in natural water resource management**

Initial figures from the survey show that there are 167.5 technical full time equivalent (FTE) staff engaged within local authorities in the natural water functions area in 2022 compared with 176.4 FTEs identified in a similar survey in 2015.

In the 2015 survey, 12.75 FTEs were identified as carrying out GAP Regs/farm inspections and 10.87 FTEs in the 2022 survey.

See Appendix 4 for breakdown in each natural water function area.

#### **c) Summary of findings from qualitative interviews with local authority staff engaged in natural water resource management**

The project team, to develop their understanding of the data from the survey questionnaire and also to provide an opportunity for local authorities and staff to input into the project, carried out a qualitative interview with each local authority.

These interviews were typically attended by the director of service, senior engineer and other staff. The interview was unstructured and led by the local authority around the issues relevant to them. The survey questionnaire was used by the project team to ensure all areas were covered in the interview.

The common issues raised at these meetings by local authorities are as follows:

- All of the LAs were aware that a Natural Water Function review had commenced and were in favour of it given the increasing workloads and variety of work facing Local Authorities in the environmental area.
- Expectations of the review are variable across the board.
- A great variation in staffing resources across all LAs was evident with the smallest resource noted at 2no. staff and the largest more than 20 no. staff.
- Depending on various factors including location, topography, rural/urban, elected members priorities, management structure, etc, environmental workload is shared differently. i.e. natural water functions can be contained within the environment section or can be shared across planning, roads, water services and environment.
- Recruitment and staff retention is a new and major issue across all Local Authorities. There is extreme difficulty in attracting suitably qualified and experienced staff due to unattractive employment terms, contract positions being offered in many cases and unclear career progression options. There is a desire to move towards recruiting at higher grade technician and scientific posts.
- Existing staff are frustrated citing the fire brigade nature of work involved. Not being able to conclude assigned work before being moved to new pieces of work does not provide for good outcomes or achieving objectives. They feel there is a lack of support and understanding from the “powers” including Government, DHLGH, EPA and LAs. There is little by way of job satisfaction.
- How the Local Authority Natural Waters functionality is governed, directed, structured and controlled was also highlighted by many Local Authorities as an area needing improvement and support. There was a strong consensus that there should be a move back towards re-empowering the Local Authority sector through increasing staff resources within the Local Authorities themselves. There was general approval for a WERLA type governance model which would provide support, expert advice and strategic direction in the Natural Water functionality area with a revised/strengthened LAWPRO governance model being suggested by a significant number of LAs as an option here also.
- A good deal of frustration was noted with the EPA Recommended Minimum Criteria for Environmental Inspection (RMCEI) process both in terms of the subjective and the time-consuming nature of the RMCEI essays format which has led to a large increase in time taken for reporting.
- Frustration was also expressed regarding the many and numerous priorities coming from the EPA compounded by the relatively new areas of air, noise, climate change and biodiversity. It was stated that these many priorities effectively mean there is no priority. While there are separate EPA sections and personnel for water, air, noise, RMCEI, waste, it is the same handful of staff in a LA whom they were dealing with.
- Inspections under the Septic Tank National Inspection Plan have increased for a number of Local Authorities without prior consultation or extra resources being provided. There is general satisfaction with the National Inspection Plan in terms of the way it is managed through the online data management and portal system operated by the EPA and that there



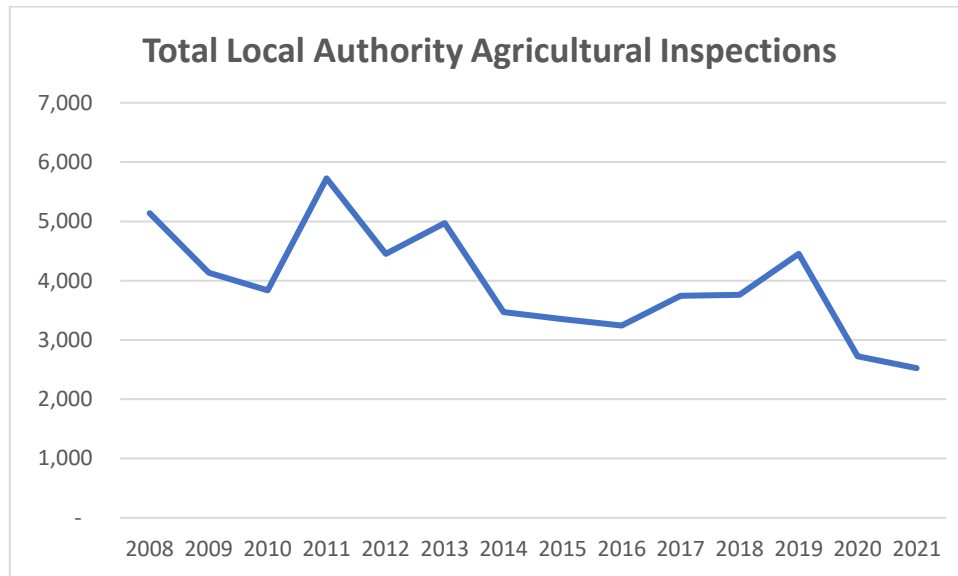
is a defined number of inspections (inspection numbers are not defined for farm inspections).

- The “registration” requirement dating back to 2013 of the Domestic Waste Water Treatment System Grant Scheme is a common issue raised by LAs with respect to getting people to carry out remediation works..
- The increase in additional workload and initiatives coming into the Environmental Sections in Local Authorities is pulling from an already limited natural water function staffing resource. Increased work in the areas of Air, Noise, Climate Change, Biodiversity, Planning Assessment and other areas is having a direct impact on work in the Water Quality area and GAP farm inspections. LA resources are fixed and increases in workload and initiatives in these areas really means less is done in other areas.
- Water Quality, in general, is not on the Elected Members radar of importance with many focused on other issues such as flooding, waste, dog fouling, traffic management etc.
- Local Authorities believe that a one size fits all solution will not work as each LA and its issues are unique. Rural v. urban, costal v. inland counties, flat landscape v. mountainous, free draining land/soils v. wet soils, poor lands of the west of Ireland v. the good land of the south and southeast, etc. They are requesting a more measured approach in how resources are allocated across local authorities.
- Local authorities would (strongly) welcome a national data management system. A need for everyone to “sing from the same hymn sheet” in terms of recording, inputting and producing data was cited. They would also like show their “work done” more clearly. An example of suggested “best practice” was the DWWTS National Inspection Plan data management system whereby all local authorities input their data the same way across the country, information on work done and status can be retrieved clearly and consistently. This also reduces the need to complete RMCEI at end of year.
- Liaison and information sharing with Dept of Agriculture Forestry and Marine, needs to be improved to ensure effective delivery of an efficient and accurate compliance programme.
- Coastal Counties and those with Bathing Waters have a significant added workload for 5 months of the summer when compared to inland counties. Bathing water management, foreshore licencing processing, shellfish waters management programmes, coastal pollution planning and algal bloom management take up large staffing resources during certain parts of the year.
- Section 4 Discharge Licencing – Licencing of Trade and Sewage Effluent is managed inconsistently across the Local Authority sector. Staff resources are the limiting factor here. It is felt by Local Authority staff that there is a significant opportunity to be exploited in the area of improving natural water quality through improved management of the Section 4 Licencing structure in Local Authorities.
- There is a strong need for existing staff and any incoming new staff to undergo retraining/training, particularly in relation to the undertaking of Good Agricultural Practice for the Protection of Waters inspections. New areas such as air, noise, climate change, biodiversity, etc all require specific training and expertise.

#### d) Current implementation practices by local authorities in respect of the Good Agricultural Practice for the Protection of Waters, Regulations (GAP Regs)

From the survey and interviews with local authorities in 2022, there is great variety in the way local authorities implement the GAP Regs. This ranges from the local authority with 6no. (full and part time) staff engaged in carrying out over 700 farm inspections a year, whom have an inhouse designed data management system to a local authority who carries out farm inspections only on foot of complaints received from the public and only has paper records.

**Figure 1.** Number of local authority farm inspections per year



Traditionally, local authorities targeted farm inspections into catchments with poor water quality, inspecting every farm (and pollution source) in the catchment. In more recent years, local authorities have taken on environmental scientists and along with the development of the new discipline of catchment science and management, have implemented a more targeted and risk-based approach to addressing water quality. This has improved water quality outcomes and proved to be a more efficient system.

Note: all local authorities (who have planned inspection programmes) are moving to a catchment science and management methodology of targeting farm inspections. Training in catchment science and management was rolled out by LAWPRO and the EPA in early 2022.

### 3. CATCHMENT SCIENCE AND MANAGEMENT

#### a) New science

As mentioned above, traditionally farm inspections (including other water quality inspections) were targeted using current water quality status, i.e. waters that were less than good status. In practice such a system does not look at water quality trends or risk factors. In simple terms, the use of multiple datasets, trends and risk factors are the bases of catchment science and management and thus it meets the structured management approach required by the Water Framework Directive.

Catchment Science and Management was initially developed by the catchments' unit in the EPA in conjunction with UCD and others. It is an amalgamation of a number of scientific disciplines including geology, hydrogeology, chemistry, soil science, environmental science, ecology, biology and others. It continues to be developed by the EPA through science and computational modelling. Practical implementation is being developed and led by LAWPRO.

## b) Targeting and efficiency

In terms of water quality risk factors, critical source areas have been identified. These are areas in water bodies with a risk to that water body and critically, a pathway from that risk to the water body. Thus, there is a dynamic pollution risk to the water body. Identifying these areas through catchment science and management provides for better water quality outcomes and targeting of farm inspections. In practical terms, LAWPRO has found that there is a 3 to 5 fold reduction in the number of farms in a catchment requiring inspection, thus leading to improved water quality outcomes and implementation efficiencies.

## c) Quantification of agriculture impact on water quality nationally

The Draft River Basin Management Plan for Ireland, 2022 – 2027 shows that Agriculture is the most common significant pressure impacting on 1,000 (this is an exact number) water bodies, followed by hydromorphology (physical changes to habitat conditions which also includes land drainage and river channel alteration arising from agricultural activities) 442, forestry 233 and urban waste water 208.

The overall number of waterbodies impacted by agriculture has increased by 223 since the start of the second River Basin Management Plan cycle (2019) and this represents the greatest increase in any individual significant pressure type.

**Table 2. Number of waterbodies in each waterbody type per significant pressure category.**

(taken from Draft River Basin Management Plan for Ireland, 2022 – 2027)

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

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

The EPA has identified that diffuse or land-based emissions from the agricultural sector is the primary source of the upward trend in excess levels of nutrients nationally. There are still impacts on many

water bodies from urban wastewater, but these have stabilised over the course of the second-cycle river basin management plan. The pressures from agriculture have increased, particularly in areas of increased agricultural intensification and higher stocking rates. In addition, land and river channel alterations arising from agricultural activities are a significant pressure on the physical condition of river channels.

## **4. LOCAL AUTHORITY PROPOSAL TO ADDRESS AND MANAGE WATER QUALITY**

### **a) Collaborative programme**

Local authorities recognise that addressing water quality issues arising from agriculture requires a multi-agency approach. This would include DAFM, EPA, DHLGH, Teagasc, ASSAP, Dairy Cooperatives and the Farm Organisations. Such an approach leverages available expertise, develops understanding between all stakeholders and builds consensus as to required actions.

A national forum led by local authorities is required to achieve these aims. The existing Dairy Sustainability Group or the Water Quality and Agriculture Working Group may be a suitable fora with amendment and agreement.

### **b) Inspections and enforcement training**

Greater consistency between local authorities in implementation of the GAP Regs measures has been identified as an objective by the review project board. Inspections and enforcement were also identified by the EU CION as an issue in relation to Ireland's water quality nitrates derogation.

To achieve consistency and improve inspections and enforcement, 2 strategies have been identified. Firstly, the existing agriculture inspection training programme requires updating and roll out to all "inspectors". A module on enforcement skills needs to be added to this training programme. Secondly, the agricultural and environmental nexus and its associated legislative regulation is continually evolving. To provide for this evolution a continuing professional development (CPD) programme should be introduced for "inspectors". This can be achieved through an annual programme/conference/workshop organised by the Environmental Service National Training Group (ESNTG).

Currently there is no funding within the ESNTG provided for training in relation to agriculture inspections and enforcement. In discussions, ESNTG have provided cost estimates for training, and these have been included in this proposal. A pre-requisite to agricultural inspections training is for catchment science and management training. LAWPRO in conjunction with LASNTG have provided cost estimates and these are included in this proposal.

### **c) Work required to address agriculture related water quality impacts**

LAWPRO, utilizing catchment science and management data have collated a detailed spreadsheet derived from risk data including PIP (Pollution Impact Potential) mapping from the EPA, LPIS (Land

Parcel Information System) data from DAFM and other water quality risk data. This spreadsheet identifies the following:

- Estimated farmers per Local Authority in river sub-basins that are At Risk and have Agriculture as a Significant Pressure.
- Estimated farmers per Local Authority in river sub-basins that are At Risk, have Agriculture as a Significant Pressure & have phosphate as a Significant Issue.
- Phosphate PIP (Pollution Impact Potential) Rank 1 to 3 areas per Local Authority, broken down into Km<sup>2</sup>, hectares and % of total area.
- Number of Phosphate delivery points per Local Authority that are: on PIP Rank 1 to 3 fields, in river sub-basins that are at Risk, with agriculture as a significant pressure and phosphate as a significant issue.
- Number of river waterbodies per LA that are a Priority 1 for Nitrogen reductions under N reduction approach for estuaries.

The spreadsheet provided in appendix 3 is a synopsis of a greater spreadsheet which is available digitally from the Review Project Team. The spreadsheet was reviewed and agreed at a meeting between, the Review Project Team, EPA, LAWPRO and DHLGH in September 2022.

17,048 farms have been identified in water quality at risk areas which require inspection. These farms would be inspected over the remaining period of the 3<sup>rd</sup> cycle river basin management plan 2023 – 2027, a 5-year period.

## **5. INTERIM PROPOSAL TO ADDRESS AGRICULTURE RELATED WATER QUALITY IMPACTS**

### **a) Targeting the identified and significant agricultural impacts – methodology**

The spreadsheet developed above identifies the farms require inspection to improve and protect water quality in at risk areas. This is made up of all farms in Pollution Impact Potential (PIP) areas 1, 2 and 3 in water bodies with agriculture as a significant pressure and 5% of farms in these water bodies but outside of PIP areas 1,2 and 3, i.e. 17,048 farms.

Farm inspections are also needed to prevent deterioration in areas where waters are currently at good and high status and considered not at risk. It is considered that an inspection rate of 1.0% per year is required in these areas which equates to 648 farms.

### **b) Compliance, promotion and enforcement**

This interim proposal has not assessed the resource requirements for a compliance promotion and awareness programme. Such a programme would include, educational material, knowledge sharing activities, national and local seminars, farmer training programmes, social media, etc, all in collaboration with farming agencies and bodies.

However, it is proposed that inspectors would use existing compliance promotion material and that compliance promotion would be a central part of their farm inspections and discussions with farmers.

A full compliance promotion programme will be developed and included with the final business case proposal.

### **c) Estimate of staff resources required**

#### Number of farms to be inspected

From previous: 17,048 farms to be inspected in at risk areas over the period 2023 to 2027 and 648 farms per year in not at risk areas.

$17,048 / 5\text{years} = 3,410$  per year + 648 = 4,058 farms to be inspected annually.

#### Number of inspectors required

In 2016 a subcommittee of the inter-agency Water Quality and Agriculture Working Group was setup to develop a standard inspection template and review farm inspection records management in LAs. As part of its work this subcommittee looked at the time required for an inspector to carry out and conclude a farm inspection. Allowing for the quick inspection where a farm was found to be compliant in all aspects up to the farm where follow up visits and enforcement action up to and including court hearings, it was found that 3 days was required on average per inspection. (see appendix 6 for breakdown of time)

ASSAP (Agricultural Sustainability, Support and Advisory Programme) commenced work in 2018 carrying out farm assessments. They have found that on average it takes 3 days to prepare and a complete a farm inspection including any follow up visits required. (see appendix 6 for breakdown of time)

A UK research paper looking at the time taken to prepare and conclude a farm inspection found that on average 2.5 days was required.

In discussions and at project board level it has been stated that the above time can be improved by use of modern technology such as handheld digital recording devices with automatic download to a national data management system, the use of drones and greater sharing of data between agencies. Such systems have not been considered in this interim proposal.

Staff in LAs work approximately 220 days per year. Allowing for training, office duties, meeting attendance, reporting, etc, staff will spend 180 days per year in the field. Thus, an inspector on average can carry out 60 farm inspections per year.

Therefore, to inspect 4,058 farms per year, 67.6 inspectors are required. From the survey of LA resources carried out in 2022, there are 10.87 full time equivalent staff in LAs engaged in farm inspections so therefore an additional 57 (56.7) inspectors are required.

### **d) Data management system**

There is no central data system in relation to local authority agricultural inspections, with each local authority maintaining their own unique system which ranges from paper only records to fully computerised systems and combinations of both.

There is a need for a central data system to be able to respond to the Commission with the detailed data required and also to be able to monitor, analysis and review progress.

A simplified system using MS Excel has been developed by the EPA to kick start the inspection programme. In the medium and long term, a dedicated reporting system is required.

A budget estimate has been received from the consultant working on the NEMIS (National Environmental Management and Information System) project for the LGMA. To scope the

development of such a system, tying it in with existing systems such as the WFD APP, NEMIS, etc, will cost € 26,000 and take 2 to 3 months approximately. This scoping study would set out a pathway to developing a national data management system to meet LA and EPA requirements, reporting to EU CION and include cost estimates.

### e) Cost estimates

The proposal is for 57no. staff at assistant scientist grade. Costs have been prepared in accordance with Table 2. Framework for Estimating Staffing Costs from the Public Expenditure Code. Staff costs include, pay, employers PRSI, imputed pension cost, overheads, travel and subsistence, laptop, mobile phone and annual charges, recruitment costs and personal protection equipment. Training in the areas of catchment science and management, farm inspection, enforcement skills and an annual CPD event have also been included in cost estimates. A detailed breakdown of costs is provided in appendix 5.

**Table 3.** Estimate of costs, 2023 to 2027

Year	Number of Staff	*Develop Data Management (scoping study only in 2023)	Training & CPD	Total Funding required per year
2023	57	€ 26,000	€ 142,000	<b>€4,829,299</b>
2024	57		€ 14,000	<b>€4,330,711</b>
2025	57		€ 14,700	<b>€4,497,245</b>
2026	57		€ 15,435	<b>€4,665,538</b>
2027	57		€ 16,207	<b>€4,832,598</b>

\* scoping study will layout pathway and costs for development of a national data management system to meet LA, EU and EPA requirements)

\* See Appendix 5 for costs detail.

### f) Caveats

This is an interim proposal in response to the EU Commission decision on Ireland’s nitrate action programme developed at relatively short notice. It therefore only looks at agricultural inspections and does not include a compliance promotion programme of farmer information material and meetings, enhancing collaboration with farm organisations, DAFM, Teagasc or EPA. It also does not look at hydromorphology issues as related to agriculture such as drainage or forestry.

Other items not included:

- No career structure, staff supervision is provided for. In the short term this will be carried out by existing LA staff.
- While training and CPD costs have been included, those that would be incurred by LAWPRO, EPA and DAFM with respect to training have not been included.
- Staff accommodation has not been provided for.

#### Further development

- Numbers estimates of inspections and staff are based on current data, LAWPRO in field experience and catchment science. Greater data sharing, particularly with DAFM, may result in greater efficiencies, through further targeting of inspections.

- The possible impact of new technology such as drones, handheld recording devices, new national data management system have not been estimated. Such systems will improve efficiencies, productivity and outcomes.
- As shown in appendix 3, the number of inspections/inspectors per LA varies greatly. In this respect, no attempt has been made as to how inspectors would be shared out between LAs.
- LAWPRO's role in the programme is to provide training in catchment science and management through the Local Authority Services National Training Group and to assist LAs in identifying areas for targeting of inspections.

### **g) Phasing**

As farm inspections are rolled out, learnings would accrue through monitoring and analysis of results. As inspectors gain experience and learnings, efficiencies would be gained in the areas of inspection process, reporting, enforcement protocols, liaising with relevant bodies such as EPA and DAFM and development of skills in catchment science and management.

Taking above into account and recognising the level of funding required for this proposal, it may therefore be appropriate to phase the introduction of inspectors. This could be facilitated through dialogue between the CCMA and DHLGH.

## **6. DELIVERING OBJECTIVES**

The overall objective is to deliver water quality improvements and thus protect Ireland's nitrates derogation. This would also deliver in part on the Water Framework Directive under which Ireland is currently in the European Court of Justice for infringements and Ireland's River Basin Management Plan 2023 – 2027 expected to be published before year end.

However, the resources requested in this interim proposal are only a fraction of the resource estimate that will make up the resource request in the overall Local Authority Natural Water Functions and Resources Project due for completion in Q4 2023.

The resource requirement identified in this interim proposal, while significant, is considered conservative and includes a number of caveats shown in section 5f above. It will take time to complete recruitment, training and deployment before improvements in water quality may be observed and this is estimated at 12 months following deployment of inspectors. Similarly, the phasing of resource provision, discussed above, will have a knock-on effect on the extent of water quality improvements.

There has been extensive expansion in the agricultural area in recent years which has been directly linked to deterioration in water quality in our rivers, lakes and seas nationally as presented in recent EPA reports. Without immediate action, which will take at least 2 years to bear results, water quality is expected to continue to decline and Ireland's nitrates derogation may be lost altogether. This would have very serious impacts on the economy at both a local and national level.

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E N D



## Appendix 1 – EU COMMISSION DECISION of the 29<sup>th</sup> April 2022

The full text of the COMMISSION IMPLEMENTING DECISION (EU) 2022/696 of 29 April 2022 granting a derogation requested by Ireland pursuant to Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources can be found at this link.

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D0696&from=EN>

A number of relevant sections to local authorities as the responsible bodies for the Good Agricultural Practice for the Protection of Waters Regulations which implements the Nitrates Directive in Ireland are reproduced here:

*(19) Yearly administrative controls and field inspections should be increased to 10 % of farms benefiting from an authorisation. Field inspections should be based on a sound methodology, including risk assessment, random controls and the results of controls of the previous years. The national authorities should review the agricultural inspection programme carried out by the local authorities as well as the resources required to perform the inspections. Dissuasive sanctions (including economic) should be applied. Complaints or reports of non-compliance from citizens, non-governmental organisations or whistle-blowers should be followed up.*

*(20) In 2023, the Irish authorities should carry out a two-year review of water quality, including nitrate concentration and trophic status. In areas where monitoring data reveal either worsening trends or a situation of pollution or risk of pollution as regards nitrate concentrations or eutrophication, from 2024, the maximum amount of manure applicable that may be applied should be reduced to 220 kg nitrogen/ha.*

*Article 10 – Monitoring, Section 4. The competent authorities shall conduct reinforced water monitoring in agricultural catchments located in proximity to the most vulnerable water bodies.*

*Article 13 – Reporting. The competent authorities shall, every year by 30 June, submit a report to the Commission containing the following information:*

- h) an evaluation of the results of the administrative controls and field inspections as referred to in Article 11(1) and (2);*
- i) a comparative analysis of controls of grassland farms covered by authorisations and grassland farms not covered by authorisations, including data on the following: — field inspections; — administrative controls; — agricultural inspections in the context of cross-compliance arrangements; — statistics on non-compliance*

## Appendix 2 – Source and figures used to calculate staff resources

### **Numbers of farm inspections required.**

From Ireland's draft River Basin Management Plan, 2022 – 2027, Table 2. On page 11 is reproduced which shows 1,000 water bodies have agriculture as a significant pressure. From the same table, 442 water bodies have hydromorphology as a significant pressure. Hydromorphology is the physical condition of water bodies and includes river drainage and land drainage by agriculture.

Utilizing catchment science and management data and Pollution Impact Potential (PIP) mapping prepared by the EPA catchments unit, and Land Parcel Information System (LPIS) data from DAFM, LAWPRO carried out an exercise to identify the number of farms within these water bodies which pose a risk to water quality. LAWPRO then cross checked and consulted the EPA catchments unit on the methodology and the final farm numbers identified.

A table, reproduced in Appendix 3, was compiled which showed the numbers of farms with an nitrogen (4,816) and phosphorus (9,036) agricultural risk to water quality. i.e. all farms within PIP map areas 1, 2 and 3 in water bodies with agriculture as a significant risk. Following a meeting between the project team, EPA catchments unit, EPA Nitrates Action Inspection Programme (NAIP) team, LAWPRO and DHLGH, it was concluded that 5% of farms (3,196) within the at-risk water bodies but not in the PIP map areas 1,2 and 3 should also be inspected.

To protect waters in not-at-risk areas it was concluded that 1% of these farms (648) should be inspected annually. There was much discussion in relation to this figure as this meant a farm would only be inspected once in every 100 years. A figure of 5% was felt to be more appropriate however the 1% figure was retained from a practical and funding viewpoint. This figure to be reviewed after first 2 years of inspections.

### **Staff Resources**

Staff in LA's work on average 220 days per year. From the LGMA Project Management Office, taking away, inhouse service days, training, Health and Safety, corporate programme, etc, means that 180 days are available for focused programme work.

Please refer to appendix 6 for the time taken to conduct and complete a farm inspection.

## Appendix 3 – Water Quality and Agriculture Risk Table

Local Authority	Estimated number of Priority Farm Visits for Diffuse P loss. (all farms in P-PIP areas 1, 2 &3)	Estimated number of Priority Farm Visits for Diffuse N loss. (all farms in N-PIP areas 1, 2 &3)	Inspect 5% of farmers in at risk areas but not in PIP area	Total no. of farms in at risk areas requiring inspection	Farm numbers requiring inspection per year over 2023 - 2027 period	Protect and Compliance objective - inspect 1% of farmers in not at risk areas	Total no. of farms requiring inspection per year
Cork County Council	255	1343	174	1,773	355	87	441
Tipperary County Council	566	743	153	1,461	292	35	327
Cavan County Council	981	0	119	1,100	220	22	242
Wexford County Council	532	473	99	1,104	221	14	235
Kilkenny County Council	336	655	59	1,049	210	17	227
Meath County Council	749	148	161	1,058	212	7	218
Monaghan County Council	903	0	120	1,023	205	11	216
Limerick City & County Council	719	134	122	975	195	27	222
Laois County Council	503	259	70	831	166	13	179
Donegal County Council	403	0	271	674	135	32	167
Galway County Council	294	0	328	622	124	63	188
Kildare County Council	211	328	63	602	120	9	129
Carlow County Council	195	333	58	586	117	3	120
Roscommon County Council	368	0	182	549	110	27	137
Mayo County Council	220	0	240	460	92	74	166
Offaly County Council	337	29	96	461	92	14	106
Clare County Council	282	0	138	419	84	34	117
Kerry County Council	178	0	152	331	66	53	119
Westmeath County Council	237	0	115	352	70	12	83
Wicklow County Council	40	183	71	294	59	10	69
Waterford City & County Council	62	172	51	284	57	15	72
Leitrim County Council	125	0	118	242	48	16	65
Longford County Council	188	0	45	233	47	17	64
Louth County Council	161	17	45	223	45	7	51
Sligo County Council	103	0	102	205	41	25	66
Fingal County Council	91	0	22	113	23	0	23
South Dublin County Council	0	0	9	9	2	1	2
Cork City Council	0	0	7	7	1	2	3
Galway City Council	0	0	5	5	1	0	1
Dun Laoghaire Rathdown County Council	0	0	3	3	1	0	1
Dublin City Council	0	0	0	0	0	0	0
	<b>9,036</b>	<b>4,816</b>	<b>3,196</b>	<b>17,048</b>	<b>3,410</b>	<b>648</b>	<b>4,057</b>

## Appendix 4 – Full time equivalent staff in local authorities engaged in natural water function areas in 2015 and 2022

<b>Tabulation of Results from 31 LAs</b>				
<b>Fulltime Equivalent <u>Technical</u> Staff in each functional area</b>				
			2015 Survey	2022 Survey
<b>Education</b>	1	Public engagement and awareness – workshops, preparing leaflets, attending public events, etc	4.31	3.79
<b>Enforcement</b>	2	Bathing waters – monitoring, profiles, investigations, designation	10.69	9.16
	3	Complaints (those related to waters only. i.e. Not drinking water, waste, air or noise)	12.84	15.62
	4	Foreshore licences, processing, assessment, etc	0.80	0.15
	5	GAP Regs/Farm inspections + follow up to DAFM inspections	11.48	10.82
	6	Reviewing Nutrient Management Plans: sewage sludge regulations (Biosolids), non-IPC intensive agricultural facilities, waste permits, industrial sludges etc	2.68	1.74
	7	S4 licences - applications, processing, monitoring, assessment, revenue collection etc	9.02	11.18
	8	Septic tanks – scheduled programme and reactive, responding to queries, administration, Issuing & follow-up of Advisory Notices	10.94	12.58
	9	Shellfish waters (pollution reduction programmes), catchment management, monitoring, etc	0.56	0.32
	10	Sludge's in agriculture	0.93	1.69
	11	Unauthorised discharges - Investigation (including unfinished housing estates)	4.61	5.56
<b>Management</b>	12	Assessment of Forestry licences, felling licences, road applications, etc	0.84	0.91
	13	Cross border relationships	0.60	0.52
	14	Drinking water source protection	4.64	3.74
	15	H & S	3.89	4.13
	16	Integration with corporate and business plans	2.21	3.62
	17	Managing environmental GIS	1.26	2.03
	18	Membership of working groups (interdepartmental, local, regional or national)	1.99	2.17
	19	Reporting - to EPA, to DECLG,	4.03	5.38
	20	Coastal pollution plans (Oil pollution preparedness)	1.21	1.18
	21	PTPR priority substances (EPA have register established)	0.80	0.04
	22	Answering general queries from public, public representatives, etc	5.41	6.12
<b>Planning &amp; Development Management</b>	23	(Screening, SEA, EIA, appropriate assessments)	4.79	<b>2.88</b>
	24	Planning control & referrals - (water related)	11.96	<b>21.10</b>
<b>6. Projects</b>	25	CFRAMS – flooding (if carried out by staff not in environmental section do not include)	1.72	<b>5.90</b>
	26	Water related InterReg projects – local projects	0.69	<b>7.95</b>
<b>Water Quality</b>	27	Analysis of water quality data to target work/ measures	2.37	<b>5.91</b>
	28	Agal blooms	0.85	0.94
	29	Hydrometrics	0.62	0.55
	30	ICM approach + Programme(s) of Investigative monitoring and inspections in areas of poor water quality	9.45	<b>5.86</b>
	31	WFD Rivers & Lakes operational monitoring	6.12	<b>10.82</b>
<b>Water Services</b>	32	Small private water supplies – monitoring	3.90	<b>13.87</b>
	33	Abstraction register/control	0.45	<b>2.04</b>
	34	Biodiversity Plans (water quality related objectives)	1.35	1.77
			<b>140.00</b>	<b>182.04</b>
<b>Not included in 2015 Survey</b>		Rural Water Including Private Well Grants		4.70
		Land Use Water Policy Development & AA of water polices		0.75
		Development of Water Management Policy incl. SuDS, Nature Based Solutions.		0.45
		Greenways and Blueway's		0.92
		Invasive alien species		1.12
		Other		2.26
				<b>10.20</b>
		<b>Note:</b>		
		2015 and 2022 survey data was manipulated to provide for comparative analysis between years		

## Appendix 5 – Costs Estimates

Cost estimates have been calculated using the following data:

### Pay Scale

Revision of salaries with effect from 1st February 2022, unless otherwise stated.	Proposed national pay agreement
Assistant Scientist	3% 2/2/22, 2% 1/3/23, 1% 1/10/23
€40,422	€42,847
€42,913	€45,488
€44,741	€47,425
€46,588	€49,383
€48,421	€51,326
€50,259	€53,275
€52,114	€55,241
€53,968	€57,206
€55,822	€59,171
€57,679	€61,140
€59,547	€63,120
€61,454	€65,141
€63,365	€67,167

### Travel & Subsistence

Travel	
15,000 km/annum	
Engine capacity 1501cc and over	
Band 1 (0 – 1,500km) 44.79 cent	€ 671.85
Band 2 (1,501 – 5,500km) 83.53 cent	€ 3,341.20
Band 3 (5,501 – 25,000km) 32.21 cent	€ 3,059.95
<b>Total travel expenses</b>	<b>€ 7,073.00</b>
Subsistence	
Day rates	
5 hours but less than 10 hours - 50no. @ €15.41	€ 770.50
10 hours or more - 20no. @ €36.97	€ 739.40
<b>Total subsistence</b>	<b>€ 1,509.90</b>
<b>Total T &amp; S</b>	<b>€ 8,582.90</b>

### Computer and Mobile Phone

Laptops 1no.	€2,200.00
Sim cards for laptops	€ 360.00
Smart Phone	€ 850.00
<b>Total</b>	<b>€3,410.00</b>
Annual Costs	
Mobile phone charges per year	€ 360.00

### Recruitment Costs

advertisement in National Papers, public jobs.ie, etc	€ 6,000.00
Interview board	€ 1,000.00

Appendix 5 – cont.

Health & Safety	
Jacket	€ 150.00
Water proofs	€ 250.00
Rubber Boots	€ 50.00
Work Boots	€ 120.00
Hat	€ 30.00
<b>Total</b>	<b>€ 600.00</b>

From Public Expenditure Code		
Table 2: Framework for Estimating Staffing Costs		
	Cost Component	Methodology
A.	Pay	Midpoint of pay range using formula below
B.	Direct Salary Cost	Pay + Employers PRSI
C.	Total Salary Cost	B + Imputed pension cost (see Tables 3A and 3B)
D.	Total Staff Cost	C + 25% of A in respect of 'overheads'

Training		
agricultural inspection training	year 1 - 57no. Inspectors	€22,800
	update training	€35,000
	annual CPD	€7,000
Catchment Science and Management training	year 1 - 57no. Inspectors	€84,200
	CPD annually	€7,000
Totals	year 1 - 57no. Inspectors	€142,000
	year 2 - CPD only (+5% on previous year)	€14,000
	year 3- CPD only (+5% on previous year)	€14,700
	year 4 - CPD only (+5% on previous year)	€15,435
	year 5 - CPD only (+5% on previous year)	€16,207

## Appendix 6 – Time taken to carry-out and completed a farm investigation.

In 2016 a subcommittee of the inter-agency Water Quality and Agriculture Working Group was setup to develop a standard inspection template and review farm inspection records management in LA's. As part of its work this subcommittee looked at the time required for an inspector to carry out and conclude a farm inspection. Allowing for the quick inspection where a farm was found to be compliant in all aspects; up to the farm where a number of follow up visits and/or enforcement action, including court hearings were required, it was found that 3 days was on average the time per inspection.

This was broken down as follows:

Preparation including researching water quality and catchment data	3 hours
Travel to and from site	2 hours
Carryout on farm inspection	3 hours
Writing up report and letter/notice to farmer	2 hours
Enforcement notice/section 12 notice	3 hours
Liaising with farmer and/or farmer representative	2 hours
Follow up farm visit – travel and inspection	3 hours
Follow up enforcement/court	4 hours
Close out	1 hour
<b>Total</b>	<b>23 hours / 3 days</b>

ASSAP (Agricultural Sustainability, Support and Advisory Programme) commenced work in 2018 carrying out farm assessments. They have found that on average it takes 3 days to prepare and a complete a farm inspection including any follow up visits required. This is made up as follows:

File Preparation and liaise with LAWPRO	0.5 days
Travel and initial contact	0.5 days
Travel and farm assessment	1.0 days
Paperwork and follow-up	0.5 days
Follow-up visit	0.5 days
<b>Total</b>	<b>3.0 days</b>

A UK research paper looking at the time taken to prepare and conclude a farm inspection found that on average 2.5 days was required. Farm Inspection and Regulation Review, 2018.

<https://www.gov.uk/government/publications/farm-inspection-and-regulation-review>

The time taken to conduct and close out a farm inspection obviously has a significant impact on the calculation of resources. The figure of 3 days use in this proposal to calculate staff resources is based on the above figures derived from practical experience. As learnings take place in conducting inspections and enforcement procedures are developed, it would be expected that the average time per inspection of 3 days would reduce.

Other factors such as handheld recording devices with automatic download, national data management system and technology such as drones would also assist in reducing the time required to carryout and conclude an inspection.