

A NEW COLLABORATIVE APPROACH TO DELIVERING WATER QUALITY IMPROVEMENTS IN IRELAND

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The Government of Ireland published its second River Basin Management Plan in 2018, as a requirement of the EU Water Framework Directive. This Plan, which covers the national territory, was developed with collaboration and knowledge transfer between all relevant public bodies, and extensive stakeholder and public consultation. The Plan has placed a major emphasis on establishing the right governance and delivery structures for an effective catchment-based approach. National authorities retain responsibility for the implementation of national programmes, with regional structures driving the implementation of prioritised supporting measures. Meaningful stakeholder and public engagement is being led by the recently-established Water Forum (An Fóram Uisce) and the Local Authority Waters and Communities Office.

The new targets in the Plan are based on sound science and are ambitious but achievable, National effective measures have been put in place to address pressures throughout the country but where such broad-based measures are not enough, supporting measures are prioritised to ensure the implementation of the ‘*right measure in the right place*’. Clear priorities are set out in the Plan which will ensure that all stakeholders are working together with a strong focus on delivering positive outcomes.

This paper outlines progress to date, with a specific focus on agriculture mitigation measures.

Priority Areas for Action

A prioritisation exercise was undertaken by the local authorities, the Environmental Protection Agency and other stakeholders, as part of the development of the Plan, to identify those water bodies that require immediate action. A collaborative workshop process involving senior local authority personnel and all relevant stakeholders was set up to identify, at a regional level, those waterbodies that should be prioritised for action during this planning cycle. The outcome of this prioritisation process was the selection of 190 areas for action across the 5 local authority regions. Within these 190 areas, a total of 726 water bodies were selected for initial actions during this RBMP cycle. These are known as Priority Areas for Action (PAAs).

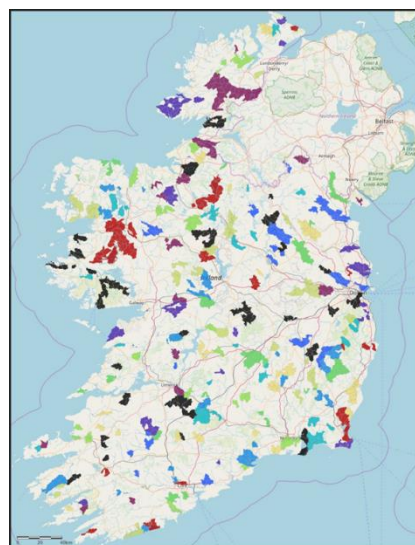


Figure 1: Priority Areas for Action

Local Authority Waters Programme

During the preparation of the River Basin Management Plan, the Local Authority Waters Programme was established in 2016 to support and coordinate the efforts of public bodies working in areas connected with water quality. It is a shared service for 31 Local Authorities, across five regions. The programme has two teams:

Communities Team: This team encourages and promotes local water quality initiatives by supporting & incentivising communities to deliver actions that result in water quality benefits. The new Community Water Development Fund administered under the Programme supports community engagement in the management of their local waters.

Catchments Team: Established in 2018, this interdisciplinary team of scientists support the implementation of measures within the 190 Priority Areas for Action, as set out in the River Basin Management Plan. This involves local catchment assessments to further understand the issues impacting on water quality. Working with local communities, landowners, business owners and public bodies this team is developing relevant and workable solutions to ensure implementation of the ‘*right measure in the right place*’.

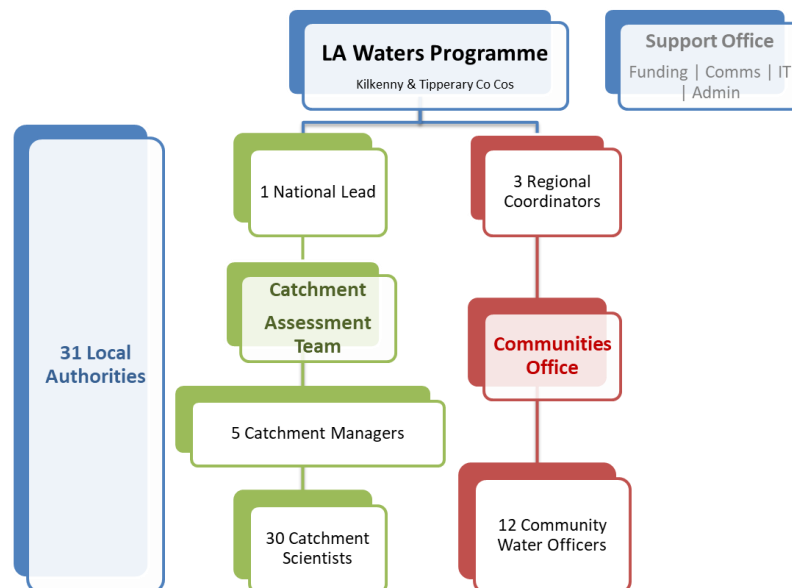


Figure 2: Local Authority Waters Programme Management Structure

Agricultural Sustainability Support and Advisory Programme

In terms of agricultural pressures, a new initiative, the Agricultural Sustainability Support and Advisory Programme (ASSAP) was established to collaborate with the Catchments Team, in the Priority Areas for Action, where agriculture is a significant pressure. This programme consists of 30 new Advisors who will work on a one-to-one basis with farmers to bring about behavioural change through improved knowledge transfer and agricultural practices in areas, which have identified pressures on water bodies. Teagasc, the national Agriculture and Food Development Authority provide 20 ASSAP advisors. The dairy industry (co-ops) provides 10 ASSAP advisors.

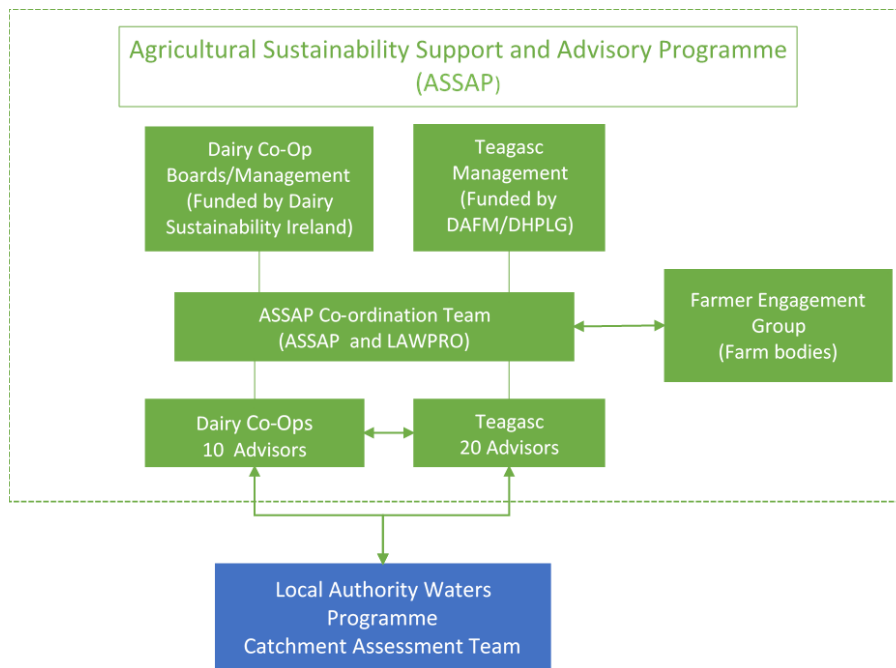


Figure 3: Agricultural Sustainability, Support and Advisory Programme Management Structure

The Agricultural Support and Advisory Programme is voluntary and funded by the Department of Housing, Planning and Local Government, the Department of Agriculture, Food and Marine, and the dairy industry and is expected that up to 5,000 farmers will receive support.

ASSAP advisors will work with farmers on a voluntary basis to:

- Affect behavioural change;
- Improve knowledge transfer and advice; and
- To advise famers on measures to reduce the loss of nutrients to water.

Other Programme of Measures for the Agricultural Sector

Agri-environment schemes are implemented through the Rural Development Programme (RDP) leading to investment in manure storage and improved nutrient management. The targeted approach to the Green, Low-Carbon, AgriEnvironment Scheme (GLAS), which has 50,000 participants, is supporting measures on farms to protect and improve water quality.

Compliance with the Good Agriculture Practice Regulations is improved by implementation of the enhanced Nitrates Action Programme and through the associated inspection regime. The Nitrates Action Programme contains new strengthened water protection measures, focused on intercepting and breaking nutrient transport pathways and on preventing sediment and nutrient losses to waters.

Knowledge-transfer programmes within the agriculture sector are also used to promote better nutrient management and point source-pollution management on the farm. The National Dairy Sustainability Forum aims to collaboratively address the on-farm economic and environmental sustainability challenges for the dairy industry in a broader and more strategic way. This Forum will build on the knowledge base that has developed over recent years through a co-operative led pilot programme to implement best practice on selected farms. It also has developed a wider

promotion programme on better nutrient management and farm point source management to be implemented for dairy farmers supplying co-operatives. It is envisaged that this approach will be part of an evolution of the existing Origin Green scheme.

Collaborative Approach

Local Catchment Assessment is a collaborative approach to identify significant water quality issues and related pressure and to develop conceptual understandings of their pollutant pathways and appropriate measures. A critical element is engagement with communities, agencies and stakeholders to share our understanding so that the ‘right measure in the right place’ is designed and implemented.



Figure 4: Local Catchment Assessment Process

1. For each of the 190 Priority areas for Action, the Catchment Assessment Team prepares desktop assessments. These reports build on the knowledge gained during initial characterisation undertaken by the Environmental Protection Agency and the outcome of each assessment tells the ‘story’ of the Priority Area for Action with interim conclusions made on the significant issues (e.g. phosphate, sediment etc), significant pressures (e.g. effluent discharge licences, urban waste water, agriculture etc) and the outcome is a proposed Local Catchment Assessment Plan.
2. The preparation of the desktop assessment is followed by a Community Information Meeting, which is led by the Catchment Assessment Team. Its purpose is to introduce the new Local Authority Waters Programme and to inform the local community of our findings from the desktop assessment and informs them of the proposed stream assessments to be carried out in their local catchment. The meeting also encourages local discussion on the issues arising and seeks involvement in the potential proposed solutions once identified, from those who live and work in these catchments.

Where agriculture is a significant pressure, Farmer Specific Meetings, led by ASSAP, are usually held at the stream-side. The Catchment Assessment Team demonstrates some of the local catchment assessment methods and tools, such as biological indicators from the river e.g. macroinvertebrates and macroalgae, or the use of hand-held devices such as dissolved oxygen and conductivity meters, that are used to gain an understanding of what is happening in the river itself. They also allow local knowledge from the farming community to be considered.

3. Following the meetings, the stream assessments are then carried out in the catchment. The desktop assessment helps to target where the stream assessments, including macroinvertebrate sampling, chemical analysis and hydromorphology assessments, will be undertaken. Their findings are used to refine the location of pollution sources and pathways, which enhance our scientific understanding and allow us to refer the pollution sources to the relevant implementing body for follow up and proposed mitigation measures with timeline to be agreed and implemented.
4. Where a farm holding is identified as a likely pollution source, the ASSAP advisor is informed of the significant issue (e.g. nitrates, phosphate or sediment) and they will visit the farm to offer free voluntary advice and support in relation to the on-farm issues that has been determined to impact on water quality in the nearby river. The ASSAP advisor and the farmer come up with appropriate farm specific mitigation measures or solutions. Currently, there are no financial supports to assist in the implementation of these agreed measures.

The farm visits focus on three areas:

- Farmyard management & practices
- Nutrient management, application practices & pesticides
- Farmyard & stream management

Measures to deal with nutrient loss from farms (point and diffuse) include:

- Source Controls
 - Mobilisation Controls
 - Pathway Interception
5. All the desktop assessments, the community and farmer meetings, the stream assessment information as well as the referrals, measures and their subsequent implementation are recorded via the Environmental Protection Agency Water Framework Directive Online Application (WFD APP).

The WFD APP is a web-based application that is accessible to staff from the EPA, other public agencies and local authorities engaged in WFD-related work. The intent of the WFD APP is to facilitate the movement and sharing of data and information between local authorities, the EPA and other relevant public authorities at the water-body scale.

In addition, the www.catchment.ie website is a valuable source of up to-date river basin management plan information for the public in Ireland.

Outcomes to Date

Since its launch in mid-2018 up to early February 2019, this collaborative approach has resulted in the following:

- Establishment and training of the Catchment Assessment and ASSAP teams in Integrated Catchment Management and Local Catchment Assessments,
- Increased scientific understanding of 73 catchments through our desk studies and stream assessments;
- Improved working relationships with public bodies and stakeholders; and,
- Building on the community engagement work of the Community Water Officers, the delivery of 25 Community Information meetings and 9 Farmer Specific meetings.

Armed with a scientific understanding of the significant water quality issues and enhanced stakeholder relationships, we are now commencing our farm visits, where we will propose and agree local measures to improve water quality.

Relevant Links

<https://www.teagasc.ie/environment/water-quality/farming-for-waterquality---assap/>

http://ec.europa.eu/environment/water/water-framework/index_en.html

https://www.housing.gov.ie/sites/default/files/publications/files/rbmp_full_reportweb.pdf

<http://watersandcommunities.ie/about/>

<https://www.teagasc.ie/environment/water-quality/farming-for-waterquality---assap/>

<https://www.housing.gov.ie/water/water-quality/water>

<https://www.agriculture.gov.ie/>

<https://www.dairyindustryireland.com/dairy-sustainability>