The connection between ASSAP, ACRES and Water Quality Improvement with Eimear Connery- ASSAP Advisor Teagasc

The Agricultural Sustainability Support and Advisory Programme (ASSAP) is working with farmers in a free and confidential advisory service to help improve water quality**.** One of the main challenges to protecting water quality is limiting nutrients and fine sediment to reach our watercourses. ASSAP advisor Eimear Connery covering North and East Cork gave an insight into the new tiering approach within the new Agri-Climate Rural Environment Scheme (ACRES) and its focus on protecting water quality.

ACRES outlines if a farmer has land within the "High-Status Water objective" mapped area in 2021, they may be eligible for Tier 1 priority entry to the general scheme, provided they take on a suitable action such as riparian buffer zones, planting trees or hedgerow in an appropriate area or the management of grassland next to a watercourse. Similarly, farmers within the Vulnerable Water mapped area in 2021, may be eligible for Tier 2 priority entry to the general scheme.

Eimear emphasised how the focus on improving water quality within ACRES is raising awareness surrounding water quality issues. "*Farmers may not have been aware that they were located in a high-status water objective/ vulnerable water catchment area. The focus on water quality within the entry system is raising awareness which is key to encourage farmers to take action to improve the status of the watercourse on their land. Farmers will be more likely to implement actions to protect water quality as the recommend actions will be tailored and focused unlike choosing any general action in the previous GLAS scheme. Collaboration is key to improve an entire catchment, therefore the new priority access route will support the transition towards 'good' and 'high' ecological status and will work closely with the ASSAP programme to reach higher water quality standards across Irish water bodies."*

Eimear outlined some of the ACRES actions that specifically focus on improving water quality:

<u>Riparian Buffer Zone</u>

A riparian buffer zone is an area adjacent to a water body where no chemical and organic fertiliser, cultivation or spraying can be carried out. These zones vary in width and are required to protect waters from diffuse losses of nutrients, sediment and chemicals. The introduction of trees or rough dense vegetation in these areas can act as a barrier, shade streams and stabilise riverbanks while the roots can absorb soil nutrients. To be effective, riparian buffer zones must be located at the points most likely to allow nutrient, sediment or pesticides enter a waterbody.



Source (Teagasc)

Low Input Grassland (LIG)

The objective with this action is to promote a grassland management system that, through appropriate grazing levels and restriction on fertilisers and pesticides use, results in a more diverse sward with an increase in flora and fauna. Using less inputs will reduce the incidence of contamination to water bodies. The graphic below highlights the quality scale for low input grassland within ACRES. The higher the quality the higher the payment and benefit for water quality.

Source (DAFM)

Extensively grazed pasture

Lands that are extensively grazed will have a better soil composition. Good soil structure is key to act as a 'sponge' to purify water bodies as it will reduce nutrient losses and sediment.

Catch crops.

In a tillage system, the period post-harvest is the highest risk time for nitrate leaching. If soils are left fallow in the autumn/winter period with no growing crop in place, there is an increased risk that nitrate present will leach into ground waters. Fundamentally catch crops will create a demand for nitrate in the soil and convert it into a growing crop rather than allow it to be lost from the soil. The catch crop scavenges available nitrogen and other nutrients from the soil preventing this nitrate being leached into ground waters.

Minimum tillage

Min-Till refers to soil cultivation that does not involve soil inversion. It implies a reduction in the level of cultivation (depth and intensity). It minimises the number of tillage passes, where soil aggregate disruption is reduced, a minimum of 30% of the soil surface covered with residues, with the aim to reduce soil erosion. It aims to conserve soil and water relative to conventional tillage practices.

Low Emission Slurry Spreading (LESS)

If too much manure and/or fertiliser is applied to land, or is applied by an inefficient method, or is applied in unsuitable weather conditions, valuable nutrients will be lost from the farming system (ammonia & phosphate). LESS methods minimise the surface area to which slurry is applied and put the slurry directly onto the soil.

Source (Teagasc)

Management of intensive grassland next to a water course

This measure will reduce activity and pathways for nutrients to enter the watercourse for farmers stocked < 130kg Nitrogen(N)/ha.

Planting of Trees / Hedgerows and management

Trees/ Hedges act as a barriers against overland flow of water that can contain nutrients and sediment that must be prevented from reaching watercourses. Hedging and trees preserve water quality and help regulate water flow.

Eimear outlined the benefits of the new features available to advisors under the new ACRES to drive the improvement of water quality.

PIP maps

Pollution Impact Potential (PIP) maps are a tool to help highlight risk areas. Maps identifying PIP risk rankings for two pollutants – phosphate and nitrate are available to assist ACRES advisors in targeting actions to the areas where they will be most effective. Where phosphorus is a risk, the EPA mapping also shows Focussed Flow Paths and Delivery Points on farms i.e., where this phosphorus is most likely to be lost to waterbodies through overland flow. "The PIP maps allow for advisors to recommend 'the right action in the right place".

GLAM

The Generic Land Management (GLAM) Platform enables advisors to determine priority environmental assets and the Conservation Targets, if any, on the holding.

Eimear discussed the benefits of the new GLAM system available for advisors. "*This system gives a more directed approach to advisors as it highlights vulnerable areas which raises awareness of water quality issues. It is a 'one stop shop' with a layering system including pip maps, parcel folios, OSI maps, open drains, streams, rivers. Extra layers means that the advisor is getting a better idea of the farm for a more targeted approach for improved water quality."*