

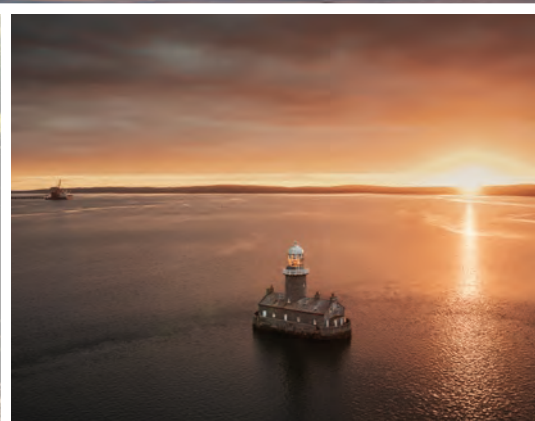
Catchments Newsletter

Issue 18 | Autumn 2026

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Integrated Catchment Management: sharing science and stories

Donegal Bay photo wins
'My Favourite Waterbody' 2026!



Inside this Issue

- ➔ **Waters & Community News:** Inspiring local action, funding impacts, and community-led projects making a real difference on the ground
- ➔ **Water Quality:** Latest insights, trends, and tools shaping how we understand and protect Ireland's waters
- ➔ **Articles:** Science, research and practical solutions driving change—from farm measures to ecosystem restoration

Main photo: Overall Winner, Donegal Bay by Mark O'Connor. **L-R:** Runners-up – Lough Neagh, Co. Derry by Kevin Jones, River Nore, Co. Kilkenny by Andrew Keane, and Beeves Rock Lighthouse, Shannon Estuary by William Murphy.

Catchments Newsletter

Contents

Waters and Community News

Bringing Lough Carra Back to LIFE: Science, Partnership and Community in Action	2
Funding Boost Builds Capacity of Inishowen Rivers Trust	4
Blue Dot to The Sea	5
Ennistymon Rivers Festival - A Great Success	6
Lions Take Pride in Tipperary's Water Quality	7
Salmon Spotting in the Slaney	7
EU Horizon 'SpongeWorks' Project Launched in Wicklow	8
Tipp Farmer Avails of EIP Funding to Plant Trees in Buffer Zones	9
The Importance of the Blue Dots of Iveragh	10
Building a Stronger Future for the Mal Bay Catchment Community	12
Donegal Bay photo wins 'My Favourite Waterbody' 2026!	14
Water Quality Improvement Funding	15
Farming for Water EIP reaches 5,500 farmers, but how effective will the measures be?	16

Water Quality

Water Quality in Ireland – Pressures, Trends and Targeting Measures	18
Book: Lakes in Ireland – Mirrors of Change	21
50 Years of Lake Monitoring and Assessment	22
Understanding the Importance of Bathing Water Quality Communication in Ireland	24
Latest EPA Research on Water Quality and Management	26
EPA Water Quality Monitoring Datasets Now Available on the EPA Geoportal	27
A Day in My Life as a Hydrometric Officer	28
Riparian Buffer Zones	30

Articles

Removing Barriers to Restore Fish Migration in Ireland	32
Instream Wood: A Habitat Feature Missing from Irish River Ecosystem	34
Helping Farmers Protect Water Quality: Practical Advice and Grant Support Driving Real Change through the Sustainable Catchment Programme - Northern Ireland	36
Conservation Breeding of Freshwater Pearl Mussels at the Marine Institute	38
Collective Action Is Helping Protect Our Waters and the Sport You Enjoy	40
Stranooden Group Water Scheme - Protecting Water at Source	42
Shannon Flood Risk State Agency Co-ordination Working Group	45
Balancing Green and Growth: South Dublin's Nature-Based Approach	46
The Flood Estimation Methodologies for Ireland (FEMI) Programme	48
The Funshion Catchment area	50
Why the #2MinuteBeachClean Matters in Summer	52

Editorial

Welcome to the latest edition of the *Catchments Newsletter*.

This issue comes at a time when water quality remains firmly in focus across Ireland. Recent assessments show that while there have been improvements in some areas, significant challenges remain in protecting and restoring our rivers, lakes, estuaries and coastal waters. The picture is mixed, reminding us that improving water quality is a long-term effort that requires continued commitment from all of us.

Across the country, however, there is no shortage of people taking action. Farmers, communities, local authorities, researchers, State agencies and environmental organisations are all working to better understand the pressures on our waters and to identify practical solutions. Every year, we see more examples of collaboration, innovation and local leadership making a positive difference.

That spirit of collaboration runs throughout this edition. From catchment restoration projects and community initiatives to scientific research, citizen science, farming innovations and nature-based solutions; the stories featured here highlight the commitment and expertise that exist across the country. They also remind us that water quality is fundamentally a local issue. The choices we make on our farms, in our communities, around our homes and through our public services all contribute to the health of our waters.

The challenge now is not understanding what needs to be done. The challenge is accelerating implementation and scaling up the actions that we know work.

Clean water underpins our environment, our economy, our biodiversity and our quality of life. Protecting and restoring it is a shared responsibility. The examples showcased in this newsletter give every reason to believe that, by working together and acting with urgency, we can make meaningful progress towards healthier waters for future generations.

Thank you to everyone contributing to that effort.

Eoin McAleer & James Petrie (editors)



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catchments.ie shares science and stories about Ireland's water catchments, and people's connections to water



Have a story to tell?

We want to tell stories that help people understand the connections between them, their local community's environment, and enhancing human health. We also want to promote public participation.

If you have a story for a future issue, please get in touch via www.catchments.ie/contact/ or scan the QR code.

We want these stories to inspire more people to take part in looking after their local community's environment, and particularly our waterbodies

Bringing Lough Carra Back to LIFE: Science, Partnership and Community in Action

Lough Carra LIFE Project

Nestled within the limestone landscapes of south Mayo, Lough Carra is one of Europe's finest remaining marl lakes. Its once turquoise, crystal clear waters were famed for their beauty, while abundant Mayfly hatches supported a world class trout fishery. The lake also supplies drinking water and forms part of the Lough/Carra Mask Special Area of Conservation (SAC) and the Lough Carra Special Protection Area (SPA). Like many Irish catchments, however, Lough Carra has experienced declining water quality due to nutrient enrichment.

The Lough Carra LIFE Project is demonstrating how a science led, community centred approach can reverse this trend and deliver tangible progress under the Water Framework Directive (WFD). The Lough Carra LIFE team operates from Belcarra Community Centre, just a few kilometres north of the lake. Being based within the community allows the team to integrate locally and remain accessible to farmers and landowners. Led by Mayo County Council, the project is delivered in partnership with the Lough Carra Catchment Association (LCCA), Geological Survey Ireland (GSI), National Parks and Wildlife Service (NPWS), Coillte, Department of Agriculture, Food and Marine (DAFM), with support from the Environmental Protection Agency (EPA), River Basin Management Service and Teagasc.



The LCCA, formed by local residents in 2018, was instrumental in securing LIFE funding and continues to play a central role in community engagement and in shaping the project's long term legacy.

A five year project with a budget of €5 million, the Lough Carra LIFE project aims to improve water quality, restore the marl lake habitat, reduce nutrient losses to surface and groundwater, and protect priority habitats and species, including Common Gull and Lesser Horseshoe Bat. Over the lifetime of the project, almost €1.9 million will be invested directly back into the catchment through an innovative results based agri environment scheme, designed specifically to reduce nutrient losses while supporting viable farming systems.

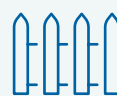
Approximately 60 farmers are participating, many of them part time and managing high nature value farmland. Detailed surface water mapping, farm assessments and habitat surveys have been completed for each individual farm based on the catchment science Source–Pathway–Receptor Framework.

Farmers receive average annual payments of approximately €4,700, reflecting the environmental outcomes achieved. Crucially, this model rewards farmers not only for food production, but for delivering environmental services that benefit water quality, biodiversity and the wider community.

Tangible results visible across the landscape

22km

New or upgraded
fencing



71 hectares

Riparian buffer
zones established



835

Native trees
planted



354 hectares

Farmland assessed,
with measurable
habitat improvements





Alongside these land based measures, a constructed reedbed treatment system has been installed at Moore Hall and is now fully operational, intercepting and treating nutrient rich water before it reaches the lake. This nature based solution demonstrates how engineered and natural processes can work together to protect water quality.

Coillte is converting former commercial forestry plantations within the catchment to management for biodiversity through a Continuous Cover Forestry approach, alongside the removal of invasive species. Meanwhile, NPWS is working to reduce pressures on ground nesting birds by controlling the corvid, fox and invasive American mink populations, while also carrying out regular monitoring of Common Gull and Lesser Horseshoe Bat populations. These actions contribute to restoring ecological balance across the wider catchment.

An extensive groundwater study led by GSI to build a clear understanding of how water and nutrients move through the catchment was completed in 2025. One of the key findings is that approximately 50% of Lough Carra's inflow comes from groundwater, highlighting the crucial role groundwater pathways play in nutrient transport within this karst limestone landscape. The final groundwater report will be published shortly and will provide a strong evidence base to target future measures more effectively.

Education and engagement have also been central to success. Programmes have been delivered at primary, secondary and third level, alongside regular farmer discussion groups and community events. Packed halls and lively debate reflect a growing understanding of how everyday land management choices directly influence water quality.

As the project moves into the final two years of the project, focus is firmly on legacy. The structures developed through LIFE — trained farmers, shared data, local governance, strong partnerships and tested measures — ensure that progress does not end when funding does.

As Professor Ken Irvine, one of the world's leading lake ecologists, has noted:

“ Lough Carra, in my mind, is up there with the most important lakes in the world. ”

The LIFE project team, together with the local community, is hopeful that the actions implemented through this initiative will have long lasting positive implications for water quality and biodiversity. The project demonstrates a practical pathway for delivering WFD objectives while supporting farm viability, protecting drinking water and restoring nature.

Most importantly, it offers hope: that local action, properly supported, can safeguard our most precious waters for generations to come.

Learn more at www.loughcarrallife.ie and www.loughcarra.org



Culdaff River Revetment, Co. Donegal. Inishowen Rivers Trust, who have received ongoing support through the Catchment Support Fund, funded by the Department of Housing, Local Government and Heritage and administered by River Basin Management Service (formerly Local Authority Waters Programme).



Funding Boost Builds Capacity of Inishowen Rivers Trust

The Inishowen Rivers Trust (IRT) is an environmental charity dedicated to protecting and enhancing the rivers and waterbodies of the Inishowen Peninsula, County Donegal. Its core objectives are to restore, conserve, and protect the region's rivers and catchments, while also promoting awareness and education among individuals, local communities, and the wider public about water quality and the importance of river conservation.

The Trust is governed by a Board of Trustees, who serve on a voluntary basis, and is supported by a team of four employees. In addition, the Trust benefits from a large and dedicated group of volunteers who are committed to restoring and protecting their local rivers and waterbodies. The Trust continues to deliver projects using nature-based solutions, including the installation of leaky dams and river revetments, while also promoting biodiversity through the removal of invasive species and the planting of native species. Education also remains a key focus, with the Trust delivering talks, events, and school visits on specific environmental topics to raise awareness and to engage with local communities.

The Inishowen Rivers Trust was awarded funding from the Catchment Support Fund in March 2025. This funding has significantly supported the growth of the Inishowen Rivers Trust's capacity by supporting staff salaries, financial and equipment costs and overheads. It enabled the Trust to take on a greater number of projects focused on the conservation and restoration of rivers and other water bodies, while also increasing engagement with local communities through events, talks, and outreach activities across the Inishowen Peninsula.

The following outlines how these funds have been utilised in 2025.

Stream 1 funding supported the ongoing provision of office accommodation, staff training on hydromorphology and nature-based solutions and IT equipment.

Stream 2 funding enabled the Trust to appoint a new Project Officer (Micheala Gallagher) to support the delivery of ongoing and future projects.

This role focuses on co-ordinating and implementing river restoration and conservation initiative. The Project Officer also plays a key part in community engagement, working with local groups, schools, and stakeholders to raise awareness of water quality, biodiversity, and sustainable land management.

In addition, the position supports project planning, reporting, and the development of new initiatives that align with the Trust's objectives to protect and enhance Inishowen's rivers and waterbodies.

In 2025 the Trust was successful in obtaining funding to deliver specific projects. These included:

→ 2 educational projects

Green Guardians, Local Enhancement Programme

→ 1 feasibility study

Cloontagh Rock Ramp funded by Community Water Development Fund

→ 1 cultural project

Riverside Reflections

→ 1 farming project

Farming for Water EIP

→ 1 core funding project

Catchment Support Fund 2025

→ Continued contract with ACRES Donegal

The project officer post was crucial to secure further funds which enabled the delivery of the suite of projects listed above. In addition, the IRT provided guidance to various community groups on invasive species, natural flood management, river revetment projects and peatland restoration. For further details and to access their extensive knowledge repository visit [inishowenrivertrust.com](https://www.inishowenrivertrust.com)

Blue Dot to The Sea

Blue Dots are waterbodies that have a high-status objective under the European Water Framework Directive and are some of the last remaining close to natural ecosystems in Ireland.

The headwaters of the Carrowniskey and Bunowen Rivers are Blue Dot waterbodies in Co. Mayo, that meet their high status objectives for water quality thanks to the stewardship of local community groups, farmers, residents, and visitors.

A group that stands out within this area is Climate Action Louisburgh Locality (CALL). They have created a campaign called "Blue Dot To The Sea" with focus on preserving and improving the ecological status of the local water bodies. While the headwaters of the Carrowniskey and Bunowen Rivers are of high status, the water quality declines downstream, therefore their wish is to achieve high status all the way to the sea.

The campaign has been running in phases since 2024, with engagement with people living and working in the area, through interviews to learn about relationships people have with their local rivers, water investigations with local schools, and scientific studies to inform further action for water quality, the community, and biodiversity in the catchment.

As part of the "Blue Dot To The Sea" campaign, artist Annaliese Brown has held workshops in schools, where students created blue coloured dot shaped mosaics in recycled jar lids, which have been collated into artwork panels, currently displayed in Books at One, Louisburgh. She has also created mosaic covered slate circles in shades of blue, installed in the area with accompanying QR codes linking to information about the campaign. This is an eye-catching way to spread the word about the work carried out by CALL, an opportunity to learn more about the Blue Dots in the area and reminds us why we must protect and restore water quality across the county.

The Communities Team at River Basin Management Service (formerly Local Authority Waters Programme) are currently working with CALL on the next phase of the campaign which will include completion of the artwork, further outreach in the community, further scientific studies, and further physical measures. (To be confirmed when funding is released!)

"Blue Dot To The Sea" campaign is supported by funding from River Basin Management Service, Department of Housing, Local Government, and Heritage, Creative Ireland, and other funds.

School pupils looking at the artwork produced by Annaliese Brown as part of the 'Blue Dot To The Sea' campaign



Ennistymon Rivers Festival - A Great Success

The Restore Ballymacraven River Association, supported by River Basin Management Service (formerly Local Authority Waters Programme), hosted the hugely successful Ennistymon Rivers Festival over the May Bank holiday weekend. The three-day festival in the North Clare town, was focused not only on the local Inagh and Ballymacraven rivers, but waterbodies throughout Ireland. The event included a river restoration workshop and field trip, other workshops, talks, and guided walks on river restoration, nature-based solutions, river ecology, water quality, riparian management, bats, and birds. A highlight for many were the kayaking trips on the Inagh River Estuary profiling the beauty of the river, the need to protect it, and the importance of biosecurity for all recreational users on our natural waterbodies.

The festival was hosted by the Restore Ballymacraven River Association (RBRA), a local, community organisation, based in Ennistymon, North Clare. The RBRA was established following a major fish kill on the Ballymacraven River in May 2023, which resulted in the death of over 2,000 fish. The fish kill served as a reminder of the fragility of our natural environment. It also sparked a collective response by the local community to protect this river, and the wider Inagh River and Mal Bay Catchment, for future generations.

The Ennistymon Rivers Festival 2026 celebrated the enormous amount of positive work that has been undertaken by local volunteers on the Inagh and Ballymacraven rivers since May 2023. The festival brought together similar groups from across Clare, Limerick, and Galway, together with locals, volunteers, international experts, and environmental champions from across Ireland to mark the positive steps taken to restore rivers in North Clare and across Ireland.

The official launch of the festival took place on May 1st, with Ella McSweeney as keynote speaker. Ms. McSweeney's brilliant, illustrated talk, was a spell binding tour de force on the status of Irish river, water quality. This was followed by a panel discussion involving community representatives from across Ireland, together with Ella McSweeney and Minister Timmy Dooley TD and facilitated by Senior Community Water Officer, Ruairí Ó Conchúir. The discussion focused on a range of key issues, including water quality monitoring, continuous monitoring work, enhanced interagency and community cooperation, pollution response protocols, and the need for better enforcement by all parties.

Ruairí Ó Conchúir noted:

“ *The Ennistymon Rivers Festival provides an excellent example of a resilient local community, who are undertaking exceptional work to restore, protect, and enhance, much-loved local rivers in North Clare. The festival held over the May bank holiday weekend, was a celebration of community and local rivers. It highlighted the continued importance local communities place on their local rivers, lakes and coastal waterbodies.* ”

The work of the RBRA is supported by River Basin Management Service, Inland Fisheries Ireland, the Falls Hotel, local landowners, and a great many active local volunteers. Anyone wishing to find out more information please see: www.restoreballymacravenriver.com

Members of the public enjoying a river walk during the Ennistymon Rivers Festival. Photo provided by Ruairí Ó Conchúir.





Weed growth in the upper River Suir catchment

Lions Take Pride in Tipperary's Water Quality

How much time does it take rainwater to travel through the upper Suir catchment?

That is the question being asked by volunteer citizen scientists from Thurles Lions Club, who are collecting water samples for isotope analysis by the Aging of Water (GRADS&SMARTS) project run by Professor Carlos Rocha and colleagues at The School of Natural Sciences, Trinity College Dublin.

Excessive instream weed growth in the upper River Suir catchment at Thurles has been of considerable concern to people living locally in Thurles. Water quality in most of the upper catchment is below the required status, and is likely driving eutrophication in the river leading to a poor aesthetic.

The River Basin Management Service (formerly Local Authority Waters Programme) is working with the local community to better understand the issues impacting on water quality with a view to making recommendations with regard to potential remediation options. By supporting such projects, it is hoped that it will contribute to our understanding of the catchment and work towards protecting and restoring water quality in the river. Projects like this help create awareness amongst the local community, to better understand the river, their role and nutrient dynamics with the catchment. The project is just one action in the Draft Upper River Suir Integrated Management Plan, developed by the River Basin Management Service with local stakeholders.

The project began in 2025 with members of the Lions club gathering samples at 10 locations between Thurles and Templemore. They have now completed the work with 10 rounds of sampling carried out between 2025 and 2026. The samples were sent to Trinity College for analysis and form part of a significant national project which includes over 360 sites across the country. The aim of the project is to establish nitrate lag times throughout the catchment determined by isotopic methods, nitrate turnover times, and an assessment of origin of nitrates.

The project culminated with an online presentation on the findings to date by Professor Rocha to the group in May. The national project report is expected towards the end of 2026.

Salmon Spotting in the Slaney

Dr. Ken Whelan and the Slaney Rivers Trust organised a trip for members of the recently formed Slaney Catchment Community Forum to spot salmon spawning and redds in the headwaters of the Slaney in the Glen of Imaal, Co. Wicklow.

The sunny conditions were perfect to allow the group to spot the tell-tale sign of newly disturbed gravels where salmon recently spawned. These gravel nests are known as redds and are difficult to see without expert guidance. From a bridge overlooking the river, the group was also fortunate to spot a small number of large salmon darting through pools in the river below.

Dr. Whelan told the group about the life cycle of the salmon, how their journey starts in the spawning grounds of the Slaney when the eggs are laid and fertilised in the gravels in the days before Christmas every year. The salmon emerge from the eggs at the beginning of April, spend two years feeding in freshwater before heading for the sea and where they can travel to marine feeding grounds as far away as Greenland. They will eventually return to the exact river they were born to continue the cycle.

Dr Whelan also spoke about the challenge the salmon face over their life cycle and that now the return rates of salmon are less than 10 in every 100 for every salmon leaving the Slaney. Members of the group remarked on how important it is to protect water quality in the Slaney so that we can preserve salmon populations here.

Slaney Catchment Community Forum searching for salmon spawning grounds in the River Slaney





Jim Callery (Wicklow County Council), Lorna Kelly (Wicklow Uplands Council), Prof. Mary Bourke (Trinity College Dublin), Cllr. Melanie Corrigan (Cathaoirleach Wicklow County Council), Faith Wilson (East Wicklow Rivers Trust), Hannah O'Kelly (Wicklow County Council), Éanna Gallagher and Justin Ivory (River Basin Management Service, formerly Local Authority Waters Programme)
Photo courtesy: Mick Kelly & Wicklow County Council

EU Horizon 'SpongeWorks' Project Launched in Wicklow

The EU Horizon-funded SpongeWorks project was officially launched in February in Aughrim, Co. Wicklow, at a well-attended event hosted by Wicklow Uplands Council, Wicklow County Council, River Basin Management Service (formerly Local Authority Waters Programme) and East Wicklow Rivers Trust.

After the catchment was heavily impacted by heavy rainfall and flooding from Storm Chandra in late January, it was no surprise that the event attracted close to 90 people, all eager to learn about how nature based solutions can help slow the flow of water and mitigate against future flooding events in the area.

Wicklow is one of eight regions chosen from more than 70 applications across Europe to develop and scale up "sponge measures", which are nature-based solutions that help landscapes absorb, store and slowly release water.

The idea behind the SpongeWorks project is simple: healthy soils, wetlands and vegetation can act like a sponge, soaking up rainfall and releasing it gradually into rivers.

This natural process can help reduce flooding during heavy rainfall while also maintaining water supplies during dry periods.

The project was launched by Cathaoirleach of Wicklow County Council, Cllr. Melanie Corrigan, who spoke about the significance of community engagement and advocacy for measures to counter climate change. While Jim Callery, Climate Action Officer with Wicklow County Council, gave an overview of the SpongeWorks project and explained why Aughrim in the Avoca Catchment was selected as the study area.

Professor Mary Bourke, from the School of Geography at Trinity College Dublin, outlined the challenges facing catchments and landscapes in the face of accelerating climate change.

Professor Burke emphasised the need to start thinking about water and water quality at a catchment scale. She said:

“We all live in a catchment. We need to have a catchment mentality. What happens in Aughrim affects people further downstream. We need to move away from worrying about individual problems.”

The initiative comes as climate change is expected to increase both flooding and drought risk. According to Professor Bourke, these extremes are already becoming part of Ireland's future. "We can have too much water arriving quickly and we can have too little. Droughts are in our future."

Much of the work under the project will involve addressing how decades of land management have altered the way water moves through the landscape. "We're the problem with rivers," Professor Bourke spoke about the impacts of humans on their local waterways and the surrounding landscape.

"Through decades, we changed how we managed the land. We have straightened our rivers, channelised our rivers, removed hedgerows. The result is flooding, pollution, drought and less biodiversity, with carbon being lost into our rivers and the atmosphere," she said.

These changes have also created an intense drainage network that moves water rapidly from fields to rivers. When heavy rainfall occurs, the land can only absorb so much water, contributing to large flooding events experienced by the county and in other areas across Ireland during Storm Chandra.

The solution being promoted by SpongeWorks is to restore the landscape's ability to hold water. Instead of quickly draining rainfall away, new measures will help slow and store it in soils, wetlands and fields.

These interventions can include small structures such as leaky dams in streams, soil bunds that temporarily hold water in fields, and other natural water retention features. "Putting the right measure in the right place is key," said Professor Bourke. "They allow water to drain into the field, but you control how quickly the water drains back."

Tipp Farmer Avails of EIP Funding to Plant Trees in Buffer Zones

Dairy farmers Brendan and Margaret Phelan have planted 140 trees under the Farming for Water EIP in three separate locations on the land they farm just outside Cashel in Tipperary.

Brendan, formerly an engineer, took lease of Beechmount Farm two years ago and recognised that there were measures he could implement under the EIP to help water quality and to prevent loss of nitrates into the local stream and into the on-farm drainage network.

The farm is located within the Clashawley Area for Restoration as part of the Water Action Plan. Catchment assessments identified this section of the river as requiring nutrient reduction measures - both nitrogen and phosphorous - as it is currently achieving only moderate ecological status rather than the target of good status.

Having consulted with his Tirlán advisor and drawn up a Rainwater Management Plan for the farm, the Phelans, along with the landowners, Sarah Furno and Louis Grubb, identified three specific locations where tree planting would be particularly beneficial. And, having sourced the trees at close-by Dundrum Nursery they set about the task, mixing alder with birch and oak.

Brendan also went the extra mile by utilising sustainable cardboard tree guards. These WhiptecBio biodegradable tree guards are eco-friendly protective sleeves designed to shield young trees from external elements and promote healthy growth. The best part is that they biodegrade after between two and four years and are therefore kind to the environment.

Urban areas also have a role to play. Professor Bourke said homeowners and communities can help manage rainfall by harvesting water from roofs, installing rain gardens and using permeable paving as part of sustainable drainage systems.

"These approaches are only getting off the ground in Ireland. But we now have a decade of data from across Europe showing what works. We have the proof that it does actually work. These solutions are low cost, low impact and nature-based," she said. "And they work, if the right measure is put in the right place."



Trees planted in the riparian zone on Brendan and Margaret Phelan's farm in Co. Tipperary

The hedgerows are carefully managed, creating a welcoming habitat for birds and small wildlife, as well as giving shelter to cows on a wet and windy day - every 20 years the Grubb's undertake an intensive replanting programme of native, deciduous trees.

Beechmount Farm dedicates 17% of the land to biodiversity and space for nature. Nature corridors throughout the farm, and planted woodland groves and hedgerows are included. This allows wildlife to flourish on a busy working farm.

Beechmount Farm's work is a perfect example of how simple measures can make a big difference to water quality and biodiversity.



WhiptecBio biodegradable tree guards

Lough Currane, Co. Kerry

The Importance of the Blue Dots of Iveragh

Across Ireland, rivers, lakes and coastal waters are central to our natural heritage, biodiversity and community wellbeing. Yet many of these waterbodies are under increasing pressure from land use, climate change and human activity.

On the Iveragh Peninsula in Co. Kerry, there remains an exceptional concentration of waters that still retain their natural quality and ecological richness. Through the “Blue Dots of Iveragh” initiative, River Basin Management Service (formerly Local Authority Waters Programme) highlights the importance of protecting these special waters and engaging communities in their stewardship.

What are Blue Dot waters?

“Blue Dot” or high status objective waterbodies have the potential to be Ireland’s highest quality rivers, lakes, estuaries and coastal waters. When they are properly cared for, they can reach the highest ecological status, meaning their natural structure, flow and biology remain relatively unaltered by human activity.

These pristine waters can support some of the country’s most iconic and sensitive species, including salmon, trout, Arctic char, lamprey and the European eel.

They also provide critical habitats for organisms such as the freshwater pearl mussel, a species that depends on exceptionally clean water to survive.

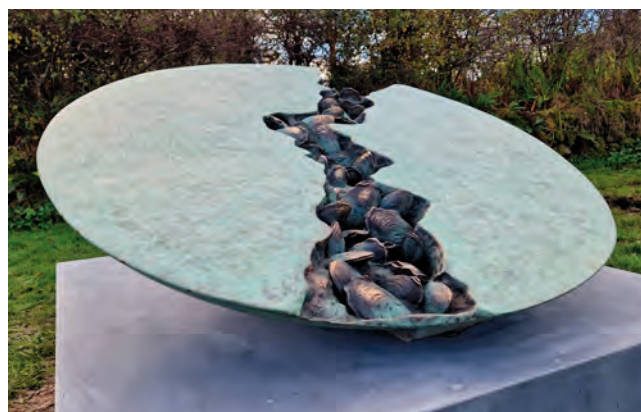
However, Blue Dot waters are increasingly struggling to achieve their high status objectives. National monitoring shows that the proportion of waterbodies achieving “high status” has declined significantly over recent decades, dropping from over 31% in the late 1980s to less than 18% in the most recent assessments. This decline highlights the urgent need to protect the remaining high quality waters before they are lost.

Engagement at the heart of the project

The Blue Dots of Iveragh is an initiative of the Blue Dot Catchments Programme, which brings together communities, local authorities, scientists and government agencies to protect Ireland’s most valuable water environments. The landmark project in Iveragh was made in partnership with Kerry County Council, Waters of LIFE, EU LIFE Programme and the Department of Housing, Local Government and Heritage.

A key aim was to build awareness and appreciation of Blue Dots among the local community. By understanding the ecological value of these waters, communities can play an active role in protecting them for future generations.

Freshwater Pearl Mussel in Bronze, a sculpture by Don Cronin, was installed in Sneem, Co. Kerry as part of the initiative.



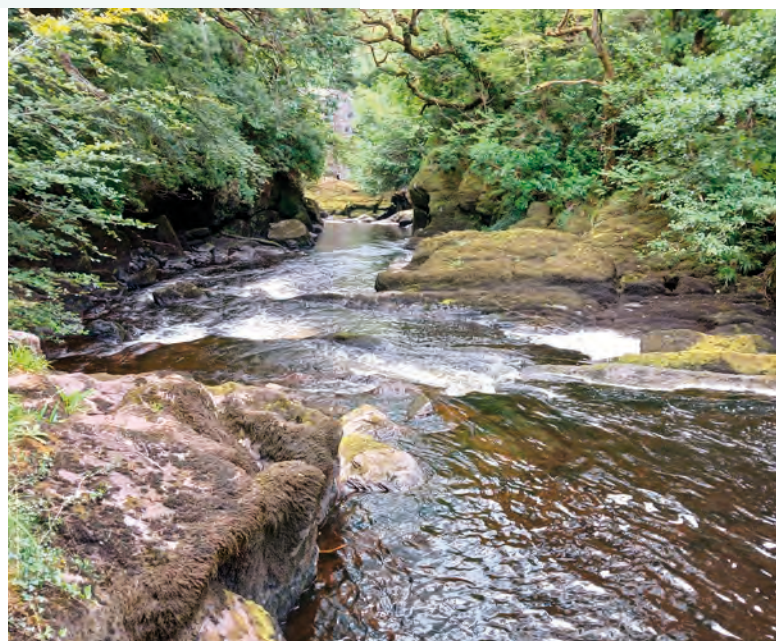
In November 2025, Minister of State for Nature, Heritage and Biodiversity Christopher O'Sullivan launched the initiative in Sneem, Co. Kerry. The event included the unveiling of a specially commissioned sculpture depicting a freshwater pearl mussel by artist Don Cronin and the screening of a documentary film called *The Blue Dot Waters of the Iveragh Peninsula*, which profiled community groups, such as Caragh Bridge Angling Club and Sea Synergy, committed to protecting and restoring their local waters.

Iveragh

A unique landscape in Ireland, the Iveragh Peninsula stands out as one of the most important landscapes for Blue Dot waters. The region contains an extraordinary number and diversity of high status objective waterbodies, including 27 river waterbodies, six lakes, three coastal waters and one transitional waterbody. However many of these are failing to reach their high status objective due to a variety of pressures.

For example, Lough Currane and its feeder rivers are renowned for their salmon and trout fisheries, supporting a long-standing angling tradition and local tourism economy. But, as with many rivers and lakes across Ireland, fish populations in Lough Currane have declined and are suffering due to a variety of pressures including disease impacts from coastal salmon farming. Other threats to fish populations include climate change and land use impacts such as drainage and siltation, and runoff of nutrients and chemicals from agriculture and forestry.

However, many waterbodies in Iveragh are reaching a high ecological status. Among the most notable examples is the River Blackwater catchment, located on the slopes of the MacGillycuddy's Reeks overlooking Kenmare Bay. The Blackwater catchment is designated as a Special Area of Conservation for many reasons including its importance for the freshwater pearl mussel.



Blackwater River, Co. Kerry

Looking to the future

The Blue Dots of Iveragh initiative demonstrates how collaboration between communities, local authorities and national programmes can help highlight and safeguard Ireland's natural resources. Through education, engagement and targeted conservation efforts, the project aims to ensure that the peninsula's unique water environments remain protected and celebrated.

By bringing these special waters into the spotlight and highlighting their sensitivity, the project encourages everyone, from landowners and farmers to anglers, residents and visitors, to recognise their value and play a part in protecting them.



To learn more about the initiative, visit
<https://riverbasin.ie/iveragh/>



Cllr. Norma Moriarty, Minister Christopher O'Sullivan, Deputy Michael Cahill TD, Anthony Coleman, Director of Services at River Basin Management Service (formerly Local Authority Waters Programme), Barry Deane, South West Regional Co-Ordinator, River Basin Management Service, Paul O'Callaghan, Blue Dot Catchments Programme Lead, Bláthnaid O'Loughlin Community Water Officer with River Basin Management Service, Ed Cox, Blue Dot Catchments Programme Scientist.
 Photo by Valerie O'Sullivan

Building a Stronger Future for the Mal Bay Catchment Community

The Mal Bay Catchment is located along the west coast of County Clare, covering a diverse landscape from inland areas to the Atlantic shoreline. It includes communities such as Ennistymon, Miltown Malbay and Doonbeg, and a network of rivers and coastal waters central to local life.

Communities across the Mal Bay Catchment are coming together with a shared goal: protecting and restoring the health of our rivers, coastline, and water bodies for future generations. Over the past two years, local residents, community organisations, landowners, farmers, and public agencies have been working collaboratively to establish the Mal Bay Catchment Community Forum (CCF) — a new community-led platform focused on water quality, environmental stewardship, and local participation.

A community-led beginning

The journey towards establishing the Mal Bay CCF began with an initial full-day workshop held in Ennistymon on 24 July 2024. Participants explored what a catchment forum could look like for the area, discussed the

geographical and sectoral interests that should be represented, and developed a draft Benefit Statement for the Mal Bay Catchment.

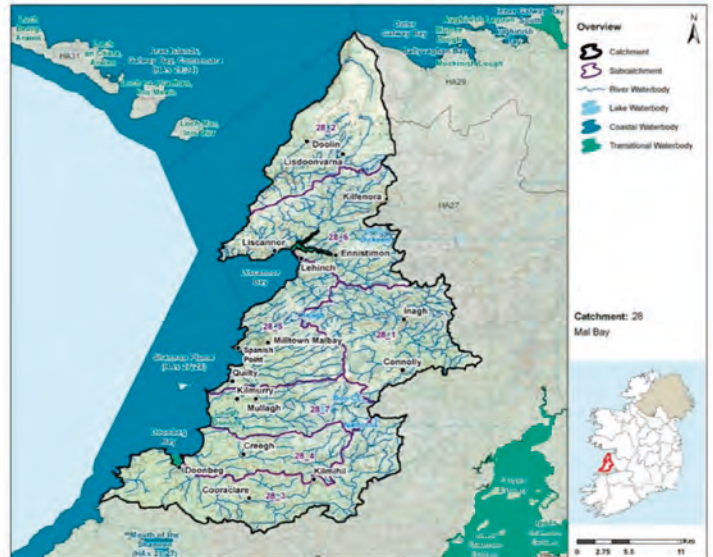
This early engagement laid the foundation for a wider public discussion.

At a public meeting held in Ennistymon on 17 September 2025, attendees examined how the proposed forum would fit within the governance structures of the Water Framework Directive (WFD). The meeting also provided an opportunity to discuss the draft Terms of Reference and invite public nominations for membership of the Forum.

The Forum was formally established on 12 November 2025, when nominated members gathered for the inaugural establishment meeting. Officers were elected, and members undertook a gap and skills analysis to ensure broad geographical and sectoral representation across the catchment.

What is the Mal Bay Catchment Community Forum?

The Mal Bay CCF is a member-led, community-based consultative forum representing the entire Mal Bay Catchment area. While not a legal entity, the Forum plays an important role in supporting local participation in catchment management and water protection initiatives.



Mal Bay Catchment

The Forum aims to:

- Involve local communities in catchment management and oversight
- Serve as a community consultation platform on water-related issues
- Increase public participation and awareness of water quality challenges
- Actively contribute to Water Action Plan governance structures
- Strengthen collaboration between communities, implementing bodies, and State agencies

Understanding the Catchment

The Mal Bay Catchment covers an extensive and environmentally significant area:

→ 848 km² catchment area	→ 4 transitional water bodies
→ 7 sub-catchments	→ 4 coastal water bodies
→ 41 surface water bodies	

These waterways and coastal environments are central to local biodiversity, farming, recreation, tourism, and community life throughout West Clare.

Work Priorities for 2026

As the Forum moves into its first full year of activity, three priority projects have been identified for 2026.

1 Doonbeg River

The focus in the Doonbeg River area will be on light-touch riparian management works aimed at addressing localised flooding concerns.

2 Inagh River – Liscannor Bay

This project will focus on ongoing water quality concerns affecting both the river and coastal environment.

3 Miltown Malbay – White Strand

The third priority area will focus on strengthening local engagement and supporting future project delivery.

Key Issues Identified

- Clarifying the roles of agencies such as Clare County Council, Inland Fisheries Ireland (IFI), and the Office of Public Works (OPW)
- Supporting local community groups in accessing practical assistance
- Addressing the shortage of skilled operators available to undertake works
- Ensuring proper planning processes are followed, including Appropriate Assessment (AA) Screening, Environmental Impact Assessment (EIA), and engagement with all relevant agencies
- Community members also highlighted the challenge of coordination, which too often falls back on local volunteers and groups.

Issues Raised

- The role and responsibilities of agencies including Uisce Éireann and Clare County Council
- Difficulties experienced by local groups in engaging with key agencies
- The need for clearer public communication around pressures affecting water quality, including beach closures
- The importance of long-term planning and infrastructure investment
- The strong work already being carried out by farmers and community groups, despite limited coordination structures

Key Themes

- Building stronger community and landowner engagement
- Securing project leadership and funding opportunities
- Improving coordination between agencies and local stakeholders
- Highlighting the urgent need for investment in local infrastructure
- Supporting and recognising the excellent environmental work already taking place within the community

Looking ahead

The establishment of the Mal Bay Catchment Community Forum marks an important step towards stronger community involvement in protecting local waterways and coastal environments. Many of the smaller local community groups we have spoken with and supported note a number of challenges, notably having to deal with multiple agencies, too much bureaucratic red tape when applying for funding, and not enough local knowledge or experience, but with the integration of these local groups into the overall discussion, the community catchment for Malbay aims to address and hopefully help with these issues going forward.

While many challenges remain — from infrastructure & funding needs to coordination between agencies — there is also clear evidence of strong local commitment, expertise, and willingness to work together.

By creating a shared platform for discussion, collaboration, and action, the Forum aims to ensure that local voices play a central role in shaping the future health of the Mal Bay Catchment.

Have a story to tell?

We want to tell stories that help people understand the connections between them, their local community's environment, and enhancing human health. We also want to promote public participation. If you have a story for a future issue, please scan the QR code or get in touch via



www.catchments.ie/contact/

Donegal Bay photo wins 'My Favourite Waterbody' 2026!



One overall winner and three runners-up have been selected in the 'My Favourite Waterbody' national photography competition that was run as part of the River Basin Management Service (formerly Local Authority Waters Programme) World Water Day celebrations.

The overall competition winner is **Mark O'Connor**, from Cliffoey in Co. Sligo for his photo of a humpback whale in Donegal Bay.

The runners-up awards are as follows:

Kevin Jones, with his photo of Lough Neagh in Co. Derry (below)



Andrew Keane, with his photo of the River Nore, in Inistioge, Co. Kilkenny (below)



William Murphy, with his photo of the Beeves Rock lighthouse in the Shannon Estuary (right)

From the 630 photographs submitted to the competition, an internal panel of staff from the River Basin Management Service selected a shortlist. The shortlisted entries were then judged by broadcaster and journalist Ella McSweeney, who was joined on the judging panel by Aisling O'Connor, a sixth-year student from County Limerick and an Irish Schools Sustainability Network Ambassador.

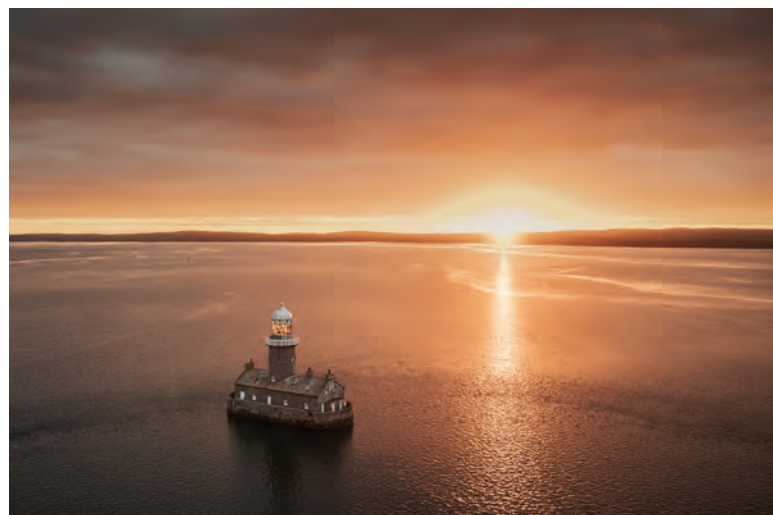
Speaking about the photo competition, judges Ella and Aisling said:

"This year's competition produced such an impressive and beautiful body of work showing just how lived-in and loved our rivers, streams, lakes and estuaries are around Ireland. The standard was high throughout, from technical confidence - balancing light, water and structure - to the more intimate images that found beauty in stillness, detail and serenity.

What unites them is a strong sense of relationship rather than mere observation.

Competitions like this build a constituency of care. When people spend time looking closely at a river, lake or estuary in order to capture it in a photograph, they become more attuned to its health, its changes, and what is at risk. It's hard to love a place you've seen and not want to protect it, and if this competition nudges us to take a closer interest in our waterways, then it has done something valuable."

Congratulations to the winners and a big thank you to all photographers who entered the competition this year.





Water Quality Improvement Funding

Minister James Browne, Minister for Housing, Local Government and Heritage, with River Basin Management Service Community Water Officer David Rafter, local council members and members of the local community attending Edermine Ferry Rowing Club's official launch of their new workboat purchased with support from the Community Water Development Fund.

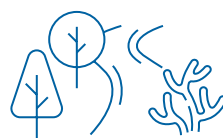
In April, Minister for Housing, Local Government and Heritage, James Browne and Minister of State for Nature, Heritage and Biodiversity at the Department of Housing, Local Government and Heritage Christopher O'Sullivan, announced €2.4 million in funding through the Community Water Development Fund and the Catchment Support Fund.

Both funds are administered by River Basin Management Service (formerly Local Authority Waters Programme) on behalf of the Department of Housing, Local Government and Heritage.

Of the total awarded, €1,332,492 will be delivered through the Community Water Development Fund to 92 projects nationally and €1,112,737 through the Catchment Support Fund to 56 groups across 20 counties, in addition to two national projects.

Under the Community Water Development Fund, local communities and groups receive grants for projects and initiatives to enhance local water bodies thereby helping to improve water quality and protect biodiversity. While the Catchment Support Fund builds the capacity of community groups actively involved in water quality management by providing financial assistance for their core costs, including staff salaries, administration and promotional materials.

Both funds help community groups and organisations to deliver a wide range of projects to improve water quality nationwide, including:



River and catchment conservation and restoration:

initiatives to restore and protect local rivers and their ecosystems.



Community engagement:

programmes that promote water stewardship and raise awareness about water quality issues.



Biodiversity enhancement:

projects that support habitats and species dependent on clean water.



Preparation of reports:

feasibility studies, habitat management plans, hydromorphological studies and ecological surveys.

Both funds have nearly doubled in the past two years alone, with the Community Water Development Fund rising from €702,000 in 2024 to over €1.3 million in 2026, and the Catchment Support Fund rising from €500,000 in 2024 to more than €1.1 million in the current funding announcement.



For more information visit
<https://riverbasin.ie/funding/>

Farming for Water EIP reaches 5,500 farmers, but how effective will the measures be?

Water European Innovation Partnership - AGRI

The €60M Farming for Water EIP is funding over 40 measures across the country, in catchments where they are needed most.

To date, just under €8.5 million of the €50 million of available funding has been paid to 3,661 farmers. These farmers have implemented 6,595 individual measures to protect water quality on farms, including over 30,000 hectares of catch crops sown mainly in nitrogen vulnerable areas in the south and south-east.

But how effective are these measures? Could they be improved? Why are some measures being applied for, but not implemented? These are just some of the questions the EIP Research Hub is trying to answer.

The EIP Research Hub is a collection of approximately 20 water quality experts from nine research institutes across Ireland and the UK. Most of these researchers have dedicated funding and staff (PhD students, post-docs and technicians) to collect data on various EIP measures of interest. Others, for example the James Hutton Institute (UK), provide expertise and advice on the scientific evaluation of these measures.

Some of the members of the Farming for Water Research Hub pictured at a recent meeting

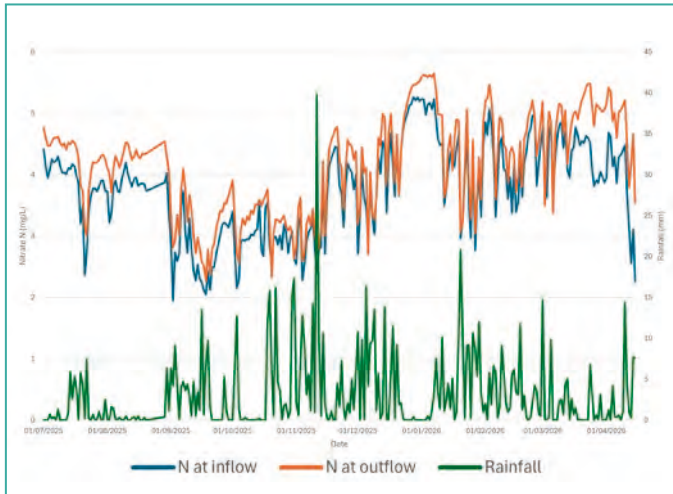


Georgina Mooney, PhD student in UCD, assessing the biological quality of a river prior to installation of EIP measures

The academic institutions involved are: Trinity College Dublin, University College Dublin, University College Cork, Atlantic Technical University, Dundalk Institute of Technology, James Hutton Institute (Scotland), Teagasc Johnstown Castle, Teagasc Moorepark and Teagasc Oak Park.



Nitrogen concentrations and rainfall in the Funshion_80 subbasin from July 2025 to April 2026. The average nitrate concentrations at the inflow (Ballynahow) and outflow (Moorepark) from July 2025 to April 2026 were 3.8 and 4.1 mg/L, respectively.



In 2025, data collection started on some key measures of interest including: the spatially targeted buffers, linear riparian margins, willow beds, bunded drains and wetland ponds. Larger catchment scale projects were also set up in priority rivers such as the Funshion (Co. Cork), the Deel (Co. Cork) and the Moynalty (Co. Meath) using high-resolution nitrate analysers and autosamplers.

Additionally, the Teagasc Agricultural Catchments Programme is monitoring nitrate uptake from the EIP funded catch crops in Castledockerell (Co. Wexford) and modelling nitrate uptake from catch crops at larger catchment scales, including the Slaney.

The Research Hub is gathering momentum in 2026 with the addition of a social-behavioural project, funded by Dundalk Institute of Technology, on farmer recruitment and measures implementation. There are several more exciting projects in the pipeline for 2026, including more catchment-scale high resolution nitrate sampling in nitrate-risky catchments.

The data collected from all these projects will provide the scientific evidence to review, refine, and enhance the effectiveness of the measures. This will complement the overall evaluation of the EIP actions and water quality impact.

Installation of a NOx-monitrix analyser (Ion chromatography and UV-LED) at the inflow at Ballynahow Br, Funshion_80



Nitrogen in focus

Ireland's dairy sector is under growing pressure to cut nitrogen losses to rivers, with just over two years left on the derogation extension. In response, agencies like Department of Agriculture, Food and the Marine and Teagasc are rolling out new measures to help farmers reduce losses. One of the main tools is a farm gate "nitrogen balance" check, which looks at how much nitrogen comes onto a farm (through fertiliser and feed) versus how much leaves in products like milk. The difference, or surplus, can end up leaking into groundwater and rivers. One-to-one farmer consultations on their nitrogen balance are being actively funded through the Farming for Water EIP and supported through Teagasc advisory programmes.

A new joint project between LAWPRO and Moorepark is putting this approach to the test in the Funshion_80 river catchment (20km²). Scientists have installed high-tech monitors that measure nitrate levels in the river every hour. Early results show that nitrate levels rise by about 10% from 3.8 – 4.1 mgN/l as water flows through the catchment, highlighting it as a hotspot for losses. LAWPRO have estimated that reducing nitrogen surpluses in the Funshion_80 by about 25%, could help bring nitrate levels down to ca. 4mgN/l and if similarly reduced in the wider Funshion river system (380 km²), could help bring nitrate levels down to 2.6mg/l, the targeted needed for Good water quality in the receiving Blackwater Estuary.

Water Quality in Ireland – Pressures, Trends and Targeting Measures

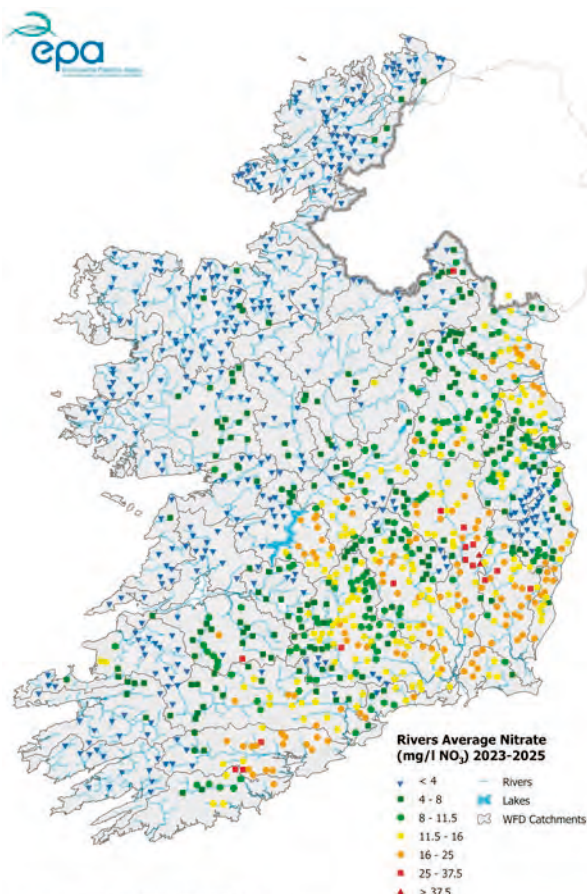
Dr. Jenny Deakin, Environmental Protection Agency

SUMMARY

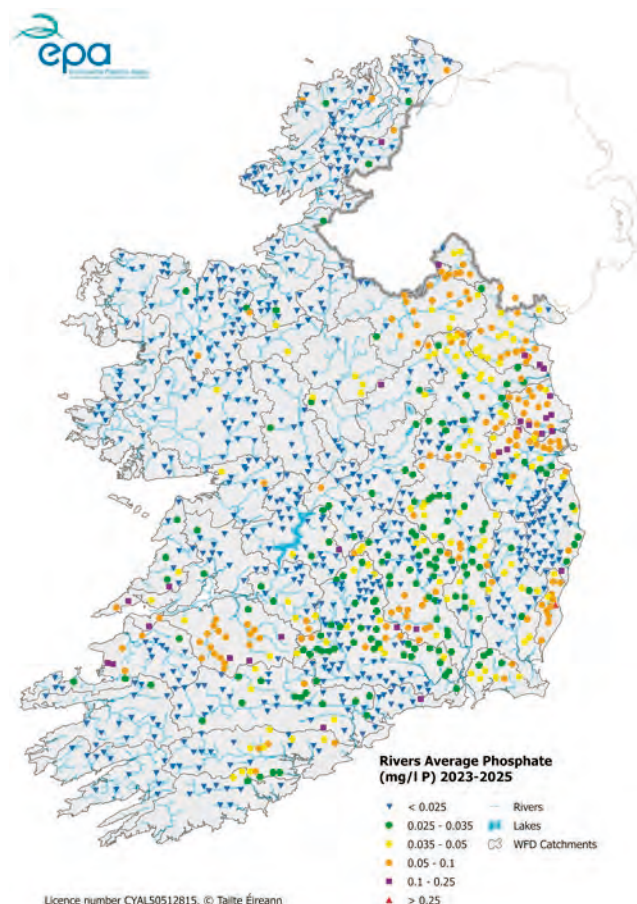
- ➔ Water quality is improving in some areas but continues to decline overall. The latest 3-yearly EPA report highlights that 52% of surface waters are at good or high ecological status, down from 54% in the last assessment.
- ➔ Every sector has a role to play, however, excess nutrients from agriculture remains the greatest challenge. Phosphorus loss occurs in local hotspot areas where soils are poorly draining; nitrogen loss occurs in the southeastern half of the country where the soils are freely draining.
- ➔ There is evidence that phosphorus concentrations are reducing in the areas where actions are being targeted, which is positive. Nitrogen concentrations have also reduced in recent years although they remain too high in the southeast.
- ➔ There are many actions underway but the scale and pace of implementation needs to be increased. EPA has developed tools to help target the right measure in the right place.
- ➔ Better data also needs to be collected on when and where actions are being implemented to provide better information on how progress can be accelerated.



Figure 1. Three year average river nitrate concentrations and river phosphate concentrations (2023-2025). Blues and greens are satisfactory; yellows, oranges and reds are unsatisfactory.



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Licence number CYAL50512815. © Taitte Éireann

Water quality in Ireland

The most recent EPA report on water quality in Ireland (EPA, 2025a) highlights that 52% of rivers, lakes, estuaries and coastal waters are in a satisfactory ecological condition, which means in good or high ecological status. This assessment includes multiple water quality parameters, including for example, nutrients, chemicals, oxygen levels, aquatic insects, plants, algae and fish, which together give an integrated picture of the condition of our waters. The report found that overall water quality has declined since the previous assessment (EPA, 2022), when 54% of surface waters were satisfactory. While there have been improvements in water quality in some places, these have largely been offset by declines elsewhere. Transitional waters, including estuaries and coastal lagoons, are in the poorest condition of any waterbody type with 30% in a satisfactory condition, down from 36% in the last assessment.

The main water quality issue is excess nutrients from agriculture and waste water causing eutrophication or the overgrowth of algae and plants which disrupts aquatic ecosystems. The areas with elevated nutrients are shown in Figure 1. Damage to the physical condition of water habitats from activities such as land and river drainage, forestry and urban development, and toxic impacts from chemicals and other pesticides are also a concern.

Agriculture is the most prevalent source of excess nutrients in the landscape, impacting approximately five times the number of waterbodies impacted by urban waste water (EPA, 2024a). The highest risk areas for phosphorus loss from agriculture are the poorly draining soils where rainfall runoff delivers nutrients and sediments to watercourses. In these areas, the soil type and the rainfall are more important driving drivers than the level of farming intensity. In contrast, excess nitrogen is an issue in the intensively farmed, freely draining soils in the southeast. In these areas, the greater the farming intensity, the greater the nitrogen loss.

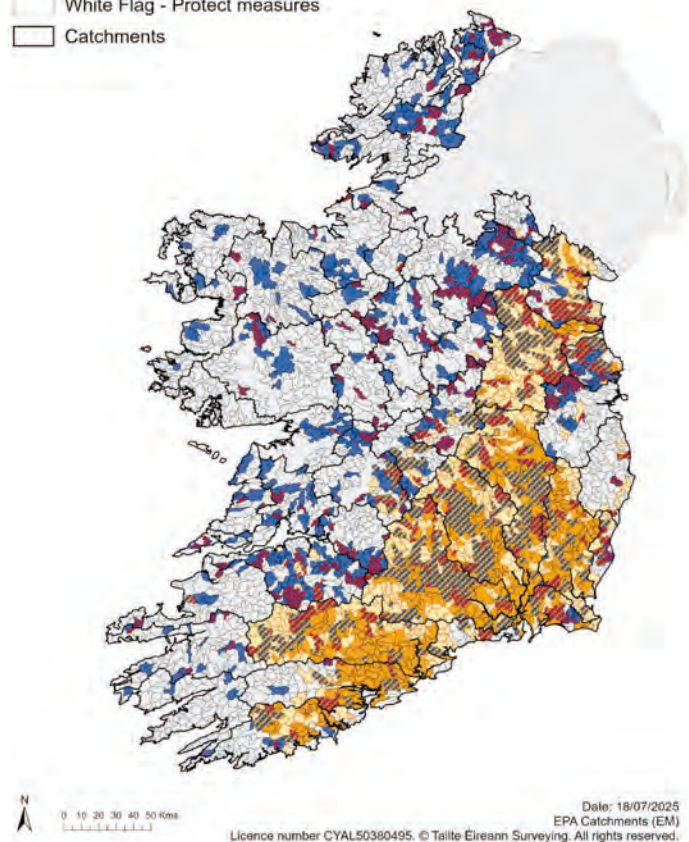
Targeting agricultural measures

To support the on-going targeting of agricultural measures, the EPA has recently published an updated edition of the Farm and Landscape measures for Agriculture (FLAG) map (Figure 2), previously known as the Targeting Agricultural Measures map (EPA, 2025b). The map has been updated with the most recent information available for each water body. Orange areas on the map indicate areas to reduce nitrate losses, navy areas are for measures to reduce phosphorus/sediment losses, and red areas indicate that there is a potential farm point source issue. Within each water body, the relevant Pollution Impact Potential (PIP) map can be used to further target within the critical source areas for either nitrogen or phosphorus (EPA, 2021).

Figure 2. The Farm and Landscape measures for Agriculture (FLAG) Map.

FLAG Map 2025 R1

-  Navy Flag - phosphorus/sediment losses
-  Orange Priority Flag - high nitrate
-  Orange Flag - risk of nitrate losses (review PIP-N)
-  Navy & Orange Flags - phosphorus/sediment and nitrate losses
-  Navy & Red Flags - point source and phosphorus/sediment losses
-  Navy, Red & Orange Flags - point source, nitrate and phosphorus/sediment losses
-  White Flag - Protect measures
-  Catchments



Progress In Priority Areas for Action

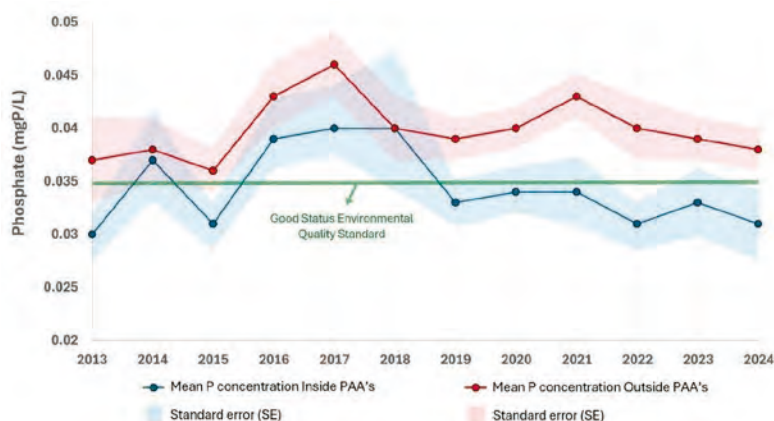
A key measure under the national River Basin Management Plan 2018-2021, and the Water Action Plan 2024, was the establishment of Priority Areas for Action (PAAs), where public sector bodies and stakeholders are working together to implement targeted actions to restore water quality. Where agriculture is a significant pressure, the River Basin Management Service (previously known as Local Authority Waters Programme) provides local science and evidence to the Agricultural Sustainability Support and Advisory Programme (ASSAP), who in turn give free advice and support to farmers to identify and implement the right measure in the right place.

The latest EPA water quality report assessed whether there were greater levels of water quality improvements inside PAAs compared with other areas elsewhere. The evidence shows that in the PAAs, improvements have been made in ecological status in 21% of waterbodies, but these are being largely offset by waterbodies that have declined. There is no significant difference in changes in ecological status inside PAAs compared to elsewhere. However, there is evidence that there is an improvement in phosphorus concentrations in these areas (Figure 3). While phosphate levels were typically lower inside PAAs than outside before the establishment of LAWPRO and ASSAP in 2018, the gap has since widened with concentrations on average 22% lower inside PAAs (2019-2024). It is noteworthy that from 2019 onwards, mean phosphate levels inside PAAs were consistently below the good status environmental quality standard of 0.035 mg P/L, which was an improvement compared to the period leading up to their establishment. It is hoped that in time, following a period of recovery, these phosphorus reductions will lead to improvements in ecological status.

Conclusion

Overall, water quality in Ireland is continuing to decline, despite improvements in some areas. All sectors have a role to play. Excess nitrogen and phosphorus losses from agriculture remain a key contributing factor. While there are many actions being undertaken across the sector to improve water quality, the scale and pace of implementation needs to be increased. The EPA has updated our tools and maps to help target the right measures in the place. The evidence shows that in the Priority Areas for Action, where actions are being targeted, there are greater levels of improvement in phosphorus concentrations than elsewhere. This highlights the progress that can be made when actions are targeted. It is essential that better information is collected by all stakeholders, on when and where the actions are being implemented on the ground, to provide better information on how the progress can be accelerated.

Figure 3. Mean phosphorus concentrations inside and outside Priority Areas for Action, before and after the establishment of LAWPRO and ASSAP in 2018.



Acknowledgements

EPA colleagues who deliver the water monitoring programmes and the assessments of pressures impacting on waters. Colleagues from Local Authorities, Inland Fisheries Ireland, Marine Institute, Waterways Ireland and the Local Authorities Waters Programme who assist in the monitoring and assessment of waters and pressures.

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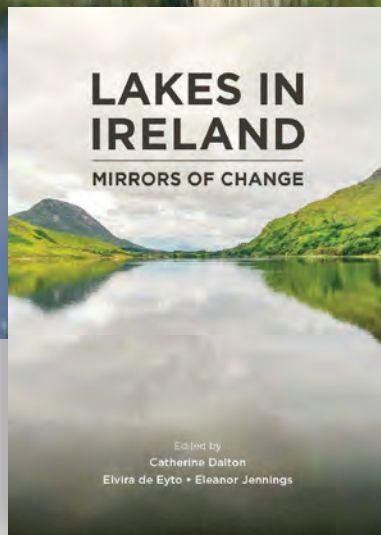
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Pine Island, Galway. Photo Credit, Ruth Little



Book: Lakes in Ireland – Mirrors of Change

The island of Ireland is home to an extraordinary number of lakes, which serve as both vital ecosystems and significant cultural landmarks.

This **FREE open access digital book** is freely available on the Marine Institute's Open Access Repository (link below). The book brings together leading experts to present an in-depth exploration of Ireland's lakes, their history, geography, science and the growing threats they face. By equipping communities and policymakers alike with knowledge, the authors hope to inspire action that will safeguard Ireland's lakes for future generations.

The authors caution that not all is well. While Ireland has been spared the severe droughts and floods afflicting lakes elsewhere in Europe, issues like nutrient over-enrichment, or eutrophication, pose significant threats. Algal blooms, such as the 2023 crisis on Lough Neagh, highlight the dangers of pollution and the urgent need for action. The book also addresses broader environmental concerns, including climate change, invasive species, and hydrological alterations.

Chapters emphasise the need for a coordinated, multi-agency approach to lake management. The authors advocate for better regulation, inter-departmental collaboration, and more robust community involvement in the stewardship of these vital water bodies.

This digital book has been made possible through the collaborative efforts of leading researchers, environmentalists and government agencies and the book sponsors who made this open access publication possible (National Parks and Wildlife Service, Marine Institute, Environment Protection Agency, Mary Immaculate College (University of Limerick), the Geological Survey, Agri-Food and Biosciences Institute, Local Authority Waters Programme, Loughs Agency, An Foram Uisce, National Federation of Group Water Schemes, Coillte and the Irish Freshwater Sciences Association).



Download your free copy:

<https://oar.marine.ie/handle/10793/1973>

50 Years of Lake Monitoring and Assessment

Deirdre Tierney & James Petrie

Healthy lakes are essential for wildlife, fisheries, drinking water and recreation. Over the last 50 years, how we monitor and understand lake health in Ireland has changed hugely. What began as small, expert led surveys in the 1970s has developed into a nationally coordinated monitoring programme that provides a clear picture of lake condition across the country.



The early years of lake monitoring

The first national survey of Irish lakes was carried out in 1973/74 and published in 1975 (Flanagan, P. J., & Toner, P. F. (1975), *A preliminary survey of Irish lakes*). At the time, there was growing concern that nutrient pollution, particularly phosphorus, was damaging important trout fisheries.

This early programme covered just over 50 lakes, mainly larger or well known systems. A few connected lakes were grouped and surveyed together. The work provided a valuable first snapshot of lake condition, but it could not yet offer a full national overview. Early lake assessments were largely qualitative, based on measurements, observations and expert interpretation, at a time when coordinated national monitoring data were limited.

Follow up surveys in the late 1970s and early 1980s expanded the focus to include additional large lakes and some smaller but important ones that had not previously been assessed. The aim was to establish baseline information on water quality and nutrient levels, particularly phosphorus, so that future changes could be detected.

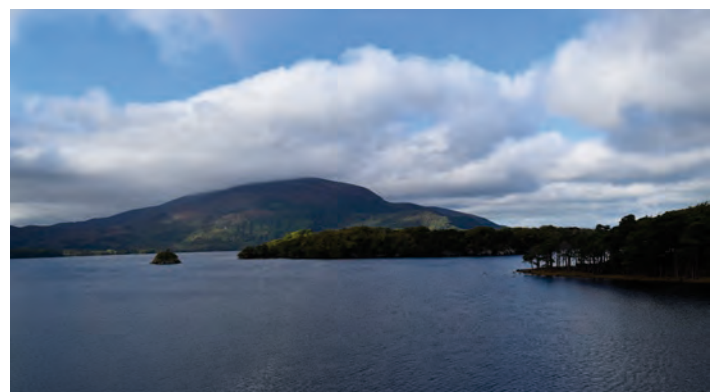
Despite this early progress, routine and coordinated monitoring of lakes across the country remained limited for many years. Responsibility for water quality monitoring was spread across different organisations, and there was no single national programme consistently covering all lakes.

From fragmented surveys to national coordination

The Environmental Protection Agency Act (1992) established the EPA and introduced a legal requirement for national monitoring programmes. However, in practice, coordinated nationwide monitoring of Irish lakes had not yet been achieved. National assessments relied on data supplied by local authorities, other organisations and occasional research projects.

A major turning point came with the introduction of the EU Water Framework Directive (WFD). This legislation required all Member States to assess and report on the ecological health of their waters using standardised methods. For Ireland, this meant developing a comprehensive national lake monitoring programme for the first time.

Muckross Lake, Co. Kerry



Lake monitoring under the Water Framework Directive

The current national lake monitoring programme has been running since 2007. It represents a major step forward in both scale and consistency. The programme now includes over 220 lakes, with monitoring carried out on a regular cycle.

Two types of monitoring are used. Some lakes are part of a surveillance network, where scientists collect a wide range of information to give a complete picture of lake health. Other lakes are included in an operational network, which focuses on key indicators where there is a known risk of impact from human activities.

Today, monitoring looks at much more than just water clarity. Scientists assess lake plants, algae, insects and fish, all of which respond differently to pressures such as nutrient pollution or acidification. Water samples are also taken to measure nutrients, oxygen levels and other chemical conditions. Where relevant, potentially harmful substances are checked against legal standards.

Different organisations work together to deliver this programme. The EPA coordinates the assessment process, Inland Fisheries Ireland surveys fish populations, and local authorities collect water samples that are analysed by the EPA. This collaborative approach ensures consistent methods and national coverage.

Understanding lake productivity and nutrient status

In the earliest surveys, lakes were broadly described as either nutrient poor or nutrient rich. These categories were based on measurements such as algae levels, water clarity and general observations of lake condition. While useful, these early assessments were largely qualitative and could not easily be compared between lakes or over time.

In the early 1980s, an international method developed by the OECD provided a more numerical way to assess lake productivity using averages of algae, phosphorus and water clarity. Because Ireland lacked long term datasets for many lakes, this approach was adapted to work with the data that were available at the time.

These methods allowed national assessments of lake condition to begin in earnest from the mid 1980s onwards. However, results were still influenced by uneven data availability and differences in monitoring effort.

Modern assessment tools and lake health today

The Water Framework Directive required a further step change. Lake condition now has to be classified into clear categories, ranging from high to bad status, based on how much a lake has changed from its natural or near natural state. This change is measured on a scale that allows consistent comparison between lakes and across countries.

To ensure fairness and consistency, Ireland worked with other European countries to test and align its assessment methods. This process helped refine the tools used to assess different parts of the lake ecosystem, particularly those affected by nutrient enrichment and acidification.

As a result, Ireland has scientifically robust tools that assess lake health using multiple lines of evidence. Combined with physical and chemical measurements and legally defined standards for pollutants, these tools provide a strong basis for protecting and improving lake quality.

Recent trends in lake water quality

Since the start of WFD monitoring in Ireland around 2007, EPA evidence shows that at a national level lake water quality has largely stabilised. Currently, 68% of lakes are in good or high ecological status, meaning that just under one third are below the required standard. At the same time, almost half of monitored lakes are classed as moderate or worse, highlighting ongoing pressures.

Trends over the WFD period confirm a gradual downward shift across all surface waters. The proportion in good or high status has fallen from 54% to 52% in the latest assessment, continuing a pattern of decline since the late 2000s. For lakes, the change is smaller but still evident, with a 0.5% reduction in satisfactory status in recent years. Overall, this shows that while widespread deterioration has been avoided, there has been no broad recovery, and nutrient enrichment remains the main pressure affecting lake water quality.

Looking ahead

Fifty years on from the first national surveys, lake monitoring in Ireland has moved from expert snapshots to a comprehensive and reliable national programme. This progress means problems can be identified earlier, trends can be tracked over time, and restoration efforts can be better targeted. Most importantly, it helps ensure that Ireland's lakes are protected for future generations.

Lough Tay, Co. Wicklow



Keem Beach, Co. Mayo

Understanding the Importance of Bathing Water Quality Communication in Ireland

Dr. Marcos Dias

Assistant Professor – School of Communications, Dublin City University

Swimming is the most popular sports activity in Ireland after personal exercise, according to a [2024 report by Sports Ireland](#). As we approach the peak summer season hoping for warm weather and an opportunity for a refreshing dip in our local outdoor swimming venues or to practice our favourite water sport, it is important to always check the water quality and to understand how it is assessed in Ireland.

According to the latest [EPA report](#) (Bathing Water Quality in Ireland 2025), 98% of Ireland's assessed bathing waters met or exceeded the minimum standard and 78% were assessed as having 'excellent' water quality. However, this is still below the EU average of assessed bathing waters classified as 'excellent' at 85%, as stated in their 2025 EU Bathing Water Report. This report highlights how poor water quality undermines the trust of citizens, but also has a measurable economic impact: Europeans spend more than €800 billion a year on recreational visits to water bodies, but perceived poor water quality costs €100 billion a year in lost visits, according to a [2021 study](#). The European Commission has [estimated](#) that the direct benefits related to the protection of human health since the introduction of the [EU's 2006 Bathing Water Directive](#) to monitor bathing water quality equate to €1.65 billion per year. Therefore, investment in bathing water quality not only protects our health but is also a good investment from an economic perspective.

All EU state members must monitor bathing water quality at designated bathing water locations during the bathing season, which in Ireland takes place officially between the June 1st and September 15th every year. Each country needs to take at least one pre-season and four water samples per year (including at least one pre-season sample) from each site over the course of four

years to be awarded classification as poor, sufficient (the minimum acceptable standard), good or excellent. If a bathing water is classified as poor, it indicates that the bathing water is vulnerable to pollution events and it is a matter for a local authority in conjunction with the health authorities to decide whether an advisory notice or a prohibition notice is more appropriate for the full bathing season and a management plan has to be put into place to achieve at least a sufficient standard. This was the case with Sandymount Strand in Dublin last year, which was closed for the full bathing season after testing 'poor' between 2021 and 2024. This year only one identified bathing site—Dún Laoghaire Baths (first identified in 2025)—has been assessed as having poor bathing water quality, and despite having been recently redeveloped it displays an "advice not to swim" warning for bathers for this season due to sewage overflow and dog fouling while a management plan is being put into place by the council.

The EU Bathing Water Directive also includes specific guidelines for dealing with short-term bathing water pollution issues, including notification to citizens, information on the nature of the pollution event and its expected duration.

There are some key issues regarding the current structure of bathing water quality assessment and communication:

- The official bathing season does not take into account that the majority of bathers in Ireland partake in water activities both inside and outside the official bathing season. Some local councils such as Dublin City Council and Dún Laoghaire-Rathdown County Council test water samples out of the bathing season, but this is not the norm across Ireland.
- Citizens might still be exposed to potential health issues due to the current delay between assessing a short-term pollution issue and informing them. Water samples need to be collected and assessed in the lab, a process that can take [up to 48 hours](#) prior to the issuing of results.

- The number and extent of identified bathing waters (currently 153 sites in Ireland) does not cover all the places where water activities take place, including beaches that are very popular for specific water activities, such as StrandHill in County Sligo, which is a well-known surfing spot—and event-related activities, such as Blackrock Beach in Dundalk, where the annual Blackrock Raft Race in Dundalk **had to be cancelled** due to suspected water pollution and the lack of official water testing.

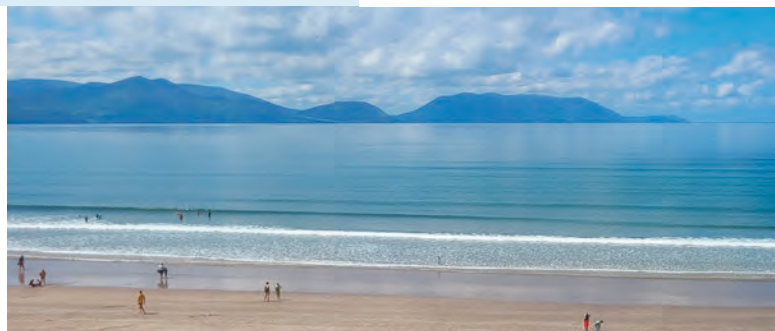
Many bathers will not be aware of the current resources available for checking bathing water quality, such as the website beaches.ie hosted by the **Environmental Protection Agency**, which displays the results of local authority samples as soon as they are available and also has a FAQ section with useful information. This includes a recommendation that no one should swim in rivers, lakes and seas for 48 hours after any heavy rain and advice on how citizens can make a submission to their local authorities to designate a new bathing area. It also outlines the many ways in which water pollution can be triggered other than by stormwater overflow, including bird and dog fouling, industrial and agricultural discharges and domestic sewage misconnections.

The European Commission **acknowledges** that new technologies such as automated monitoring, sensor technologies, satellite imaging and predictive modelling can provide more efficient monitoring of bathing water quality.



Brittas Bay, Co. Wicklow

To address this, the **DCU RESTART project** aims to improve the monitoring of bathing water quality through better communication strategies and technical improvements in water quality analysis to protect citizens undertaking bathing water activities both during and outside the bathing season. The project is developing rapid testing technologies to provide much faster results while also raising awareness of the importance of checking bathing water quality before swimming in Irish waters. The RESTART project also analyses how communication of bathing water quality from government agencies to Irish citizens can be improved.



Inch Beach, Co. Kerry

As part of the RESTART project, we ran a national online survey that provided a snapshot of citizen's awareness of bathing water quality issues. Here is a sample of some of the key findings:

- 67%** of respondents conduct activities regularly both within and outside the bathing season.
- 23%** of participants have experienced a health issue at least once after conducting water activities
- 62%** of participants are not aware of Beaches.ie as the main online resource for bathing water quality information in Ireland
- 25%** of participants don't know if the areas where they conduct water activities are identified bathing sites (subject to bathing water quality analysis)
- 69%** of respondents are unaware that they can identify new bathing water areas and propose them to local authorities (so that they are subject to regular bathing water quality monitoring)

By improving communication, awareness and efficiency of bathing water quality monitoring in Ireland, The RESTART project highlights the key importance of water in everyday life, for health, leisure and economical purposes. If you're going for a dip as the summer kicks in, remember to check the bathing water quality beforehand. And if your local bathing site is not yet monitored, contact your local authorities to demand it, so that you can swim, surf and paddle safely!

The **DCU RESTART project** is funded by **Research Ireland** under the **National Challenge Fund**.

References

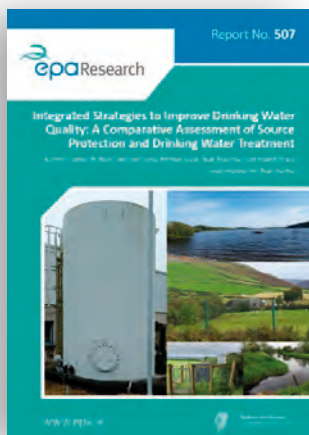
- [https://www.sportireland.ie/sites/default/files/media/document/2025-09/ISM 2024 Summary Report 2024.pdf](https://www.sportireland.ie/sites/default/files/media/document/2025-09/ISM%2024%20Summary%20Report%202024.pdf)
- <http://www.ecehh.org/news/visiting-water-bodies-worth-700bn-economies-study-finds/>
- http://environment.ec.europa.eu/document/download/cb762d49-b4ef-44db-9faa-1fe248d90e34_en?filename=SWD%282025%2953_0.pdf
- http://environment.ec.europa.eu/document/4be6f6f9-6fd5-4a90-888d-3c77b29bbeac_en
- <http://restart-sfi.ie/>

Latest EPA Research on Water Quality and Management

Since 2020, the EPA has published research reports from more than 40 projects under the *Protecting and Restoring our Natural Environment* hub. These projects take a cross-sectoral approach to managing the natural environment, supporting policy development across areas such as emissions regulation and the protection of water, land, and ecosystems.

Recent examples include the 2026 REMARC project report on faulty septic tanks, which found that many domestic wastewater treatment systems fail to meet required standards, leading to pollution of surface and groundwater and posing risks to both the environment and public health. The research, led by UCD, TUD and UCC, provides evidence-based recommendations informed by a combination of top-down and bottom-up perspectives on wastewater management.

Another project published in 2026, Integrated Strategies to Improve Drinking Water Quality, assessed the effectiveness of combining source protection measures with advanced drinking water treatment technologies across different Irish catchments. This research, led by a team in the Ryan Hanley Consultants Ltd, used multi-criteria analysis supported by cost assessments and expert input. The study identified site-specific, integrated solutions as the most effective approach for meeting regulatory requirements, reducing long-term costs, and supporting sustainability. It also highlights the need for further quantitative validation and increased public awareness to encourage behavioural change.



Research 507: Integrated Strategies to Improve Drinking Water Quality: A Comparative Assessment of Source Protection and Drinking Water Treatment

Ensuring the safety and sustainability of drinking water sources is mandated under the Water Framework Directive. This research led by a team in Ryan Hanley Consultants Ltd investigated source protection (SP) measures using advanced

drinking water treatment technologies (DWT) to improve drinking water in diverse Irish catchments. It examined how site-specific catchment attributes influence the effectiveness of SP and DWT strategies. A multi criteria

analysis (MCA), supported by cost assessments and expert input, identified the most suitable combinations of SP and DWT options. The findings suggest that integrated, site specific solutions best achieve regulatory compliance, reduce long term costs and support sustainability. The MCA framework offers policymakers a tool to balance technical, economic and social criteria. It recommends quantitative validation to strengthen its recommendations and public awareness initiatives that encourage behavioural changes to support water protection.

Research 510: Remediation of Faulty Septic Tanks: A Mixed Methods Approach to Environmental Risk Communication (REMARC)

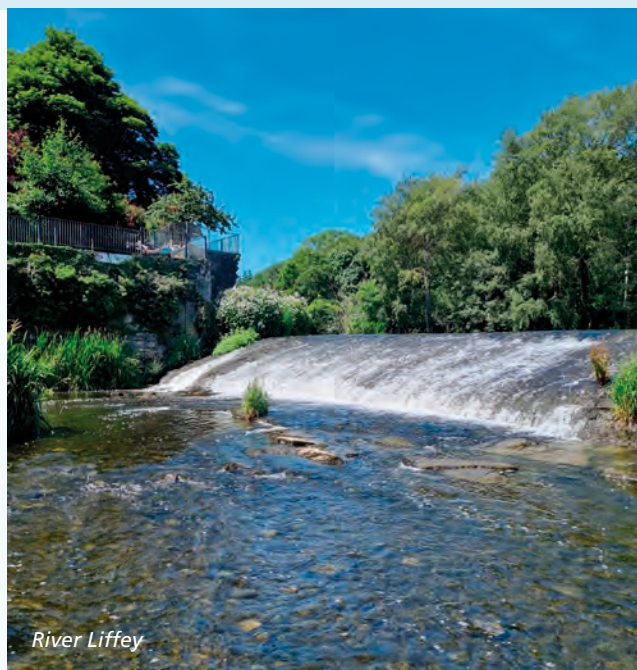
Approximately 526,000 households in Ireland rely on septic tanks for wastewater treatment. Evidence from the EPA indicates that many Domestic Wastewater Treatment Systems (DWWTS) do not meet required standards resulting in pollution of nearby surface waters and groundwater, posing environmental and public health risks. This research led by UCD, TUD and UCC provides key insights and prescriptive recommendations gathered through a structured suite of multi-modal inquiries spanning top-down and bottom-up DWWTS management perspectives.



Research 515: Climate Resilient Places

This research led by University of Galway addressed a critical knowledge gap in how increasing flood risk due to climate change, will affect Irish communities at a local level. It examined future flood hazards and costs, how people understand these risks, and how planning, housing and

adaptation policies influence community vulnerability. Using high resolution flood modelling, economic damage estimates, housing market analysis, planning data and stakeholder engagement, the project provides new local level evidence. The findings show that climate change will expand floodplains, increase uneven economic losses, and that housing markets only partly reflect risk. Perceptions of flood risk vary widely, highlighting the need for clearer communication. The results provide practical evidence to inform planning, infrastructure investment and adaptation, support better risk aware policies, and foster community engagement in building climate resilient places in Ireland.



EPA Water Quality Monitoring Datasets Now Available on the EPA Geoportal

May 2026

The Water Framework Directive (WFD) monitoring led by the Environmental Protection Agency (EPA) provides a coherent and comprehensive national overview of the ecological and chemical status of surface waters (rivers, lakes, transitional and coastal waters) and the quantitative and chemical status of groundwaters. This information is used to track progress towards the achievement of the environmental objectives required by the WFD and as set out in Ireland's national River Basin Management Plan (RBMP), and to assess change in the quality of Ireland's aquatic environment over time.

A number of EPA water monitoring datasets are now available to download through the EPA Data Geoportal. These data provide easier access to key information on supporting data used in river and lake ecological assessments for the Water Framework Directive.

These datasets may be of interest to researchers, consultants, and public bodies working on Water quality improvements and related environmental analyses, or to the public interested in the local rivers or lakes.

Available Datasets

River Monitoring Datasets

The following river monitoring datasets are now available for download:

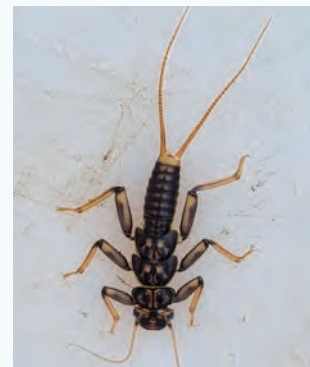
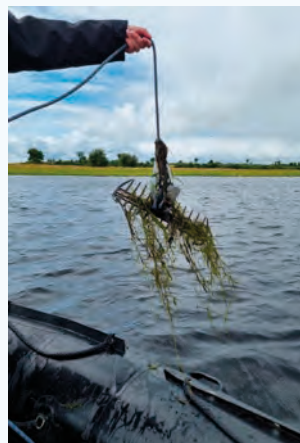
- EPA River Invertebrate (Q-value) Data
Macroinvertebrate data used in the assessment of ecological status of rivers under the WFD.
- EPA River Invertebrate (AWIC) Data
Macroinvertebrate data used in the assessment of ecological status of acid-sensitive rivers under the WFD.
- EPA River Habitat Assessment Technique (RHAT) Data
Hydromorphological assessment scores used in the assessment of ecological status of rivers under the WFD.

Lake Monitoring Datasets

The following lake datasets are now available for download:

- Lake Phytoplankton Taxonomic Data
Phytoplankton data used in the assessment of ecological status of lakes under the WFD.
- Lake Macrophyte Data (Free Index)
Aquatic plant used in the assessment of ecological status of lakes under the WFD.
- EPA Lake MImAS Hydromorphological Assessment Data
Hydromorphological assessment scores used in the assessment of ecological status of lakes under the WFD.

Aquatic lake plants, photo H. Feeley



River Invertebrate Perla Carlukiana, photo H. Feeley



Download the datasets here:

<https://www.catchments.ie/epa-water-quality-monitoring-datasets/>

A Day in My Life as a Hydrometric Officer

Thomas Killen, Environmental Protection Agency

People often say to me, "You must have the best job being out by the river in the sunshine with all that cool equipment!" And sure, there are days like that. But what most people don't see is me standing waist high in the Inny River in Mountnugent, Co. Cavan the middle of January, rain hammering down, trying to keep my fingers warm enough to operate the instrument. Similarly, during rainy days, but I remind myself that there's no such thing as bad weather, only bad clothes.

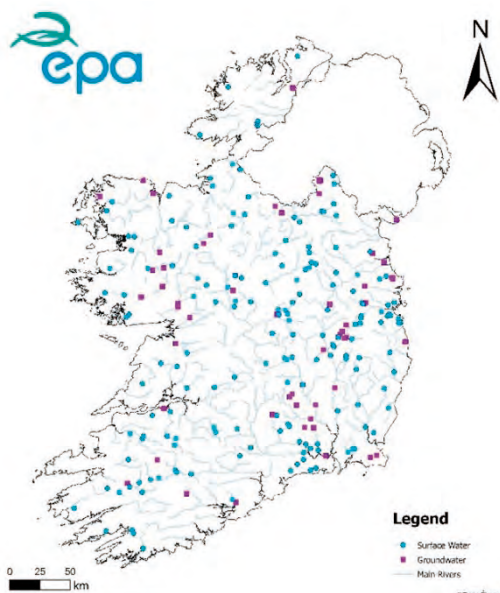


Monaghan Hydrometrics Team:
Patricia and Thomas, Vehicle & Flow Kit

I'm part of the EPA's Hydrometric Team in Monaghan and my work takes me all over the country. I spend my days measuring, monitoring and analysing what's happening in Ireland's rivers, lakes and groundwater.

Our national hydrometric network consists of 250 stations with six regional hydrometric teams across Ireland who gather water level and flow as set out in the Environmental Protection Agency Act (1992). The information we gather is vital, it helps protect our water resources, manage pollution, forecast floods and understand climate change.

Map of hydrometric stations

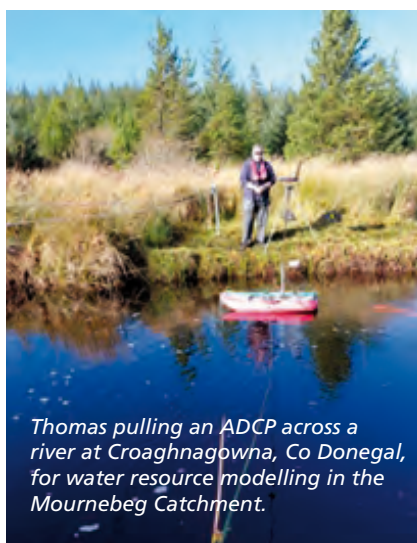


Most of my week is spent outdoors, with my hydrometric team member Patricia. River monitoring is one of the most demanding parts of the job. Sometimes I wade into the river with an instrument that measures depth and velocity at set points. Other times I use a small boat fitted with an ADCP (Acoustic Doppler Current Profiler), pulling it across the river or controlling it remotely.

It sends sound pulses into the water and uses the returning echoes to map how fast the water is moving at different depths. As the boat moves across the river, it builds a picture of the riverbed and the flow beneath the surface. It's incredible technology, and it's a lot safer for measuring deeper or faster waters.

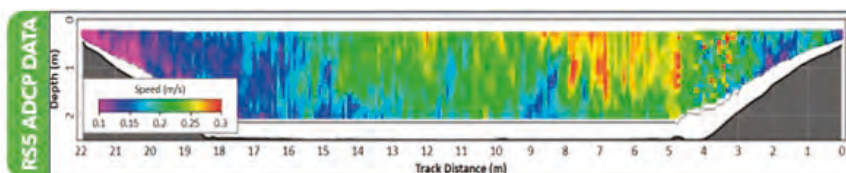
Lake stations sometimes require long hikes over rough ground before I even reach the equipment. There we download water level data and temperature and check that everything is working as it should. Groundwater monitoring is a bit easier. I visit boreholes, download the data and make sure the instruments are accurate and up to date.

Thomas taking a wading flow measurement at Shantonagh Bridge, Co Monaghan, for monitoring compliance with discharge licences and national flow model in the Dromore Catchment.



Thomas pulling an ADCP across a river at Croaghmagowna, Co Donegal, for water resource modelling in the Mournebeg Catchment.

Maintaining our stations is also an important part of my role. Good data depends on well kept equipment and safe access. That means replacing water depth metre sticks, clearing debris, checking riverbanks, pumping out pipes and keeping an eye on anything that might affect the quality of the data, at our hydrometric stations. When maintenance isn't carried out, stations can fall into disrepair, get blocked or overgrown, and that impacts everyone who relies on the information, e.g. local authorities, environmental planners recreational water users etc.



Transect of river speed using a boat measurement (by ADCP)

Even though most of my time is outdoors, I usually try to spend one day a week in the office. I use that time to validate and review the data we have collected, plan upcoming visits, check alarms and keep in touch with colleagues. It's quieter work, but it keeps everything running smoothly.

A typical day

A typical day starts early. First, I check the most recent data sent in from the stations and see if there are any alarm messages; that's when the river rises past a level we've set for priority measurement. If an alarm has triggered, our plans could change instantly. Then we head off, sometimes driving up to two hours to the first hydrometric station.

When we arrive, we assess the site for safety, check the weather and set up the equipment. We download data, calibrate the instruments, and if everything looks good, I or Patricia carry out the flow measurement, either by wading in the river or using the boat. By lunchtime we are on the move again, travelling to the next station, grabbing a quick sandwich in the van. Later in the afternoon, we charge the electric van along route, all while reviewing the data we've collected on the laptop. We then might fit in some site maintenance at another nearby site.

As the day draws to an end, we head back to base, often wet, but content. Then it's time to bring home the gear to dry out, recharge equipment batteries and get ready for whatever the next morning throws at us.

A hydrometric station on the Glenaniff River, Rossinver Co Leitrim for water resource modelling in the Lough Melvin catchment.



Debris stuck at hydrometric station Faulkland Bridge, Co Monaghan (requiring external assistance) Station data is for national flow models including water resource and flooding and for monitoring compliance with discharge licences in the Blackwater Catchment.



For me..

People often ask what I love most about the job? For me, it's the variety. No two days are the same. I get to spend time outdoors in some of the most beautiful parts of the country. I have a programme of work to complete but I get to determine my daily schedule, work independently and solve problems on the spot and I know that what I do matters! The data I collect helps to protect Ireland's waters and prepare for the challenges of a changing climate.



Patricia downloading water level data at Ballyfarnon, Co Roscommon for monitoring compliance with discharge licences in the Feorish Catchment.

Of course, it isn't always easy. The travel can be long, the weather unpredictable and the physical work demanding. Some days run over when equipment fails or conditions change unexpectedly. But even on the tough days, I wouldn't swap it for anything else.

This job teaches you resilience, resourcefulness and a deep respect for the natural world. The rivers and lakes of Ireland are constantly changing and the role is to understand those changes so we can protect our water environment for the future.

Other Links:

Inside the EPA – Episode 1: Hydrometric and Groundwater Unit
<https://www.youtube.com/watch?v=uHWcm7BxDgA>

How we measure water level and flow:
<https://www.epa.ie/our-services/monitoring--assessment/freshwater--marine/rivers/water-level-and-flow/>

Riparian Buffer Zones

Teagasc

The protection of waters; (drains, watercourses, streams, lakes, wells, abstraction points for water supplies, karst features, etc.) from nutrient, sediment and pesticide losses is a key part of the Nitrates regulations. When farmers are applying fertilisers, cultivating and spraying fields they need to be aware that they are required to utilise riparian buffer zones to help minimise any potential losses.

Correctly located riparian buffer zones can minimise the impact of diffuse losses by intercepting the nutrients, sediment and pesticides and break the pathway of surface runoff.

What is a Riparian Buffer Zone?

A riparian buffer zone is an area adjacent to a water body where no chemical and organic fertilisers, cultivation and spraying can be carried out. These zones vary in width and are required to protect waters from diffuse losses of nutrients, sediment and chemicals. Farming practices can occur on these areas once the relevant fertiliser, cultivation and pesticide restrictions have been observed.

A riparian buffer zone acts to intercept and take up excess nutrients before they enter a watercourse, where they can negatively impact on water quality. Riparian buffer zones sited along these areas act to "Break the Pathway" of potential losses.

Fenced Riparian Buffer Zones adjacent to watercourses, rivers and streams act to protect the water by creating linear buffer zones where little or no agricultural activity takes place. In turn these areas

- Intercept nutrient, sediment and pesticide before reaching the waterbody
- Prevents livestock from accessing river banks and watercourse, thus helping reduce erosion and sediment addition to the watercourse.

- Provide a natural habitat for flora and fauna to establish and allow for greater biodiversity in the area
- Serve as carbon sinks as the growth of vegetation will store carbon in undisturbed soils

Diffuse Risk and Riparian Buffer Zones

- Diffuse losses of nutrients, sediment and pesticides are impacting water quality. Diffuse losses occur at a field or farm scale where nutrients, sediment and pesticides reach waters from farming activities such as slurry spreading, spraying and cultivation.
- Diffuse losses of nutrients, sediment and pesticides is most likely to occur when soils are at or close to saturation. When soils are saturated or waterlogged, additional rainfall will flow over the surface towards drains or streams bringing with it the recently applied fertiliser or chemicals and sediment.
- Where a riparian buffer zone is in present, this will provide a 'break' between the nutrients, sediment and chemicals applied on the field thus reducing the risk of nutrients or chemicals reaching the water body.



Tips for improving Water Quality through use of Riparian Buffer Zone

For Riparian Buffer Zones to be effective in reducing surface water runoff or pollutants from entering waterbodies, they must be correctly located, planned and established to adequately protect the water body and intercept the potential nutrient, sediment or chemical losses.

Location and Size of Riparian Buffer Zones

- 1** Effective riparian buffer zones must be located at the points most likely to allow nutrient, sediment or pesticides enter a waterbody.
- 2** These are often low-lying parts of farms where surface runoff accumulates in high concentration (critical source areas) and is delivered to a waterbody.
- 3** Correctly positioned riparian buffer zones in these areas will “Break the Pathway” preventing diffuse losses reaching the waterbody.
- 4** In general, the wider the riparian buffer zone, the more likely it is to prevent runoff reaching the waterbody.
- 5** Take into consideration the likely volume of surface water run-off when deciding on the size of the Riparian buffer zone.
- 6** In poorer draining soils or fields, increased width will improve the protection given by these areas.
- 7** Minimum Buffer Zones for chemical and organic fertilisers are shown below.

Establishment of Riparian Buffer Zones

- Unfenced unfertilised riparian buffer zones, that continue to be grazed/cropped, offer a low level of protection to watercourses.
- On sloped marginal land or in natural flood plains the establishment of riparian buffer zones will offer a higher level of protection to watercourses.
- Natural vegetation or native wooded or scrubby riparian zones can absorb nutrient, trap sediment and improve water infiltration, whilst also providing other environmental benefits including increased biodiversity, carbon sequestration and improve river bank stability.



Minimum Buffer Zones to be observed:

Chemical fertiliser not to be applied within 2m of surface waters.

Organic fertilisers not to be applied within

- 5m of surface waters (extends to 10m for first 2 and last 2 weeks of the spreading season)
- 10m of surface waters where the slope towards water exceeds 10%
- 15m of exposed cavernous or karst features such as swallow holes and exposed rock
- 20m of a lake shoreline
- 25-200m of a water abstraction point for human consumption

Maintain an uncultivated margin of 2m along all water bodies for tillage crop

Summary

By establishing Riparian Buffer Zones in key locations on your farm, you will help to protect water courses from nutrient, sediment and pesticide losses. Your local ASSAP Adviser is available to advise on the most suitable locations and size of riparian margins for your farm. These areas will not only benefit water quality but also assist in improving biodiversity and carbon sequestration.

Removing Barriers to Restore Fish Migration in Ireland

Laura Casey –
Inland Fisheries Ireland

Across Ireland, thousands of weirs, culverts, fords and other instream structures interrupt the natural flow of rivers. Many of these structures were built decades ago for milling, land drainage, roads, or water management. While they once served important functions, many structures are now redundant and can block fish migration, fragment habitats, and impact the ecological health of our rivers.

The National Barrier Mitigation Programme, led by Inland Fisheries Ireland and funded by the Department of Housing, Local Government and Heritage in collaboration with the Department of Climate, Energy and Environment, is working to address this challenge and with its delivery seeks to implement projects to address the EU's Water Framework Directive and Nature Restoration Regulation 2024. The programme identifies barriers that prevent fish from moving freely through river systems and implements practical solutions to restore connectivity while respecting local heritage and community needs.

Barrier mitigation is one of the most effective ways to restore rivers. By addressing key obstacles, we can reconnect large areas of habitat for migratory fish and help rivers function more naturally.

Why river connectivity matters

Endangered migratory species such as the Atlantic salmon, sea trout, sea lamprey, river lamprey, twaite and allis shad and European eel all make long migratory journeys to reproduce. However, a range of other Irish fish species, such as pike, brown trout and bream, live entirely in fresh water but make extended movements along the river system for feeding or to access spawning and nursery areas. Any restrictions to fish migrations may have negative consequences for their habitat use, reproductive or feeding capacity and could lead to long-term declines in their population.

Even small structures can create major obstacles for fish, a step of just 150mm can become impassable under certain flow conditions, particularly during low water periods. Over time, these barriers can isolate fish populations and reduce access to upstream spawning and nursery habitats.



Barriers can also trap sediment, starving lower reaches of the natural gravels required to replenish fish spawning beds. Removing barriers helps alleviate hydromorphological pressures in rivers and restoring connectivity helps rivers function more naturally. Barrier mitigation helps improve biodiversity, support fisheries and their habitats, and strengthens the resilience of river ecosystems in the face of climate change.

A practical approach to removing barriers

The National Barrier Mitigation Programme takes a structured, catchment-based approach to mitigate the impact of manmade barriers in our river systems. First, barriers are identified and assessed to determine their impact on fish passage and overall river health. The delivery team, made up of engineers and environmental specialists evaluate the most appropriate mitigation solution.

The highest ranking option for barrier mitigation is complete removal of in-stream structures, particularly where a structure is no longer serving a purpose. In other cases, where structures serve an on-going function, solutions may include rock ramp, pool and boulder passe, by pass channel, or upgrading a culvert to allow water and fish to move more naturally through the structure.

Projects are delivered in collaboration with landowners, local authorities, public bodies and community groups. This partnership approach helps ensure that solutions work for both the river and the people who live alongside it.

CASE STUDY: Reelin River Barrier Mitigation

In 2025, the National Barrier Mitigation Programme worked in collaboration with The Loughs Agency to complete a barrier mitigation project in the River Finn catchment in County Donegal.

The project involved removing the old culverted ford crossing, Figure 1 below and replacing it with a new clear span bridge structure, Figure 2.

Post works spawning area monitoring upstream of the Reelin River barrier mitigation has shown that the project has had an immediate positive impact on the wild Atlantic Salmon population. Several kilometres of spawning habitat upstream of the barrier has been opened up and salmon redds have been observed in Winter 2025. Fish now have unrestricted access to the upper reaches of the catchment and important gravels are no longer starved from the downstream reaches.

Figure 1 Old Ford Crossing Before Mitigation Works



Figure 2 New Clear Span Bridge



Barrier Mitigation Fund

The Barrier Mitigation Fund is a key delivery component of the National Barrier Mitigation Programme, providing targeted funding to support the assessment, design and implementation of measures that improve fish passage at in-stream barriers. The fund enables a range of practical interventions, including the removal of obsolete structures, installation of nature-based fish passes, and modifications to existing structures to allow water and fish to move more naturally through river systems.

The first funding call (Barrier Mitigation Fund Scheme 1), launched in May 2025, generated strong interest nationwide and supported 103 fish barrier mitigation projects across Ireland. Building on this momentum, a second funding call (Barrier Mitigation Fund Scheme 2) was launched in December 2025, further expanding the number and geographic spread of supported projects. Together, these funding schemes are helping to accelerate mitigation of barriers across catchments.

A third funding call is planned for Autumn 2026, which will continue to support locally led initiatives and strengthen collaboration between communities and statutory bodies. By supporting these projects, the fund plays an important role in restoring river connectivity at scale, while also building local capacity and awareness around the importance of healthy, connected river systems.

Looking ahead

Across Ireland, work is underway to identify and prioritise barriers that have the greatest impact on river connectivity. By focusing on key structures within catchments, the programme has the potential to reopen long stretches of habitat for fish with targeted interventions.

Restoring connectivity is about healthier rivers overall. When barriers are addressed, rivers can move water, sediment, and wildlife more naturally, supporting biodiversity and improving ecological status under the Water Framework Directive.

The National Barrier Mitigation Programme shows how practical action, informed by science and supported by collaboration, can make a real difference. As more projects are completed, the lessons learned will continue to guide efforts to reconnect Ireland's rivers for the benefit of both our fish and ecosystems.

Instream Wood: A Habitat Feature Missing from Irish River Ecosystems

Inland Fisheries Ireland



Wood that falls into rivers is far more than just dead trees and branches. Internationally, it has emerged as a key tool in river restoration, valued for its capacity to enhance geomorphic complexity, habitat heterogeneity, and biodiversity.

Large wood re-introduction is now being used in river restoration projects to kick-start more natural river processes. However, large wood is often absent from Irish rivers due to the active removal by humans for aesthetic reasons or because of a perceived flood risk. Consequently, there is a paucity of evidence documenting the negative impacts of the removal of wood from our rivers or the benefits from its presence. An evidence base is needed to inform how we balance the management of wood and trees along our rivers with the requirement to restore biodiversity.

To close some of this knowledge gap, IFI began investigating the role of large instream wood as a habitat component for fish communities with funding from its Salmon and Sea Trout Conservation Fund (SSTCF), in 2024. This involved surveying around natural wood accumulations (e.g. Image 1) found in rivers and documenting fish responses to wood placement as part of experimental restoration approaches.



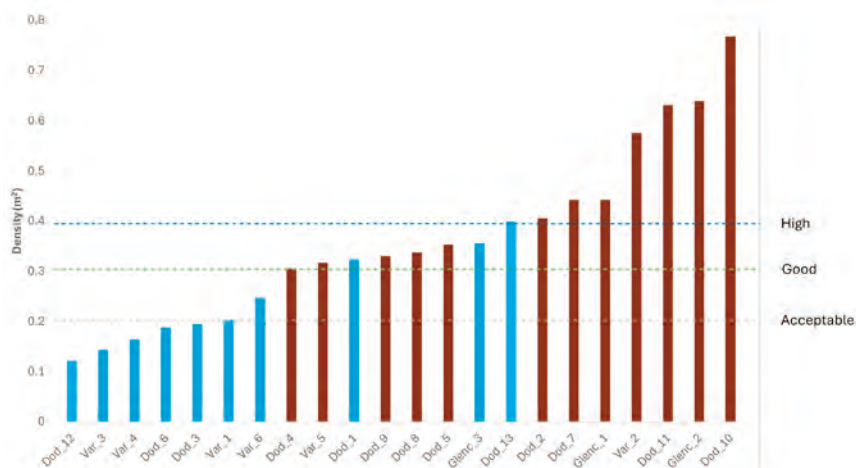
Image 1: Large woody habitat present in the Glencullen river (Wicklow)

Preliminary surveys indicated a positive association between instream wood, habitat complexity and fish abundance. Sites with large wood present, generally had higher fish densities, with brown/sea trout showing a marked preference for locations with high volumes of instream wood (Figure 1). These encouraging results lead IFI, in collaboration with UCD to successfully apply to the EPA Research Programme for funding to support a more ambitious research project assessing the benefits of large wood to biodiversity, its potential to help meet environmental objectives (WFD, Habitats Directive, Nature Restoration Law), and provision of evidence to support policy development.

Figure 1: Trout densities recorded at survey sites with (brown bars) and without large wood (blue bars) in 3 rivers; Dodder, Vartry and Glencullen

Brown trout densities

- LW absent
- LW present





IFI staff monitoring fish and habitat variables (e.g. depth and flow diversity) at a demonstration site where large wood has been re-introduced as habitat restoration measure (River Dodder, Dublin).

RiverWood aims and goals

The core objectives of RiverWood are:

- 1 to document the abundance of large wood in more natural rivers versus managed/modified rivers with a view to establishing a reference baseline that will support future management actions
- 2 to assess the efficacy of large wood augmentation as a restoration measure
- 3 to inform large wood management strategies in Irish rivers in a way that balances environmental objectives with other societal objectives such as flood risk management

Natural river processes – a riffle feature suitable for salmonid spawning has formed following the reintroduction of large wood. The large wood traps gravels on the upstream side to promote development of riffle habitat (Vartry River, Wicklow).



Large woody habitat monitoring in Ireland

Riparian woodlands promote bank stability with their roots, regulate stream temperatures through shade, and supply large wood into the channel through tree fall. Instream wood provides crucial benefits to river ecosystems by creating complex habitats for stream biota, as well as releasing organic matter that enhances ecosystem productivity as it decomposes. Riverwood is developing a monitoring programme to assess biological and physical habitat change at several demonstration sites where large instream wood is naturally present or has been reintroduced.

Supporting best practice and policy development in river management

Adopting large wood as a tool in river restoration practice may have several advantages over harder engineered approaches that rely on the use of imported stone to 'engineer' habitat features. Restoration projects that use large wood can mimic the natural structures occurring in forested rivers. Ireland was once heavily forested, and our aquatic species have evolved to exploit the complex habitat that forms alongside wood accumulations. Wood for restoration projects can often be sourced locally, often from along the riverbanks, and this provides for a cost effective and sustainable approach. As we continue to manage and conserve our water resources, understanding and appreciating the role of wood in river health may be essential for ensuring that our rivers provide the diverse habitat required by many of our at-risk species.



For further information
[www.fisheriesireland.ie/
 research/riverwood](http://www.fisheriesireland.ie/research/riverwood)

Helping Farmers Protect Water Quality: Practical Advice and Grant Support Driving Real Change through the Sustainable Catchment Programme - Northern Ireland



The Rivers Trust, in partnership with Ballinderry Rivers Trust and funded by the Department of Agriculture, Environment and Rural Affairs (DAERA), has been pioneering the Sustainable Catchment Programme (SCP) in Northern Ireland. With over £5 million (stg) in investment over five years, including more than £1.2 million contributed directly by farm businesses, the programme is delivering one of the Northern Ireland's most significant commitments to sustainable land and water management.

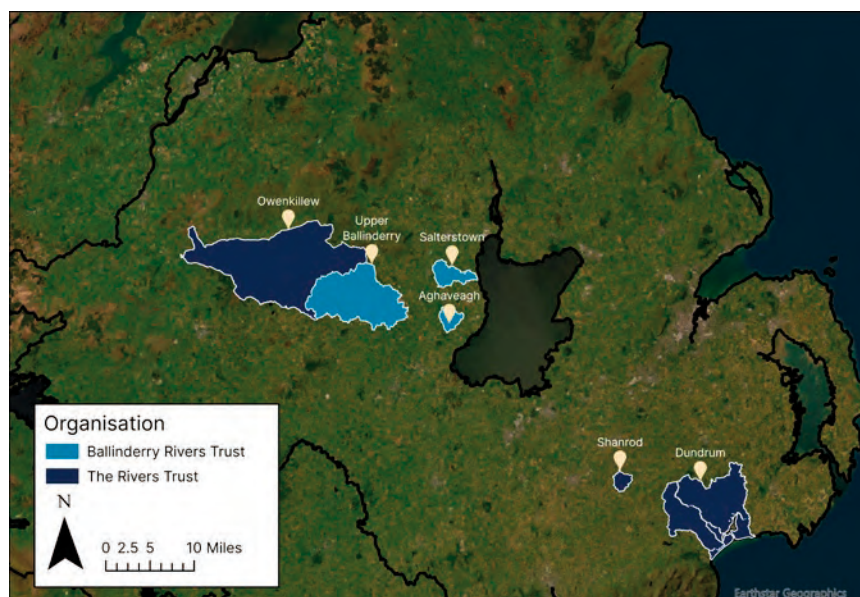
The Sustainable Catchment Programme (SCP) provides farmers in priority river catchments with independent, non regulatory, advice and grant support to reduce agricultural impacts on water quality. Our Water Friendly Farming Advisors co-design water management plans for farms, in partnership with the landowners, setting out prioritised actions that are expected to improve water management and protect water quality in nearby watercourses. Measures that prevent nutrient and soil runoff from fields and farmyards can then be funded with up to 75% grant through the Programme.

These straightforward on farm actions aim to reduce pollution at source, as well as breaking flow pathways, protecting rivers, streams, and wider biodiversity. This innovative, ongoing initiative is dedicated to enhancing the sustainability of local farms and the health of freshwater environments across targeted catchments, which currently include the Ballinderry and Owenkillev rivers in County Tyrone, Salterstown River in County Londonderry-Derry, and the Shanrod and Dundrum rivers in County Down.

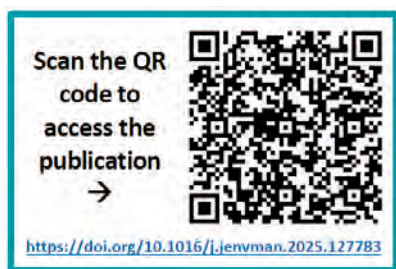
The Ballinderry River is the only river in the Lough Neagh system that still supports a population of the globally endangered freshwater pearl mussel. Its catchment, along with the western-shore rivers and streams feeding Lough Neagh, is a priority area for action under Northern Ireland's Water Framework Directive and Habitats Directive targets, as well as being identified in the Lough Neagh Action Plan, published by DAERA in the wake of the blue-green algae crisis blighting the lough. The upper reaches of the Ballinderry River are designated as a Special Area of Conservation (SAC) and Area of Special Scientific Interest (ASSI) for the protection of the mussel, as well as otter and stream water-crowfoot. This entire area falls within the remit of the Ballinderry Rivers Trust, a charity recognised internationally for successfully improving water quality and reversing the decline of the freshwater pearl mussel through close collaboration with local landowners.

The Owenkillev is also designated as an SAC and ASSI for its freshwater pearl mussel population. The Rivers Trust delivers capital works through SCP conservation measures from the Owenkillev River SAC Conservation Management Plan (CMP).

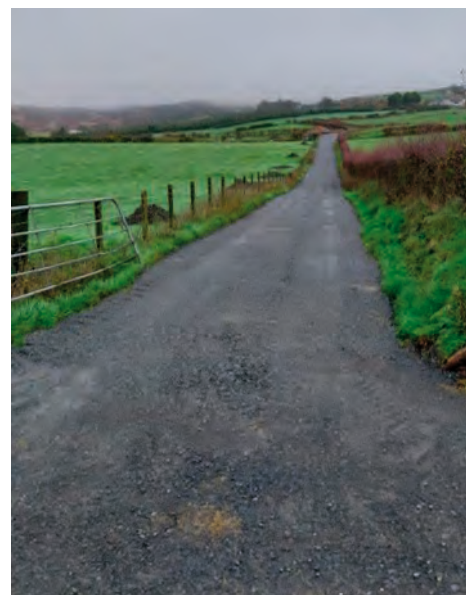
The Shanrod catchment is part of the Upper Bann River Basin, and so eventually drains into Lough Neagh. In collaboration with scientists at the Agri-Food and Biosciences Institute (AFBI) and Ulster University (UU), The Rivers Trust has installed on-farm interventions, such as buffer strips and livestock exclusion measures, as part of a research programme evaluating the efficacy of the measures, with early results showing decreases in particulate Phosphate and suspended solids ([Fresne, 2025](#)).



Sustainable Catchment Programme Catchments



A farm track which was previously mucky, and at times could not be walked on is now dry and accessible even during very wet periods.



The Dundrum River in County Down, has been prioritised for action due to degraded water quality in the river impacting on the commercial shellfishery in Dundrum Bay. The Rivers Trust leads on delivering the SCP and farm advisory for the Dundrum River catchment, to address some of the agricultural pressures contributing to the water quality pressures in the river system.

The Rivers Trust's Farm Advisors work directly with farmers to create tailored Water Environment Management Plans (WEMPs) that identify opportunities to protect water quality and outline eligible SCP funded measures. These plans ensure interventions are targeted for maximum environmental and farm benefits. Actions implemented include establishing riparian buffer zones, installing livestock exclusion fencing, providing alternative livestock watering systems such as solar powered pumps, and separating clean and dirty water on farmyards.

The banks of this stream were previously eroded from frequent use by cattle accessing the water. The slope is now grassed up with significantly less exposed soil.



A recent collaboration with the Woodland Trust Northern Ireland has also identified 86 new tree planting opportunities, both within and outside the catchment areas within the Sustainable Catchment Programme. Of those already identified, 20 tree planting projects have already been delivered, helping combat nutrient and sediment runoff, aiding in carbon sequestration, improving animal welfare, and creating space for biodiversity.

“The Rivers Trust is committed to supporting farmers as the direct custodians of our land. We believe in working together to enhance water quality, protect biodiversity, and ensure the prosperity of farm businesses while protecting and improving the health of our rivers and loughs. Through collaboration and support, we can achieve a sustainable economy and a flourishing environment enjoyed by all.”

Mark Horton, All-Ireland Director, The Rivers Trust

Should you wish to find out more about the Sustainable Catchment Programme or would like to get in touch, please email: all-ireland@theriverstrust.org. Images provided by AFBI, Dr Maëlle Fresne.

Conservation Breeding of Freshwater Pearl Mussels at the Marine Institute

Elvira de Eyto, Darija Bluzaitė and Philip Keena



Background and conservation need

Freshwater pearl mussels (*Margaritifera margaritifera*; FPMs) are bivalve molluscs native to Irish rivers and lakes. They are recognised as one of the 365 most endangered species in the world and are protected under the Wildlife Act 1976 and listed in the EU Habitats Directive. The decline of this species has resulted from failure of populations to produce younger generations, which is linked to habitat damage such as changes in hydrology, increased sedimentation and nutrient enrichment. These mussels are considered keystone animals in oligotrophic Irish waters, where their natural filtering capability would have historically contributed to the health of river and lake habitats. With only remnant populations surviving, this function is now only a fraction of what it once was. The National Conservation Strategy for Irish mussels recognises the importance of conservation breeding programmes for ensuring the short- to medium-term survival of populations in severe decline. Breeding programmes for FPMs are underway across Europe and have been met with varying degrees of success. Evidence of rapid population declines since 2010 has further increased the importance of captive breeding as a conservation measure for the species.

Philip Keena, Elvira de Eyto and Darija Bluzaitė (L-R) run the freshwater pearl mussel breeding programme at the Marine Institute's hatchery in Furnace, Co. Mayo, with the help of all the Marine Institute staff and frequent engagement with Richard O'Callaghan and Robert McNamara (NPWS), and Evelyn Moorkens and Ian Killeen (Moorkens and Associates consultancy).

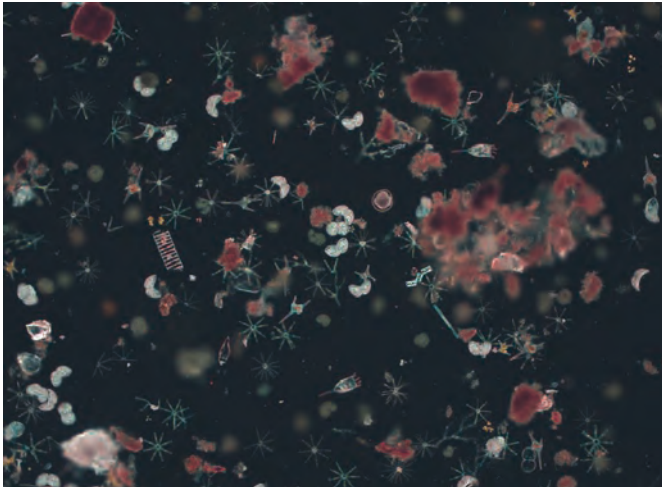
Lifecycle and facility requirements

A crucial part of the life cycle of FPMs is the attachment of mussel larvae (glochidia) on the gills of juvenile salmon and trout. Breeding programmes therefore need the capacity to hold healthy host fish in suitable rearing facilities alongside adult breeding mussels for the duration of the glochidial attachment phase. The facility also needs the requisite infrastructure to harvest juvenile mussels as they drop off fish, and then to keep these juveniles alive and thriving for anything up to 10 years. Central to any successful captive FPM breeding programme therefore, is a salmonid hatchery coupled with a reliable clean water source in which to rear juvenile mussels. At Furnace, Newport, Co. Mayo, the Marine Institute operates a well-regulated freshwater salmonid rearing facility operated under a HPRA establishment licence. Water for the hatchery is extracted directly from Lough Feeagh, which is a deep dystrophic lake with good ecological quality.

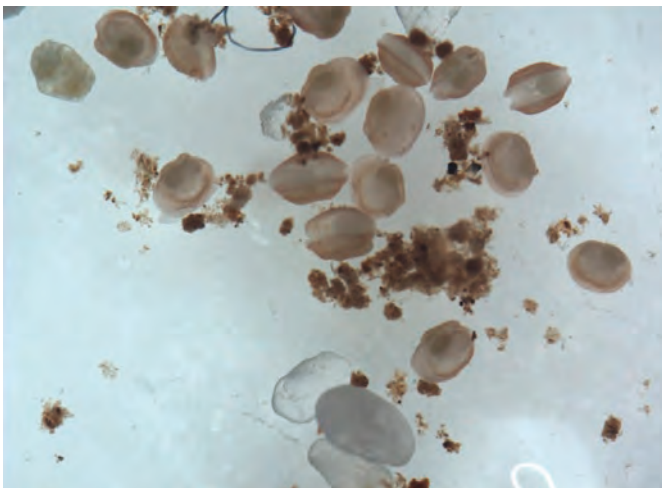
“Captive breeding gives us a window of opportunity for very vulnerable populations of mussels, especially where habitat restoration is not happening quickly enough, leading to a lag-time between taking measures and seeing the benefit in the habitat. Captive breeding works alongside habitat restoration, not instead of it. By preserving the genetic potential of existing populations, we can buy time for restoration efforts to work, helping to secure a future for this species that plays such a key role in our freshwater ecosystems.”

Elvira de Eyto, Marine Institute.

A microscopic view of newly released glochidia (stage 5 – small white shells), which is the stage at which the mussels are actively “looking” for fish to attach to. Also visible are various phytoplankton and rotifer species.



These are juvenile mussels ~2months after dropping off the host fish. They measure ~4mm.



Progress so far

A pilot programme was devised in late 2019 with NPWS and Moorkens and Associates (ecological consultants), funded by the Department of Housing, Local Government and Housing. In 2020–2021 we had our first successful breeding attempt using adult FPMs from the Newport River (Co. Mayo). We then tried again in 2022, bringing in additional mussels from the Newport and Owenriff Rivers (Co. Galway) and included trout as a potential host, but there was no significant glochidiosis; the same was true in 2023, despite another attempt using Newport and Owenriff mussels with salmon and trout.

In 2024, NPWS delivered additional mussels from the Owenea River (Co. Donegal), along with additional adults from the Newport and Owenriff Rivers, and we observed glochidial release and attachment in 5 of 6 cohorts, although only one cohort reached the stage of viable juvenile drop-off (Owenea). The good news is that in 2025–2026 all three populations reproduced and viable juvenile are dropping off their host fish. With these three

populations, we are comparing hosts (salmon vs trout) which we plan to repeat in 2026–2027. We noticed differences in the timing of key life stages, with Owenriff glochidia developing quickly once attached to their fish, compared to Newport and Owenea glochidia. It will be interesting to see whether this is repeated in 2026 and 2027 when we rerun this experiment.

Generally, captive bred juvenile mussels can be reared extensively (in natural or near natural conditions) or intensively (in heated systems with additional feeding). The main objective of our breeding programme is to produce cohorts of juveniles which can be reintroduced into their natal rivers, in a quantity that will substantially supplement the reproducing population in that river. We expect growth to be relatively slow for juveniles reared in natural systems where Lough Feeagh is the water supply, as this water is cool with low productivity. If we want to be able to increase survival and growth and hence accelerate the production of juveniles to the size at which they can be reintroduced, heating and feeding is likely required. This is what we are focussing on from 2026, by trialling various juvenile rearing systems.

An adult freshwater pearl mussel, which originated from the Newport River. The small white label allows staff to identify individuals over time.



Outreach

An important (and unforeseen) component of the breeding programme in Furnace is the education and outreach opportunities provided by having mussels on site and accessible to visitors. The Marine Institute runs a TY programme as well as hosting children from the local national schools and regular open days. Whenever we have people on site, we take the opportunity to introduce the beautiful mussels and their amazing lifecycle to them. We hope this instils a sense of collective responsibility in conserving this valuable species and fosters an awareness of the importance of protecting river and lake habitats.

All work in this programme is carried out under licence from the NPWS (Licence No. C2/2024).

Collective Action is Helping Protect Our Waters and the Sport You Enjoy

National Biodiversity Data Centre

The impact of invasives

Invasive species are one of the leading pressures on Ireland's natural environment, causing long term damage to ecosystems, native wildlife and the recreational activities that depend on healthy waters. When non native plants or animals spread beyond their natural range, they often outcompete native species for food and space, disrupt food webs, alter habitats and even result in population extinctions. Once established, invasive species can be extremely difficult and costly to control, with impacts lasting for decades, or forever when eradication is not feasible.

The spread of invasive species can also affect water-based sports and recreation. Activities such as angling, canoeing, kayaking, sailing, and wild swimming depend on clean, healthy, freely functioning rivers and lakes. Invasive species can undermine these experiences by reducing fish stocks, smothering spawning gravels, choking waterways, and fouling boats or equipment. Even the measures needed to slow their spread, such as cleaning protocols, can limit where, when, and how people enjoy time on the water, turning once welcoming blue spaces into challenging environments to use.

The recent detection of the invasive Demon shrimp (*Dikerogammarus haemobaphes*) in the Shannon River highlights the ongoing threat posed by new introductions. This aggressive freshwater crustacean is likely to prey on and compete with native invertebrates ultimately impacting fisheries. The effects of Curly waterweed (*Lagarosiphon major*) have already been felt in Lough Corrib, where thick underwater and surface mats had blocked access to boat users and made navigation difficult. Considerable public money has been spent on the management of this species to protect the recreational and amenity value of the lake.

Check Clean Dry!

Preventing further spread of invasive species is critical. Simple biosecurity actions by anglers, paddlers and other water users can make a real difference. Collective action helps protect our waters, safeguard native species and ensure that the sports we enjoy remain viable for future generations.

All water users can protect the environment by following three simple steps when you leave the water.



African Curly Waterweed



African Curly Waterweed



Quagga Mussel

Championing change

Europe's biggest kayak festival, GalwayFest, recently demonstrated how outdoor sporting communities can advocate and champion change around the issue of invasive species. During the event a dedicated biosecurity team of volunteers and National Biodiversity Data staff facilitated a wash-down station to ensure that kayaks and equipment were properly checked and cleaned between sites. Check Clean Dry was crucial as the event took place around three different waterbodies across Galway. Competitors engaged in conversations about the impacts of invasive species and their dedication to tackling invasive species. Large water sport events such as GalwayFest are essential for invasive species management by encouraging action on the ground to stop the spread of invasive species!



Collaboration is essential as invasive species do not respect borders and there has been strong willingness to work together across the island to tackle this shared issue. Around the unique ecosystem of Lough Melvin, fisheries interests and angling clubs have come together to agree a joint approach to prevent the spread of invasive species into the lough, protecting native trout and salmon populations. The risk of Quagga mussels (*Dreissena rostriformis bugensis*) reaching Lough Melvin comes from boats, trailers and angling equipment spreading from infested nearby waters, Lough Erne having a recent discovery of these invasive mussels.



This ground roots initiative focuses on encouraging boat users to Check Clean and Dry, recommending boats launched on Lough Melvin have been dried out of water for at least five days. Strengthening collaboration between the angling community and other water users to protect our waterbodies is an important part of invasive species management.

Encouraging simple actions, such as Check Clean Dry is essential for the management of invasive species as individual-scale actions (e.g. draining boats and outboard engines and drying before moving from one waterbody to another) is effective in limiting introductions and spread of invasive species.

The Check Clean Dry campaign would not be possible without the support of many different organisations & individuals right across our shared island. Thank you to GalwayFest, Rossinver Melving Angling Club, Garrison Lough Melving Fishing Association, Kinlough and District Anglers Association, Drowes Fishery and Rossinver Fishery.

Help spread the word!

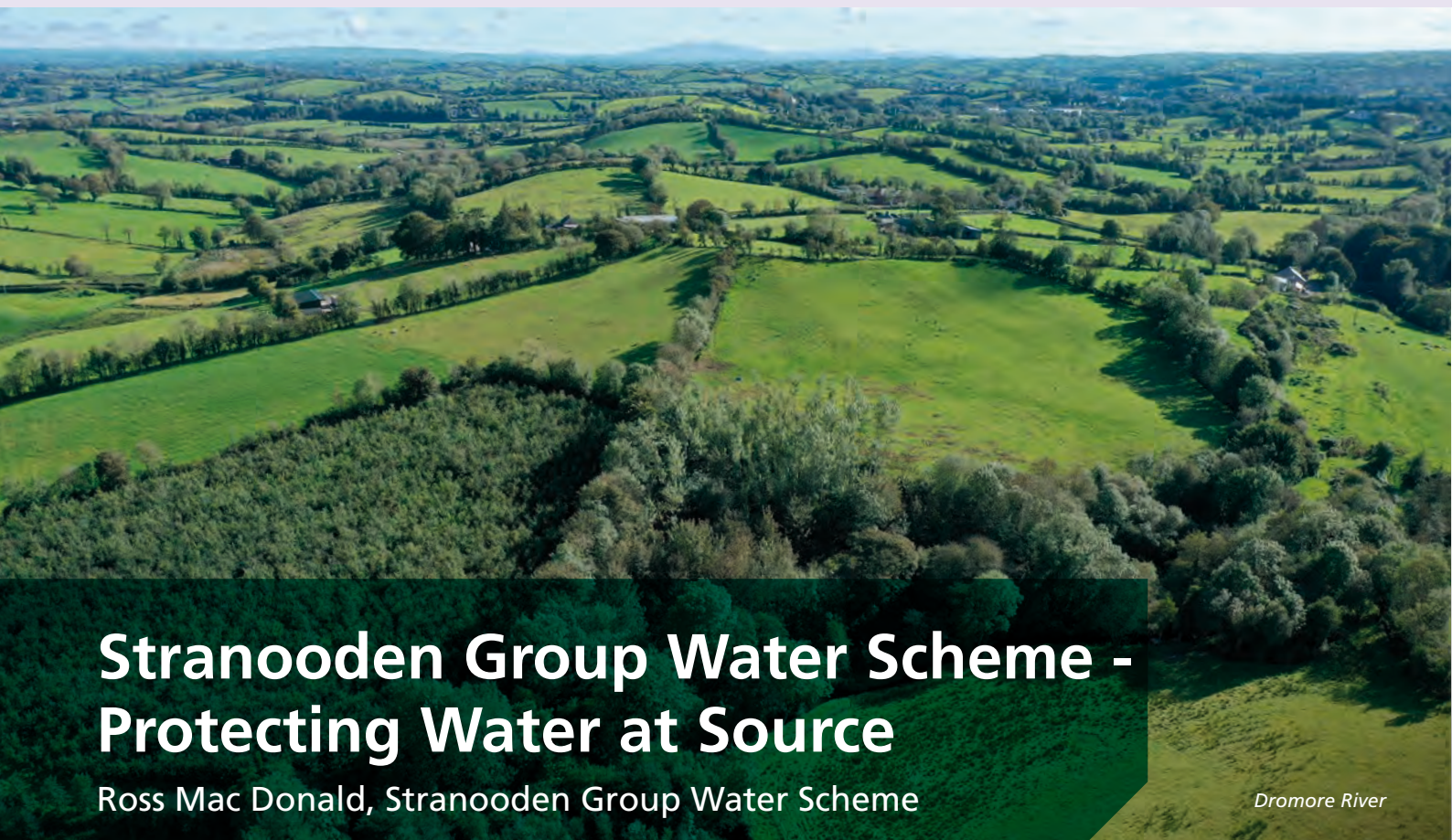
You can download a range of free guidance and awareness raising materials for your club, local community and events:

Ireland

invasives.ie/resources/check-clean-dry-resources/

Northern Ireland

invasivespeciesireland.com/biosecurity-resources/



Stranooden Group Water Scheme - Protecting Water at Source

Ross Mac Donald, Stranooden Group Water Scheme

Dromore River

Stranooden Group Water Scheme (SGWS) gets its water from a surface water supply lake (White Lough) on the Dromore River System, which is part of the Erne catchment. The pressures for pollution in the catchment come from both rural and urban sources, principally agriculture along with the municipal and domestic waste water systems within the catchment. The pollutants of concern include phosphates, pesticides (MCPA) and sediment, which is typical of a catchment with poorly draining soils.

SGWS started its source protection works in 2019, in a pilot project (funded by the Department of Housing and Rural Affairs) to restore water quality in a surface water catchment, their source lake Baird Shore (White Lake, Rockcorry) has very high total phosphorus levels.

The project, which was completed in 2023 funded 4 elements which included: catchment wide sampling, farm focused services, physical mitigation measures and communications.

1. **Catchment wide sampling:** SGWS carried out sampling catchment wide to better understand the potential frequency of MCPA and other pollutants in the water, this also included kick sampling and river walks so measures would be targeted to ensure the "right measure in the right place".
2. **Farm-focused services:** initiatives to mitigate against acid herbicide (MCPA) contamination which included a weed wiping service and a boom sprayer service/

calibration and certification. The engagement with the farming community initially involved a group meeting to promote and supply services, the group water scheme was well placed to make contacts so engagement was primarily carried out on the farm, face to face or through word of mouth.

3. **Physical Mitigation Measures:** the project completed installation of 12.920km of livestock fencing, 4.335km of hedging, 2.050km of bank erosion measures and 5,580m² of willow buffer. The project did also promote various woodland schemes which to date has resulted in 8ha of woodland for water to date in the catchment.
4. **Communications:** concentrated on raising the profile of the river system locally, on-street signage, engagement with schools, Community Enterprise schemes, tidy towns and GAA clubs. The message was to highlight the continuing decline of the water quality in the river system and the hazards of pesticides (MCPA) to water, a number of initiatives including in the local primary schools "Plant a tree and go pesticide free". The greatest legacy of the project was the forming of a local river trust organisation "The Friends of the Dromore" which continues to be active and has been instrumental in promoting a "blueway", engaging with the whole community on protecting and improving the Dromore river and getting the Erne river trust back up and running.



Physical mitigation measures including hedges and riparian buffers.



Learnings from project

- Offering “free” weed wiping services can result in the use of pesticides in land parcels that would never have been treated previously.
- Use only single strand electric fence with permanent posts for bovines.
- When major physical mitigation measures were installed on land parcels the works were vulnerable to cattle access from the other side of the river which became a priority to rectify.

Two years on and the SGWS are still promoting source protection measures as they see the supplying of potable water and source protection as part of the process for providing good quality water supply. All measures installed during the pilot project are maintained and inspected every year and we continue to provide a weed wiping service. Our efforts are primarily focused on the Annamacneill stream (a 5km tributary that through our sampling was found to be supplying 60% of the phosphate load in the most vulnerable sub-catchment), source protection works in the stream include:

- Leading a septic tank project with DKIT and UCD trialling a nature-based solution for septic tanks in poorly draining soils, using the plant Russian comfrey to take up nutrients.
- Works to install physical mitigation measures primarily investing from our own funds with help from the community water development fund from LAWPRO Community water funding stream.
- SGWS have been designated agents in the EIP (Farming for Water) and currently devising plans for numerous farms using nature-based solutions including ponds/ woodlands/bunded drains etc. throughout the catchment.



The latest EPA report shows positive results for our efforts

“*White Lough is one of five monitored lakes which had very high average total phosphorus concentrations (greater than 0.1 mg/l P) in 2022 2024, all in the northeast of the country: Four lakes had values as high or higher compared to the previous assessment, with the exception of White Lough, which has shown an improving trend, despite still having high phosphate concentrations.*”

Pesticides (MCPA) continues to be a major issue, especially during the growing season in the catchment, despite our efforts to mitigate against the contamination, the promotion and installation of vegetated buffer zones we hope, will help to make this less of an issue, however as long as MCPA is cheap and easy to purchase and mobile on poorly draining soils, this will be an uphill struggle!!

Pond for farmyard runoff on PIPP

Articles

Visible impacts from the measures implemented include:

- Less livestock in the rivers.
- More hedgerow/woodlands and buffer zones obvious in the catchment.
- Less bank erosion and litter black spots have been cleaned.

In 2024, the Irish Wildlife Trust (Monaghan branch) along with the Friends of the Dromore were awarded funding through the Heritage Council, the NPWS and biodiversity office of Monaghan County council, to map our river catchment as a potential biodiversity corridor. We produced a range of mapping tools to help coordinate our activities. Working with professional GIS researcher Dominic Robinson, we constructed an online database with key information such as biodiversity records and pollution impact points and from this developed a range of printable maps. Satellite-sourced national datasets on the streams and wetlands were found to be often inaccurate or missed minor streams, so the core group had to get out and 'ground-truth', find and validate the gaps, which shows local knowledge as a key resource. One of the most effective communication tools has turned out to be a 3D model of the river catchment, developed and designed by artist Mel Galley. It offers the viewer a highly effective way to understand the catchment as a physical water-basin. It aids spatial imagination and gives shape to how things are connected by the river.

3D model of the river catchment



Source protection on Dromore River



To see how the waters follow the twists and falls of the landscape contours has an informative impact that beats any explaining through words. It draws out a level of fascination from everyone who encounters it. There's usually a period of silence where each person finds a place they know, followed by tracing the run of the river there, then inevitably an intense conversation ensues around the character and 'logic' of our shared and particular wet-landscape. Part of the effectiveness may be how it literally gathers people around it as a focus, creating a sense of 'finding your place' and making connections, in a process that is akin to how the river itself operates.

Link to project: website designed by Laura Butler:
<https://dromorerivercatchment.ie/>

Have a story to tell?

We want to tell stories that help people understand the connections between them, their local community's environment, and enhancing human health. We also want to promote public participation. If you have a story for a future issue, please scan the QR code or get in touch via



www.catchments.ie/contact/

Shannon Flood Risk State Agency Co-ordination Working Group

Lanesborough, River Shannon

The *Shannon Flood Risk State Agency Co-ordination Working Group* was established in 2016 following severe flooding that impacted the River Shannon Basin to better coordinate the efforts of all key state agencies operating in the region.

In Oct 2025, the group launched a website, <https://rivershannongroup.ie> designed to share information with communities and the general public about the work of the Group.

One key feature of the website is that it allows users to access real-time information on the operation of water level controls by the ESB and Waterways Ireland through sluice structures on the river and the three lakes (Loughs Allen, Ree and Derg).

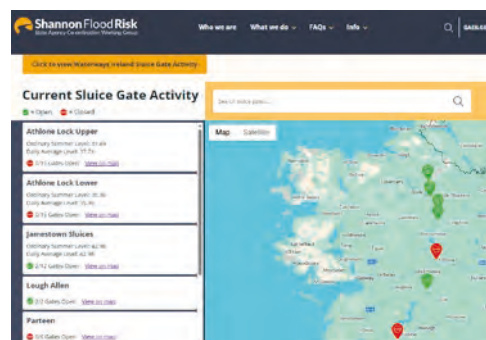
The site provides information on flood relief schemes being undertaken by the OPW in partnership with local authorities and the strategic maintenance activities planned and undertaken on behalf of the Group.

A suite of animated videos explain how water levels are managed, the programme of flood relief schemes, and the nature of the river and why parts of the Shannon River Basin District, such as the Shannon Callows, can be especially vulnerable to flooding in times of prolonged and heavy rainfall.

The work of the Group includes progressing a programme of strategic maintenance on the river, which has spent approximately €1.3 million to date.

On behalf of the Group, Waterways Ireland is advancing a planned programme of strategic maintenance works. These works include the management and delivery of tree pruning and vegetation maintenance, and planned silt removal, with associated ecological and environmental assessments, at 23 locations along the Shannon.

Managing flood risk requires co-operation across agencies, local authorities, and communities — and that is what the Shannon Flood Risk State Agency Coordination Working Group represents. Our aim is that this website will become a trusted reference point for everyone with an interest in the Shannon — from residents to researchers, from farmers to policymakers.



Sluice gates

Water levels on the River Shannon are managed using gates and sluices at the outlets of the three major lakes, and sluices and weirs at Jamestown, Roosky, Tarmonbarry, Meelick, and the New Cut.

Sluice Gate Activity

Users can now search for real time information on sluice gates: <https://rivershannongroup.ie/sluice-gates/>

The website provides following information:



Location

location of sluice gates



Sluices

indicates the number of gates open out of the total



Ordinary Summer Level

target water level for navigation



Daily Average Level

current water level measured in meters



Rain Fall

the amount of rainfall recorded in millimetres in the previous 24 hours

Balancing Green and Growth: South Dublin's Nature-Based Approach

South Dublin County Council

South Dublin County Council (SDCC) has emerged as a leader in sustainable planning through its **Green Infrastructure (GI) Strategy 2022–2028**. At a time of intense housing demand and climate pressure, SDCC's model demonstrates that environmental protection and urban development are not mutually exclusive. By embedding GI principles directly into the planning process, ecological protection and enhancement can be designed into new developments from the outset.

A strategy for connectivity

SDCC's approach moves beyond traditional site boundaries. Every planning application must include a GI Plan that explains how the development connects to the wider regional network. A central pillar of this strategy is the mapping of county-wide ecological corridors. These allow for the movement of flora and fauna through the county supported by practical actions like the All-Ireland Pollinator Plan. Initiatives such as community-led Miyawaki-style mini-woodlands and extensive meadows help reverse biodiversity loss while fostering local stewardship.

Quantifying quality: The Green Space Factor

To move beyond simple green-space percentages, SDCC utilises a **Green Space Factor (GSF)**. This measurable framework assesses the ecological quality of all planning applications. It incentivises developers to protect existing high-biodiversity features - such as hedgerows and wetlands - and integrates high-value elements like Sustainable Urban Drainage Systems (SuDS). By quantifying performance, the GSF makes sustainability both deliverable and enforceable.

Nature-Based Solutions in practice

A cornerstone of the strategy is the integration of nature-based SuDS. Moving away from traditional underground pipes and tanks, SDCC requires nature-based solutions in every development. This is guided by the council's [Sustainable Drainage Explanatory Design and Evaluation Guide 2022](#), providing developers with clear technical pathways for implementation.



Swale with wildflowers along local GI corridor in Clonburris

Clonburris: GI at scale

A great example of GI planning can be seen in **Clonburris**, a new town currently under construction between Lucan and Clondalkin. Designed for 23,000 residents, the Clonburris Strategic Development Zone (SDZ) identifies vital areas for protection, such as the Grand Canal corridor, and integrates a network of new green corridors throughout the urban fabric.

In Clonburris, “source control” is implemented on every street. Local roads incorporate rain gardens and permeable paving to treat water at the point of impact. Dedicated GI corridors feature swales with native plants, where natural “weeds” are permitted to grow, creating a connected series of diverse wet and dry habitats.

Wetland Park with high amenity and biodiversity value



Swales along streets in Clonburris

Large-scale wetland parks manage peak storm events. These are not merely functional basins; they are high-quality public amenities that filter pollutants while providing “stepping stone” habitats for wildlife. All SuDS features deliver **“four-pillar”** benefits:



1. Water Quality

Filtering oils and tyre dust.



2. Quantity

Reducing flood risk through attenuation.



3. Amenity

Creating attractive spaces for recreation.



4. Biodiversity

Supporting a diverse range of flora and fauna.



Raingardens with mixture of ornamental plants, native plants and local weeds.



“The strategy demonstrates that by designing with nature from the start, local authorities can build resilient, healthy communities that thrive alongside their natural environments and providing benefits for people and nature.”

Resilient landscapes

By shaping large basins with subsoil and low-flow channels, the designers are creating very dynamic landscapes. Features like weirs and stepping stones allow park users to interact with the environment at different water levels. As water levels rise and fall islands appear and different parts of the site become accessible in different conditions. These sites will be largely left to naturally rewild, providing highly biodiverse and very interesting spaces for play, exploration, and adventure.

A blueprint for the future

SDCC’s proactive approach was recognised in 2025 when it was named **Chambers Ireland Local Authority of the Year**. The strategy demonstrates that by designing with nature from the start, local authorities can build resilient, healthy communities that thrive alongside their natural environments and providing benefits for people and nature.

Weirs in large attenuation basin



The Flood Estimation Methodologies for Ireland (FEMI) Programme

Office of Public Works

Background

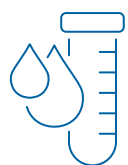
Flood estimation is a vital hydrological science that analyses flood magnitudes and probabilities to enable the assessment of potential floods and flood likelihoods at a given location, and for the design of infrastructure in, over or alongside our rivers, such as flood protection works and bridges, and for sustainable spatial planning and development. In 2014, the Office of Public Works (OPW) published the Flood Studies Update (FSU), a research programme that modernised flood estimation methods across Ireland. While the FSU was a significant leap forward from the original FSR (1975), research in this field has evolved since then. Today, increased computing power and a two decades of new data provide an opportunity to refine these essential tools.

The OPW has recently commenced the **Flood Estimation Methodologies for Ireland (FEMI)** Programme to succeed the FSU. The decision to do so was driven by several key factors:



Updated Data

Much of the previous research is now over 15 years old and we now have 20 additional years of rainfall and flow data, which allows for better identification of long-term trends.



Recent Extremes

The dataset now includes major nationwide flooding events from 2009 and 2015. High-accuracy measurements taken during these events have led to better calibration of the nation's gauges.



Better Mapping

National datasets—including soil maps, land use data, and the EPA's digital river network amongst others—have been significantly updated.



Climate Change

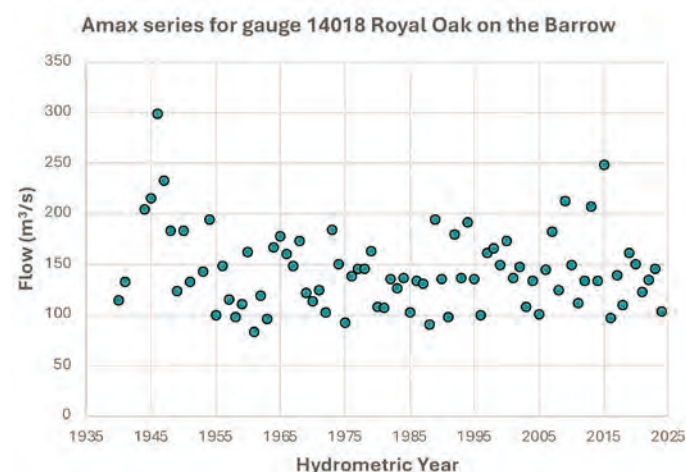
Met Éireann's TRANSLATE initiative is providing specific climate projections for Ireland, allowing us to use these in hydrological models to understand how changing rainfall and rising temperatures will impact future river flows.

Building a digital map: Physical Catchment Descriptors

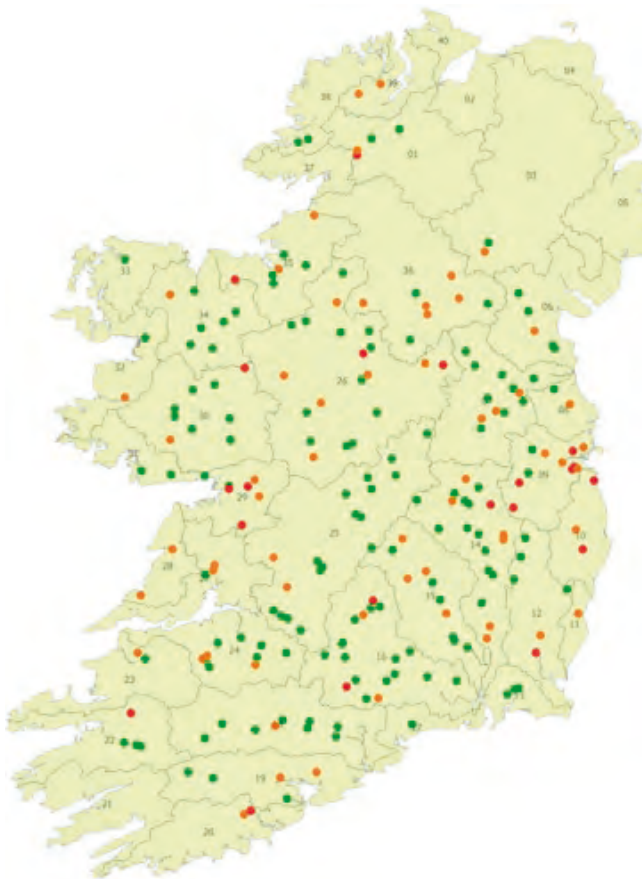
A major component of FEMI is creating a national dataset of Physical Catchment Descriptors (PCDs). By “burning” the EPA's digital river network onto a high-resolution digital terrain model, the OPW will generate approximately 240,000 sub-catchment outlines. Using geospatial analysis, researchers can calculate a large number of catchment PCDs in numerical form at 250 meter spacings along the river network. Descriptors that are of relevance to WFD work on establishing waterbody typology include area, stream slope, drainage density, land cover and land use types, annual average rainfall and urban extent, amongst others.

Strengthening the network of gauged data for research

The programme has identified **181 high-quality flow gauges** best suited for estimating extreme floods. On average, these gauges provide 47 years of data each, creating a massive library of over 8,600 “Annual Maximum” (Amax) years—the highest flow recorded in a single year. The median value of this data, known as **QMED**, represents a flood that occurs or is exceeded every two years on average (the 2-year flood). Estimates for various return periods are derived by applying the corresponding growth factor to the QMED value.



Growth curves for Irish catchments (100-year growth factors greater than 2.7 indicated by red dots)



Analysing flood frequency

The most critical output of FEMI is the estimation of “design floods,” such as the **100-year flood**, which are used for designing most bridges, embankments, and riverside infrastructure.

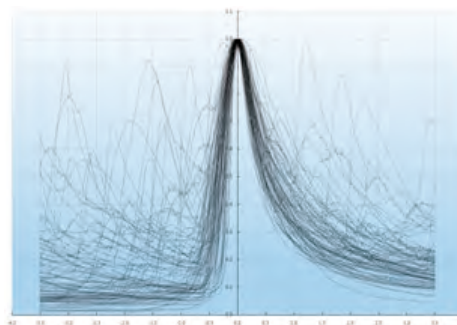
Current research shows that the national average “growth factor”—the ratio between the 2-year flood and the much less frequent, but more extreme, 100-year flood—is 1.98, however, two specific regions show much higher risks than the national average:

1. **Liffey Catchment (around Dublin):**
Here, growth factors can exceed 3.0. This is largely due to urban surfaces like concrete and asphalt, which prevent the ground from absorbing rain.
2. **South Galway:**
This region also sees factors above 2.7, likely due to the “karst” (limestone) landscape. When underground conduits and channels fill up, the surface has very little capacity to store excess water.

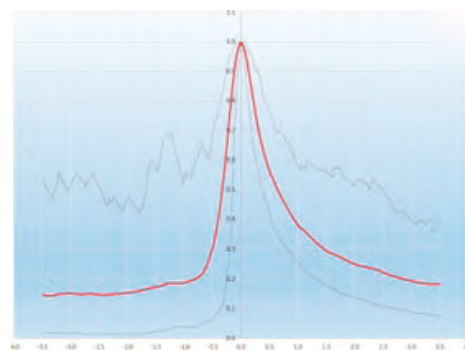
FEMI will introduce new adjustments for these urban and karst areas to ensure future flood estimates are more accurate.

Predicting flood shapes (Hydrographs)

Knowing the peak of a flood is important, but engineers also need to know the shape of the event — how quickly the water rises, how long it remains elevated and what volume of water there might be in a given flood wave. By analysing the 100 largest flood events on record at all gauges, research has found that the **median hydrograph shape** provides the most reliable model. This allows for better generation of the hydrograph shape for ungauged locations through the use of PCDs.



100 largest Hydrographs standardised) for gauge 09001 – Leixlip



Median hydrograph shape for gauge 09001 – Leixlip

Introducing the POT5 Series

For the first time, Ireland will have a **Peaks Over Threshold (POT5)** database. While the traditionally used Amax series selects only the single biggest flood per year, the POT5 series records an average of five significant events per year. This provides a much deeper pool of data, which is especially helpful for flood estimation in rivers where we only have a short history of gauged data.

Looking ahead

Future FEMI work will involve intensive monitoring of small river systems to understand how flood patterns change as catchments grow. The OPW also intends to move away from general national averages for climate change impact allowances for flood flows, and provide **climate change allowances** at a finer scale, e.g., for regions and/or catchment-types.



The Funshion Catchment area

Philip Murphy, Teagasc, Catchment Coordinator (Blackwater)

Funshion river

Nestled in the centre north of the Blackwater catchment in Munster is the Funshion river. It has an area of approximately 382 km² or 38,200 hectares, with Mitchelstown in the centre and stretching as far out to Kilbeheny, Kilworth, Glanworth, Kildorrey, and Glenroe. It is a productive area with approximately 1,400 ha of cereal crops, 26,000 ha of grassland, and 87 ha of multi-species grassland as well as a patchwork of other crop types. This area supports just over 900 farmers. There is, however, a nitrogen issue in the river. The Local Authority Waters Programme (LAWPRO) carried out a catchment assessment in the area in 2024 and developed a technical document that gives evidence that nitrate levels in the river are about 50% over the minimum threshold for environmental limits. One specific sub-section of the river was identified as having the largest nitrogen load in the river and focussed efforts of advisory should be targeted there. This sub-section is the Funshion 80 waterbody.

The Funshion 80 is now a Pilot Project and currently has some extra resources pointed at it from multiple stakeholders. The Farming for Water European Innovation Project has two “bespoke” measures that are only available to farmers operating in the Funshion 80 catchment area; **Measure 1**: Over sowing with plantain/ clover mix, and **Measure 2**: Protected Urea + Sulphur (or Protected Urea+ Sulphur + K). The measures both aim to specifically address the nitrogen issue in the waterway by;

- partly reducing nitrate losses from urine patches (due to a decrease in Urine-N concentration and an increase in daily urine volume)
- avoiding nitrogen in nitrate form to sit on the soil and risk it leaching immediately, and instead the source of nitrogen is in ammonium form which is less likely or slower to leach
- increase nitrogen uptake capture in the plant – specifically where sulphur levels in the soil are low.

As well as these bespoke measures, grassland farmers can avail of the Farming for Water European Innovation Project measures. The Nitrogen Surplus Plan (NSP) measure takes a wholistic approach to the farm system and identifies where nitrogen inputs could be reduced while still also achieving crop and grass production requirements. And the Multi-Species Sward measure (MSS) which enables farmers to reduce the amount of artificial fertiliser required for a sward by displacing it in part by legumes which naturally convert nitrogen in the air to ammonium in the soil that plants can use. These measures combined across farms are expected to reduce the total nitrogen load in the area.

For arable farmers, the catch crop measure is the most favourable as it fits in to most crop rotation cycles without too much practice change. Preliminary results from survey work on various mixes of catch crops across 9 farms in the wider Funshion area suggest that some sites can potentially remove up to 60 kg nitrogen per hectare from the soil. This suggests a significant reduction in total nitrogen that could be lost to the waterway through leaching. The survey is on-going this year and hopes to include more farmers in the Funshion 80 area specifically.



Focussing on a small area within the Funshion 80, one beef farmer has been using Multi-Species Sward long term on approximately 5 ha. He says that he sees the benefits in the form of less fertiliser input and slightly higher animal performance in terms of carcass weight. Neighbouring farmers are adopting the bespoke measure of over-sowing with plantain/clover mix, and the Protected Urea + Sulphur measures across a total of 40 hectares. Furthermore, tillage farmers in the area are adopting catch crop measures on their farms totalling 70 hectares. The good news is the Nitrogen Surplus Plan, Multi-Species Sward, and catch crop measures are all available to farmers outside the Funshion 80 waterbody. With these measures in place in just a small area it is expected to have an impact on reducing nitrogen levels in the waterbody but the big question always for farmers before they commit to an action and an investment is; will these measures work?

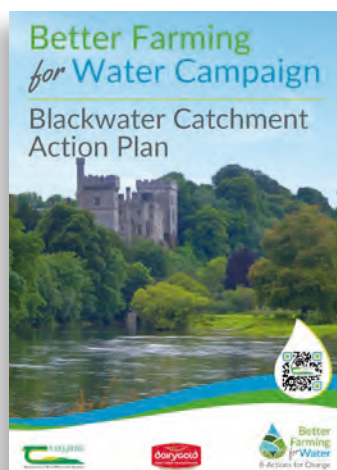


The Funshion 80 is unique in that it has two high resolution monitoring points which detect nitrate levels on an hourly basis throughout the whole year. These monitoring points are located at the lowest point at the catchment before it enters the Blackwater main channel and also at the “top” of the sub-section of the waterbody where the Funshion 80 starts. Groundwater monitoring of nitrogen is also taking place in the catchment this year. There are approximately 5 groundwater wells closely located together that are being used to estimate the nitrogen levels in the groundwater. So far, the results show that nitrogen levels are still too high for both the surface water i.e. the Funshion 80, and the groundwater.

Due to the complexity of nitrate leaching and underground pathways for nitrate to move, there is need for a whole river system approach to reducing nitrogen losses in order to see a reduction in nitrogen in both surface and groundwaters. The whole Funshion river system which includes the Farahy, Sheep, Behanagh and the Gradoge rivers and streams needs to take actions towards reducing nitrogen. To date, almost 250 farmers in targeted areas of the Funshion catchment have had a visit from an Agricultural Sustainability



Support and Advisory Programme advisor from either industry or through Teagasc. These farmers have therefore been made aware of the measures to implement on their farms to protect local waterways. And to further raise awareness about this a water quality event is taking place on the 18th June 2026 to describe the practical ways farmers can adopt nitrogen measures can and implement them on their farms. This event is being organised by Teagasc and Dairygold through the Better Farming for Water campaign and through the actions of the Blackwater Action Plan. The Blackwater Action Plan is a weighty technical document with a lot very informative catchment scale maps that inform the reader of the various water quality challenges the Blackwater is facing. Also highlighted are the opportunities across the catchment where targeted work would garner the most effectiveness in terms of mitigating impacts on local waterways.



Links:

<https://teagasc.ie/environment/water-quality/better-farming-for-water/>

<https://teagasc.ie/environment/water-quality/better-farming-for-water/priority-catchments/blackwater-catchment/>

[Blackwater Catchment Action Plan - Better Farming for Water Campaign](#)

Why the #2MinuteBeachClean Matters in Autumn

Anne Marie Kirwan, An Taisce – The National Trust for Ireland



The #2MinuteBeachClean campaign is built on simplicity. Take just two minutes to pick up some litter when you are at the beach. When everyone's efforts are added together, all those minutes add up to cleaner beaches.

After an incredibly busy summer, our coastlines need attention. It is lovely to see families descend on beaches with buckets and body boards. Paddle boarders trace the tide line at sunrise and cafés, campsites, and seaside villages thrive on the annual influx of visitors. Yet, alongside the joy and economic boost of the season comes a quieter problem: litter.

Plastic bottles buried in dunes, abandoned BBQs, cigarette butts in the sand, the list goes on. Environmental pressure on beaches intensifies dramatically. This is precisely why the #2MinuteBeachClean movement has become one of the most important grass roots environmental initiatives of our time.

Motivation and purpose

One of the campaign's greatest strengths is psychological! Environmental problems often feel overwhelming, particularly during discussions around climate change and ocean pollution. People feel that individual actions are insignificant compared to the scale of industrial waste. The genius of a #2MinuteBeachClean is that it reframes this.

People report that there is something unexpectedly uplifting about a #2MinuteBeachClean that stays with you for much longer! That brief act of care can boost your mood, spark motivation, and create a real sense of purpose.

Walking along a beach, taking in the sights, sounds, and smells of nature all around you, reminds you that your actions matter. The sense of contribution that a #2MinuteBeachClean creates releases a genuine feel-good energy.

A small act with a big impact

A #2MinuteBeachClean is a small act but it carries weight. These small actions create social norming. When people see others picking up litter, they become more conscious of their own behaviour, and often to follow suit.

In this sense, #2MinuteBeach Clean is not just about removing rubbish, it is about reshaping culture and encouraging environmental responsibility through example.

Cigarette butts alone illustrate the scale of the issue. Frequently overlooked because of their size, they contain plastic fibres and toxic chemicals that leach into the sea. During busy summer weekends, thousands can accumulate along coastlines.

Removing this kind of litter quickly prevents it from being washed out to sea and helps protect the beaches and places people return to for relaxation, recreation and connection with nature. Small actions carried out consistently can have a visible impact on both the environment and the experience of everyone using the coast.

Protecting coastal wildlife

Autumn is also one of the busiest times for coastal wildlife. While breeding seabirds leave, autumn brings incoming winter waders and coastal shorebirds to mudflats and estuaries. Unfortunately, these habitats are highly vulnerable to pollution.

Discarded fishing line, plastic packaging and food waste can injure or trap animals, while smaller plastics are often mistaken for food. Seabirds and turtles and marine mammals can suffer serious harm after ingesting litter carried into the sea.

Even items that seem harmless can have long-term consequences. Cigarette butts release toxic chemicals into the water while broken plastic gradually becomes microplastic that enter the food chain.

Protecting beaches therefore means protecting the wildlife that depends on them. Every small clean up helps reduce the risk to coastal ecosystems and preserves the biodiversity that makes these places so special.

Blue spaces and mental health

Beaches and other blue spaces play an increasingly important role in public wellbeing. The sound of the waves, fresh sea air, and wide horizons can reduce stress and help us feel grounded.

In Ireland, open sea swimming and sauna culture has soared in popularity in recent years. Spending time at the beach has increasingly become a way of life for many people. They are in tune with the tides, dipping at dawn all year round. Some even say it's addictive. People are embracing the coast in all seasons, drawn by the physical and mental health benefits.

For those who prefer to stay dry, walking on the shore and feeling the air on your face, makes you feel alive and calmer in a way that only the sea can. Every visit to the beach is a chance to experience it, appreciate it, and to care for it.

Care for what we value

Perhaps that is why movements like #2MinuteBeachClean resonate so strongly. They remind people that caring for the coast is not only an environmental act but a personal one too.

Every piece of litter picked up helps protect the sense of calm, freedom and connection that beaches provide for so many. In the end it is about building a culture of care, one small action at a time.

“People must feel that the natural world is important and valuable and beautiful and wonderful and an amazement and a pleasure.”

David Attenborough

#2MinuteBeachClean Bag at Falcarragh, Co. Donegal





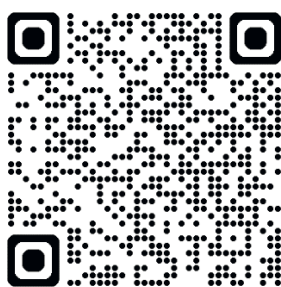
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catchments.ie shares science and stories about Ireland's water catchments, and people's connections to water



Have a story to tell?

We want to tell stories that help people understand the connections between them, their local community's environment, and enhancing human health. We also want to promote public participation.

If you have a story for a future issue, please get in touch via www.catchments.ie/contact/ or scan the QR code.

We want these stories to inspire more people to take part in looking after their local community's environment, and particularly our waterbodies

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