National Federation of Group Water Schemes

RURAL WATER NEWS

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MARWP Framework Imminent

GWSs keen to advance new projects

As the summer issue of *Rural Water News* goes to print, many group water schemes are eagerly awaiting the launch of the framework for the upcoming Multi-annual Rural Water Programme (MARWP).

Despite the delays, significant progress has been made over recent months, with the latest draft of the framework being discussed in detail by the members in attendance at the Rural Water Working Group on 24 May. The DHLGH is currently working through the feedback provided by the various stakeholders, including the NFGWS, and hopes to be in a position to present the final framework to Minister Darragh O'Brien for approval in the coming weeks.

In advance of the framework announcement, NFGWS staff and several local authorities have been liaising with group water schemes to assist in identifying potential capital projects under the next programme. Although much of the preparatory work, such as water auditing, cost estimation etc., can be done in advance, detailed applications cannot be completed until final guidance is published.

Current programme

Meanwhile, work is progressing on numerous projects that have yet to be completed under the extended MARWP 2019–2021. By the close of 2022, some 51% of the total €62m funding allocated to GWS projects under the programme had yet to be recouped. GWSs and local authorities with approved projects still to be completed, continue to be encouraged to finalise them without delay.

Most notably, two of the largest projects to be allocated funding have made significant progress in recent months. Over half of the 41.5km of watermain installation needed for the amalgamation of County Galway's Kilrickle GWS and Kilcooley GWS with Cappataggle District Community GWS has been laid, with the appointed contractor now ahead of schedule. In Mayo, the extension of the public watermain into the Murrisk areas as a community connections project is also well advanced.

Next steps

Upon the publication of the upcoming MARWP framework, NFGWS staff plan to host a series of GWS workshops to ensure all those interested in making a submission are kept up-to-date and informed regarding the application process.

The NFGWS was represented at May's conference of the Alliance of Community-Owned Water Services in Europe (ACOWAS-EU) in Austria. The conference included field trips to community-owned drinking water supplies in Upper Austria, including the Salzkammergut region (pictured above). For more, see pages 15-17.

In this issue:

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Comment

'June 2023 is warmest on record', 'Ireland experiencing an "absolute drought"', 'Europe's next crisis: Water' — the headlines speak for themselves.

The media has again been awash with stories and statistics regarding record-breaking temperatures, drought and other aspects of the climate emergency. There is no denying that what we are experiencing is unprecedented, as those involved in the group water scheme sector know all too well.

On 6 June, Met Éireann reported an 'absolute drought' (a period of at least 15 days with daily precipitation of less than 0.2mm) at 24 out of 25 synoptic stations around the country. By the end of the month, it was officially the hottest June on record in Ireland. Thankfully, the drought period did not bring about huge levels of disruption for GWS members but it served as a stark reminder for what we must be braced for in the months and years to come.

Forward planning, driven by data-driven analysis of sources and pro-active water conservation measures is a must. No GWS is exempt from the impacts of climate change. Whether it be limited water availability, changes to raw water quality or even possible impacts on energy supply, every GWS will need to be cognisant of risks. While the warnings may sound ominous, the GWS sector has already shown great leadership when it comes to climate adaption. The reduced levels of impact during May/June's drought was not by accident. Swift actions by GWSs during previous instances of water stress meant that they were better able to withstand issue this time around.

Universal metering and the close working relationship between many GWSs and their members has also played a vital role in water conservation. Kevin Motherway is regional co-ordinator of the Atlantic Seaboard South Climate Action Regional Office, which is co-ordinating climate action planning for five local authorities in the south of Ireland. When speaking to attendees at June's Environmental Protection Agency Water Conference 2023, Kevin was effusive in his praise of the GWS sector and GWS members for their attitudes towards reducing water demand.

Of course, more will need to be done. The upcoming Multi-annual Rural Water Programme offers GWSs the opportunity to present detailed proposals for network upgrade projects that will help further address unaccounted-for water. On page 9 of this issue, An Fóram Uisce - the Water Forum presents examples of how we can make premises more water efficient. These ideas and many others will need to be explored. This is a problem that simply will not be going away.

Rural Water News is published by the National Federation of Group Water Schemes. For further information go to www.nfgws.ie where you'll find all relevant contacts.

New NFGWS staff

The NFGWS has welcomed three new members of staff in recent months, in what has been a busy period for the Federation.

Barry Dolan joined at the beginning of 2023 as the new development officer for the Cavan/Monaghan region. Barry has a long association with adult education and has managed education programmes in Wexford and Monaghan, and, more recently, was the communications and membership officer for the National Adult Learning Organisation, AONTAS.

Barry has already gotten to know many of the GWSs in the region and has really enjoyed meeting everyone involved in the sector.

Deirdre O'Neill

Deirdre O'Neill is the new development officer in the NFGWS Tuam office, and is working with group water schemes in the northwest region. With 16 years of work experience in the food and pharmaceutical industry, Deirdre brings with her a wealth of quality assurance and food safety expertise.

Martha McMahon

Most recently, Martha McMahon has joined staff as a DBO validation officer. Martha previously worked for over two decades in community education and support. Martha will be based in the Federation's Tullamore Office.

The expanded NFGWS team will be working closely with GWSs on individual matters, with particular emphasis being placed on providing assistance with applications for the Multi-annual Rural Water Programme over the coming months.

Monaghan DBO Bundle contracts extended

Confirmation of an extension to the operations and maintenance contract for a number group water schemes in the Monaghan Design Build Operate (DBO) Bundle has been welcomed by all those involved.

The Monaghan DBO bundle was the first such bundled project to be piloted in Ireland, with the Truagh GWS treatment plant commissioned and officially opened in June 2003. Eight more Monaghan GWSs and three public supplies began 20 year O&M contracts on a staggered basis over the following three years. In June of this year, agreement was reached between all relevant parties to extend individual contracts so that their expiry coincides with the expiry date of the final O&M contract in August 2026.

Reassurance

The contract extensions ensure a continuity of supply to group water scheme members and will allow for technical reviews of the projected future needs of each GWS in the Monaghan DBO bundle.

The extension also gives ample time for the Rural Water Working Group's DBO sub-group to complete its review of the DBO bundling process throughout the sector and make recommendations ahead of the next period of new, long-term contracts.

The Killanny & Reaghstown GWS water treatment plant. The GWS is one of nine GWSs in the Monaghan DBO bundle.

As part of the review process, the NFGWS made a submission to the Department of Housing, Local Government and Heritage in August 2020, following a consultation process with GWSs, detailing the views of the GWS sector on how the DBO bundling process could possibly be improved going forward.

Government announces €60m water quality project

The announcement of a €60m of support for improvement of water quality at local, catchment and national levels will be welcomed by all involved in the GWS sector.

Through a WATER European Innovation Partnership (EIP) project, the Local Authority Waters Programme (LAWPRO), along with Teagasc and Dairy Industry Ireland (DII) will work with an expected 15,000 farmers on an individual basis to improve water quality.

During the application process, the NFGWS published a letter of support for the LAWPRO application to administer the project, given the huge potential for the mutual benefits of meeting Water Framework Directive targets and contributing to improvements in the quality of GWS drinking water sources.

In keeping with its role under the River Basin Management Plan, the NFGWS will provide assistance to the Water EIP project team by highlighting potential, shovel-ready, catchment mitigation projects identified in GWS integrated source protection plans (ISPPs).

Collaboration

Similar to the ongoing NFGWS ISPP and mitigation actions project, the Water EIP project builds on the interdepartmental partnership between the Department of Agriculture, Food and the Marine (DAFM) and the Department of Housing, Local Government and Heritage (DHLGH). The DAFM will support the project through the provision of technical assistance and funding of €50 million for participating farmers, co-funded by the National Exchequer and the EU under the Common Agricultural Policy. The DHLGH will provide administrative support and funding of €10m to the project, which is due to run until the end of 2027.

The NFGWS will assist the LAWPRO-led Water EIP project by highlighting shovel-ready, targeted mitigation measures identified in GWS integrated source protection plans.

NFGWS secures significant funding for GWS drinking water refill stations

Examples of drinking water refill stations installed in Milltown Community GWS and Ballacolla GWS last year.

The NFGWS has been granted €100,000 of funding from the Department of Housing, Local Government and Heritage (DHLGH) to go towards the installation of drinking water refill stations on 16 group water schemes around Ireland.

Strategically located drinking water refill stations grant greater public access to water, thus fulfilling a key aspect of the recast Drinking Water Directive and helping to reduce the prevalence of single-use plastics.

This new project follows on from the successful installation of refill stations in four GWSs in late 2022, through a similar initiative between the DHLGH and the NFGWS. The initiative garnered extremely positive feedback from participating GWSs and received great interest and compliments from other GWSs and members of the public.

Speaking about the funding announcement, NFGWS senior development co-ordinator, Joe Gallagher, expressed why the NFGWS was so keen to be involved:

'Over the last two years, several group water schemes have been installing drinking water refill stations as part of a number of government-funded NFGWS projects. We have been blown away by the levels of goodwill and gratitude from both participating GWSs and their members.

'These refill stations complement key work areas of the NFGWS, including the promotion of greater access to drinking water and our climate action efforts. The drinking water refill station design also has space for graphics that can be used to include GWS information, the source catchment and other sustainable messaging.'

Education

The installation of the refill station will be just one aspect of each of GWS's participation in the project. Those involved will also promote its use through visits to primary schools within their network catchment. Each group water scheme will sponsor the provision of reusable water bottles to every student, along with the presentation of the NFGWS All About Water curriculum to 4–6th class pupils.

'It's important that each local community fully understands the thought-process behind the installation of these refill stations, as well as the value of having access to high quality drinking water', explained Joe.

'The future of each group water scheme — indeed, the future of our planet — depends on communities taking action to protect precious resources. School visits educate the leaders of tomorrow, who also bring home important messages to their family.'

GWS participation

In order to be considered for inclusion, each GWS must identify a suitable location for the unit that is safely and easily accessible to the public and ensures maximum visibility within the community.

As referenced, GWSs must also have a primary school on its supply network and be happy to provide reusable water bottles and copies of the All About Water curriculum (for 4th-6th class) students. GWSs must be fully compliant with the terms and conditions of the annual operational subsidy and have a dedicated point of contact available to assist with the execution of the project.

Interested group water schemes are invited to contact their local NFGWS development officer to find out more about the project.

Mid-Roscommon GWS manager, Noel Carroll, beside a drinking water refill station installed in 2020.

Duncannon EIP project provides lessons for all involved in water

Duncannon Blue Flag Farming & Communities Scheme project manager, Eoin Kinsella, speaking to those in attendance at May's field trip. (Project operational group: Wexford County Council [lead partner], Teagasc advisory & research, Bord Bia, Tirlán, Irish Farmers' Association & Geoff Barry Agricultural Consultants.)

As a member of the South East Regional Water Framework Directive Operational Committee, the NFGWS was recently invited on an insightful field trip to learn about the Duncannon Blue Flag Farming & Communities Scheme in County Wexford. The European Innovation Partnership (EIP) project has been working to improve water quality at Duncannon Beach through an approach that shares many characteristics with group water scheme integrated source protection planning. In this piece, the project's manager, **Eoin Kinsella**, discusses its results.

The Duncannon Blue Flag Farming & Communities Scheme has been working with locals in an innovative effort to improve water quality.

The exciting project is part of the European Innovation Partnership (EIP), co-funded by the Department of Agriculture, Food & Marine. To date, it has received funding of €721,197, which will end on 31 August 2023. The main aim of the scheme was to increase the bacterial quality of the two coastal streams that flow onto Duncannon Beach, located in southwest Wexford, which would contribute to the recovery and long-term retention of the beach's Blue Flag status.

To achieve this, the project pursued specific objectives within the Water Framework Directive (WFD) and integrated catchment management (ICM) approach. It sought to sustainably restore, protect and enhance the quality of the bathing and riverine waters at Duncannon by reducing pollution (mainly faecal bacteria but also nutrients and sediment) from rural agricultural and domestic sources, whilst protecting farm incomes.

Sustainability model

The project also hoped to develop an effective model for future sustainable management of similar catchments and foster positive relations between farmers and householders in the catchment area and the local natural landscape — particularly the water environment and associated biodiversity.

With mitigation actions that have included activities such as creating a farm-specific Pollution Potential Zone (PPZ) plan for each farm, the appointment of a full-time project manager helped participant farmers achieve objectives by guiding them through their PPZ plans and by developing and delivering several knowledge exchange initiatives.

Implemented Measures

Cognisant of the 'right measure in the right place approach' the project developed a suite of co-beneficial mitigation measures for farmers. These measures included fencing of watercourses, arable grass margins, tree planting, riparian buffers, movement of water troughs, maintenance of roadways, installation of sediment traps and ponds, and increased buffer zones for slurry spreading. It also included other agronomic measures such as soil sampling, nutrient management plans, TAMS grants etc. Farm practice change and water quality in the wider catchment was continuously monitored, along with the development of a local awareness programme for the domestic waste-water treatment systems. The project also looked at developing community-wide engagement, with the objective of creating a sense of local ownership, responsibility and appreciation for the local water environment.

Results-based payments

A results-based reward system was implemented, which rewarded farmers not just for the condition of their facilities but also for management of various areas around the farm. An Annual Water Protection Payment was made to farmers, depending on the PPZ status of the farm each year. Farmers were given time to implement measures during this period to increase their PPZ score, whereby farmers received Water Protection Improvement Payments to implement mitigation measures.

The project was given a huge boost in 2022, when Arthurstown wastewater treatment plant was commissioned to serve Duncannon, Ballhack, and Arthurstown village. Its construction will eliminate the equivalent of 1,300 wheelie bin loads of raw sewage entering the estuary every day.

Results

To date, the EIP project has seen many positive results and important lessons for all those involved in the protection of water. It has observed an improvement in the bacterial, chemical and ecological quality of the two targeted coastal streams. Duncannon beach has also seen an improvement in bathing water quality. The local community can be proud of what has been achieved, thanks to the hard work of everyone involved.

Tydavnet GWS captures the imagination with amazing new facility

Members of Tydavnet GWS and its enviromental consultants, pictured at the launch of its new Knocknagrave Environmental Centre and Biodiversity Garden.

Those of us of a certain vintage would be forgiven for presuming that when Tydavnet Group Water Scheme, Co. Monaghan, spoke about its plans to create the an environmental education hub, the outcome would be a couple of classrooms, decorated with a few desks, leaflets and maybe some general science equipment or the like.

However, the reality of what it has actually been achieved is remarkable. In 2020, the group water scheme purchased the old Knocknagrave National School and its surrounds, with big plans to turn it into a site that would continue to inform and inspire. With the help of LEADER funding and significant investment from its own reserves, a lot of hard work has since been done to develop the location into the Knocknagrave Environmental Centre and Biodiversity Garden.

In early May, the centre opened its doors for the first time, giving members — and lucky representatives from the NFGWS — a glimpse at how it has turned out.

The school has been transformed into a colourful, interactive, technology-driven wonder. Games, video screens and informative floor stands adorn two classrooms — one dedicated to the water cycle and, the other, to biodiversity and its links to water quality.

The educational games are designed to teach young visitors about where drinking water comes from, how it travels around the network and what we need to do to protect it. Judging by the levels of excitement among the youngsters who visited its open day, the games certainly capture the imagination.

Biodiversity garden

Although it will take time to fully develop, the biodiversity garden is already a sight to behold. It is awash with different native species of small plants and trees, along with a pond that is further increasing the range of biodiversity in the garden. As the sign that you are greeted by when you step into the garden says, this is truly a 'wildlife haven'.

Tydavnet GWS manager, Seán Clerkin, explains:

'As a group water scheme, you might wonder why we're involved in biodiversity, climate change and related issues. All of this is going to impact on water. Our water sources are coming under more and more stress, and are more impacted by activities within the source catchment but out of our [GWS] control.'

'The hope is that, by bringing kids and adults to the centre, we might at least begin to better understand the issues. That we might think twice before we throw something away and that we might help each other to make slight changes that will be enough to tilt the balance back in favour of nature.'

'You hear about climate and carbon footprint etc. in the media but it's sometimes hard to get your head around it. It's not something you can grasp and hold onto. We're hoping here that, with the new exhibition rooms and the biodiversity garden, as people walk through they will experience everything first-hand and learn from it.'

Of course, the GWS has not achieved this feat all on its own. Appointed environmental consultants played a key role in developing the centre, while an expert steering group was established to provide further guidance and advice.

The key demographic for the centre will be school visits but, be assured, there is plenty for both children and adults alike to learn from and enjoy.

Tydavnet GWS manager, Seán Clerkin, beside the new pond in the centre's biodiversity garden.

The Water Forum requests national strategy on water conservation

L-R: Ministers Malcolm Noonan and Darragh O'Brien meeting with An Fóram Uisce – The Irish Water Forum representatives, Donal Purcell, Triona McGrath, Matt Crowe, Sarah Cotterill (UCD) and Keith Hyland.

An Fóram Uisce – The Irish Water Forum is the national statutory body representative of all stakeholders with an interest in the quality of Ireland's water bodies. The National Federation of Group Water Schemes is among its members, along with representatives from agriculture, housing, business and many other areas. Following a recent Forum workshop on education for water conservation, representatives of the Forum met with Ministers Darragh O'Brien and Malcolm Noonan to discuss the possibility for a national strategy on water conservation to make all homes water efficient. In this piece, the Forum's communication and education lead, **Gretta McCarron** explains why.

A secure supply of high-quality drinking water is essential for the health of every citizen and is critical for future economic growth and development.

The population is set to rise by up to 40% by 2050 yet Uisce Éireann states that 58% of its water supply zones have a supply risk at current demand.

In recent years, we have experienced water supply restrictions during dry periods, with national hosepipe bans in 2018 and 2020. Climate change will result in decreased rainfall in summer and longer dry and drought periods.

Water efficiency

The Government has committed to building 33,000 homes every year for the next 10 years. Making these new homes water efficient could reduce domestic water demand by 20%, easing pressure on public water supplies and providing considerable water investment savings.

'We sometimes forget that the water from our taps has been taken from a local river, lake or well and undergone a costly process of treatment and pumping before it reaches our homes', says Dr Matt Crowe, chairperson of the Irish Water Forum.

'At a minimum, we need to ensure that all new homes are built to be water efficient'.

Updating Building Regulations to include mandatory water efficiency measures, such as low flow showerheads, aerated taps, dual flush toilets, and rainwater harvesting will reduce water demand in new buildings and provide energy saving benefits, reduce costs to the taxpayer and help the environment.

There is also an opportunity for local authorities to include similar measures in new County Climate Action Plans leading to greenhouse gas emission reductions, energy savings and a healthier environment.

Meeting with Ministers O'Brien and Noonan

At a recent meeting with Ministers Darragh O'Brien and Malcolm Noonan, The Water Forum asked the ministers to lead on the development of a national strategy for water conservation that includes a programme of actions to implement water saving measures.

Ministers O'Brien and Noonan welcomed the timely input and suggested that the Forum bring the recommendations to the Cabinet committee on environment and climate change. A follow-up meeting with building regulation officials has been planned for September.

More details on An Fóram Uisce – The Irish Water Forum's water conservation policy position are available at www.thewaterforum.ie.

Hugh O'Reilly appointed chairperson of ICOS Rural Business Committee

The NFGWS was delighted to hear that Hugh O'Reilly has been appointed chairperson of the Irish Co-operative Organisation Society's (ICOS) Rural Business Committee.

Hugh has been an active as member of the committee since 2019, representing the NFGWS and keeping committee members updated on nationwide activities within the GWS sector.

His appointment as chairperson occurred in June, following the recent retirement the outgoing committee chair, James O'Donnell (South Tipperary Co-op Farm Relief Services).

Hugh is also the joint treasurer of the NFGWS. He hails from County Monaghan and is a former chairperson and current board member of Aughnashalvey GWS. Hugh's appointment also

sees him become the Rural Businness Committee representative on the Board of ICOS, a true honour for both Hugh and the NFGWS. We which him every success in his new role.

Investigating microbial pollution in karst groundwater

Many GWSs are well aware of the susceptibility of sources in karst areas to cotamination events, including rapid changes to water quality following heavy rainfall. Such changes are difficult to monitor, proving both costly and time-consuming conventional microbiological methods. Hydrogeologist, **Luka Vucinic,** has been researching alternative monitoring options, resulting in the publication of two research studies on the topic. In this article, Luka discusses what and his fellow researchers have learned.

Groundwater from karst aquifers, through springs and wells, is a major source of drinking water worldwide.

There is nothing that highlights the importance of karst groundwater in Ireland better than the fact that around 40% of the island of Ireland is underlain by limestone (the most significant karstifiable rocks). Consequently, karst, with its landforms and features represents a significant aspect of the Irish landscape.

Unfortunately, groundwater in these areas can be easily contaminated due to the lack of thick soil coverage above karstified limestone rocks as well as the presence of swallow holes that allow water and pollutants to quickly enter the subsurface.

Human wastewater effluent from on-site domestic wastewater treatment systems (DWWTS) (predominantly septic tanks) is identified as significant threat to groundwater quality in such lowland Irish karst environments since approximately one-third of the population in Ireland relies on them.

Many incidences of waterborne diseases can be associated with contamination of surface water and groundwater due to failing on-site DWWTS.

Therefore, being able to detect rapid changes in faecal bacteria concentrations at karst springs used for water supply is extremely important. It is also crucial to establish the sources of the pollution, so that appropriate measures can be taken, both in terms of immediate protection of human health and the management of karst aquifers.

Research

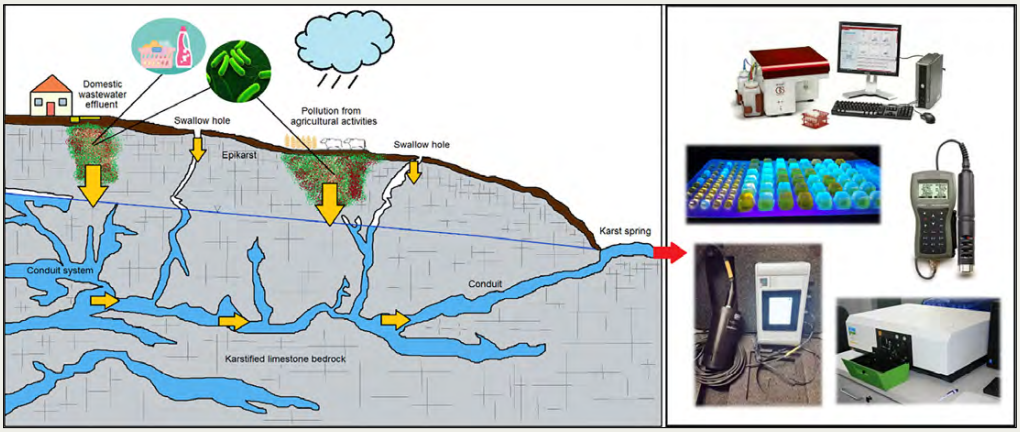
This research study, recently published in the *Journal of Contaminant Hydrology*, was focused on investigating whether multiple different fluorescence approaches can be used to identify rapid changes in microbial water quality at karst springs associated with rainfall events, and whether such variations in microbial indicators can be linked to contamination by on-site domestic wastewater treatment systems effluent.

This involved three continuous sampling campaigns targeted across rain events at two karst springs. Elmvale spring (County Clare) was continuously sampled on two occasions in December 2018 and in January 2020, and Ballindine spring (County Mayo) once in January 2020. All samples collected during the three continuous sampling periods were analysed for flow cytometric total cell counts, total coliforms, faecal indicator bacteria (E. coli and enterococci), turbidity, and presence of fluorescent whitening compounds (well-known indicators of human wastewater contamination since their origin is mostly from laundry detergents).

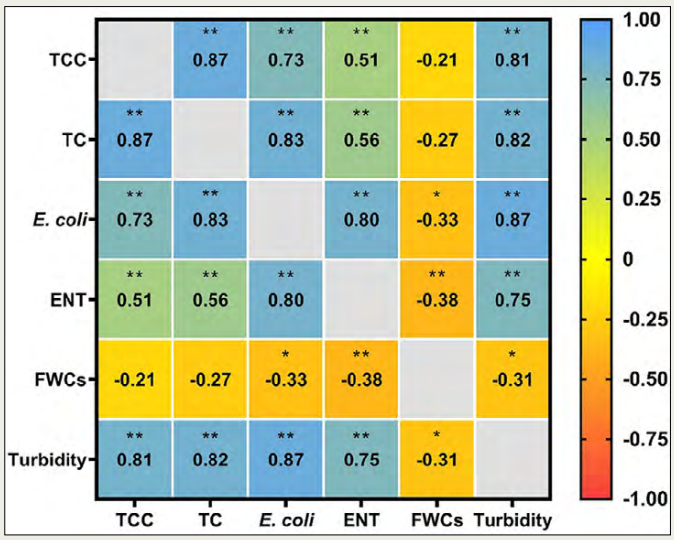
In addition to these analyses, tryptophan-like fluorescence was measured in samples collected during two sampling periods. This is a fluorescence occurring from a range of compounds that has been used successfully as an indicator of faecal contamination in drinking water supplies and groundwater. *Escherichia coli (E. coli)* cells have been proven to directly emit this type of fluorescence and to excrete compounds that fluoresce similarly.

This study builds upon earlier published research (in *Water Resources Research* journal), with the previous study primarily evaluating the effectiveness of using flow cytometry (and different parameters that can be measured with this method) in predicting changes in concentrations of faecal indicator bacteria at nine karst springs in the west of Ireland (in three counties: Clare, Galway, and Mayo) over a 14-month period.

Continued on page 11



An overview of the most important sources and pathways for faecal bacteria and domestic wastewater contaminants in rural environments (from https://www.sciencedirect.com/science/article/pii/S0169772222001772)



Correlation matrix heatmap for both monitoring events at Elmvale spring. TCC (total cell counts), TC (total coliforms), ENT (enterococci), FWCs (fluorescent whitening compounds) and turbidity. (Fig 8 in linked research paper below.)

Continued from page 10

Key findings

Flow cytometry is a method, first developed in the 1960s, that is used routinely in biology and medicine but now is emerging as a very promising technique in environmental microbiology.

Given that conventional and advanced microbiological methods are usually either very expensive, complex, labour-intensive and/or time-consuming, flow cytometry is very attractive. This is because it is a significantly cheaper alternative method that can produce results within minutes (in comparison to more conventional methods that can produce results within 24-48 hours), and can be automated, if necessary.

This research has shown that flow cytometry can rapidly provide measurements of total cell counts that can be very useful to indicate rapid changes in faecal indicator bacteria and microbial water quality in general.

Additionally, the results suggest that monitoring of tryptophan-like fluorescence concentrations at karst springs can be also very useful for detecting rapid changes in concentrations of traditional faecal indicators. For that reason, authors suggest that direct on-site, real time flow cytometric and tryptophan-like fluorescence monitoring hold great promise in karst environments. It was also found that the frequency of detection of positive fluorescent whitening compounds signals may reveal useful information about the magnitude of human wastewater effluent impacts on karst aquifer systems.

Both springs during the three continuous 24-hour sampling periods showed marked responses to rainfall events for all of the microbial parameters measured. Elmvale spring showed faster responses to rainfall events than Ballindine spring (a 3 to 4 hour lagged response compared to the 12 to 13 hour lag during winter periods when the trials were carried out). This is because Ballindine catchment is a lot smaller in size but has thicker layer of soil and no swallow holes or estavelles while Elmvale catchment is highly karstified with more pathways enabling rapid and turbulent groundwater flows.

These studies confirmed the importance of monitoring of microbiological water quality at karst springs, given the resulting substantial increases in bacterial concentrations following rainfall events.

Luka has completed a PhD on this topic in 2021 and is a primary author of two papers that have been published on foot of his research, while a few other papers are expected to be published in the near future.
"Multiple fluorescence approaches to identify rapid changes in microbial indicators at karst springs" is available at:
www.sciencedirect.com/science/article/pii/S0169772222001772
"Flow Cytometry and Fecal Indicator Bacteria Analyses for Fingerprinting Microbial Pollution in Karst Aquifer Systems" is available at:
https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2021WR029840

GWS Excellence Awards 2022 winners in focus: Crosserlough GWS

When Crosserlough GWS County Cavan, was approached regarding its possible participation in the inter-department funded Integrated Source Protection Planning and Mitigation Actions project, it was an opportunity it grabbed with both hands.

Financial assistance is, of course, a major element of such a project but it has been the passion and commitment shown by Crosserlough GWS that has been key to its success. Over the past two years, it has worked tirelessly with everyone in the locality to bring about water quality improvements in its Graddum Lough. Its efforts were justly rewarded with an overall 'Community Engagement' category win in the GWS Excellence Awards 2022.

Crosserlough GWS chairperson, Seámus Galligan, and secretary, Michael Donohoe, beside a drinking water refill station installed by the GWS to increase community access to water and reduce the prevelance of single use plastics.

Hard work

Speaking about the award win, the group water scheme's secretary, Michael Donohoe, was praising of all involved:

'*To win an GWS Excellence Award for Crosserlough GWS feels brilliant. It is a reflection of all the hard work that was put in by the GWS committee members, led by our chairperson, Seamus Galligan.*'

The first step of its source protection project was to survey farms in critical source areas of the catchment and engage with farmers about the possibility of putting measures in place to protect water quality. Many were immediately open to the idea but others had some initial trepidation. However, continued efforts by the GWS committee eventually won their support and the committee worked closely with all farmers to assist in implementing targeted actions.

'Community engagement can be difficult to achieve but, in this case, the people pushing the idea were trusted and so convincing of the importance of source protection. Once we got the first two people on board, the news soon filtered through that this work was going to benefit our water quality.'

Crosserlough National School pupils attending the GWS World Water Day 2022 event. The GWS has worked closely with local schools to raise awareness about water quality and its links to biodiversity.

Raising awareness

Aside from the installation of physical measures, the GWS worked hard to spread awareness about water-friendly behaviour among its members. Each household was sent a leaflet on good and bad practices related to water quality. The GWS also provided pupils in three local primary schools with a native tree and education materials as part of the 'I've planted a tree and my garden is pesticide free' initiative. It sparked huge interest among the students, who were also given workshops on drinking water provision. Crosserlough National School was treated to a tour of the GWS treatment plant during a special World Water Day 2022 event, hosted by the group water scheme.

As part of the event, a pesticide awareness training course was delivered to farmers on the farm of GWS members. The public were invited to attend farm walks, showcasing implemented mitigation actions, and the GWS participated in local radio interviews to discuss its efforts.

Michael found the engagement with the local primary schools particularly satisfying:

'They were so interested and eager to get involved. It's vital to have the next generation be cognisant of water quality. They can also bring those important messages home to the rest of their family too.'

As the project draws to close, the GWS is eager to continue the work it has started. It also hopes its increased exposure within the community will prove hugely beneficial in attracting new and diverse committee members.

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InDepth Water Management supply water to all sectors in a nation-wide service. We provide our clients with **clean potable water in bulk containers** from 1,000 litres up to 30,000 litre tankers. We provide this to both public and private sectors with a need for clean potable water including **County Councils, Pharmaceutical industry, Private Group schemes, Industrial, restaurants, hotels and contractors.**

Benefits of Water Tankering

- ✓ *Can be **delivered to your site** in the event that a suitable water supply is not available*
- ✓ *Tanks are **sanitised and disinfected** in accordance with industry hygiene standards before deployment*
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- ✓ *Can be used to provide potable water in the case of an **Emergency Water Outage or Drinking Water Quality Issues** or if your supply is on a temporary Boil Water Notice*
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InDepth Water Management can provide a **bulk supply of clean water** to facilitate the filling of the newly constructed pool, tank or ponds.

Our larger range of **30,000 litre tankers** provides an effective way of filling pools etc. with clean high-quality water. This **shortens the downtime** should routine maintenance require pools to be emptied or if a leak occurs in the system.

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ACOWAS-EU Water Conference

What can we learn from other community supplies around Europe?

Left: Representatives at the ACOWAS-EU Water Conference outside the water treatment plant for the WWG St. Oswald co-operative in Upper Austria. Right: NFGWS chairperson, Vincent Farrelly, emerging from a spring source for the same water co-operative.

Certain words and terminologies can become so ubiquitous that we might easily overlook the depth of their meaning.

For instance, regular readers of *Rural Water News* will have seen the phrase 'the community-owned and community-run group water scheme sector' adorn these pages on countless occasions.

'Community-owned and community-run' is a perfect example of an expression that has been used for so long, we can sometimes forget its connotation. In one sense, 'community' can be geographically defined. Each individual group water scheme is owned and operated by members within a certain locality; a community of happenstance, dictated by virtue of who happens to live in an area.

However, 'community', in regard to the GWS sector is moreso defined by a common ethos and by shared values. 'Volunteerism', 'pride of place, 'co-operation', 'legacy' and 'sense of ownership' are just some of the characteristics that underpin the GWS community as a whole.

It's a 'community' that cannot be explained by simple cartographic boundaries, and this was glaringly evident at May's conference of the Alliance of Community-Owned Water Services in Europe (ACOWAS-EU).

ACOWAS-EU Conference

ACOWAS-EU is an informal network of community-owned drinking water and wastewater services that are in operation across Europe. If you thought the GWS sector was unique to Ireland, then think again. ACOWAS-EU brings together similar movements from Austria; Denmark; Finland; Italy; and Galicia, an autonomous community in northern Spain.

While these nations' community-owned drinking water supplies (CoDWS) may not be called 'group water schemes', they share the same co-operative ethos, many of the same virtues and, indeed, the same challenges as the GWS sector in Ireland.

Three representatives from the NFGWS attended the recent conference in Upper Austria, which was hosted by OÖ WASSER, one of four representative bodies for CoDWS in Austria. The main focus of the conference was the transposition of the recast EU Drinking Water Directive (DWD) and its ramifications for the CoDWS sector.

While Ireland had already transposed the DWD into national legislation in March, the more complex legislative structures in other ACOWAS-EU countries had caused some delays.

The new monitoring parameters and the requirements related to 'materials and substances in contact with drinking water' were two key talking points for everyone in attendance. The financial implications of the new DWD was also a pressing topic — state financial support is minimal in some of the GWS sector's European counterparts.

PFAs

Regarding, new parameters, per- and poly-fluoroalkylated substances (PFAs) were given particular attention, thanks to a presentation from the Upper Austrian Department of Water Management.

PFAs are a very large group of man-made chemicals (there are at least 5,000), that are found in everyday products, cosmetics, water-proofs, and fire-fighting foam. Their inclusion in the recast DWD dictates that member states must ensure compliance with PFAs limits by January 2026. However, technical guidance regarding PFAs monitoring is still in development by the European Commission.

Continued on page 16

Continued from page 15

Analytical methods for 20 PFAs have been developed and utilised as part of a nationwide groundwater monitoring programme in Austria. Thankfully, over 99% of monitoring points were under threshold levels but there were some hotspots identified.

Comprehensive treatment methods are also urgently needed, with Danish rep-re-sentatives informing the con-ference that trials are ongoing in some supplies in Denmark. Given their complexity, along with the fact that water sup-pliers are at the end of chain, a holistic strategy will be essential to mitigating PFAs contamination in drinking water.

Future-proofing

The conference also provided a chance for ACOWAS-EU to discuss future opportunities and challenges for their respective CoDWS. Although NFGWS representatives may have been more than 2,000km away from home, it was a similar conversation to those being had at every GWS meeting around Ireland.

The age profile of CoDWS board members, gender balance, waning volunteerism levels, and the need to improve levels of engagement of local members; these were key concerns across every region.

The value of such ACOW-AS-EU meetings shone through, as attendees dis-cussed personal experiences and shared advice on what has worked well in their own respective countries.

Regarding the recruitment of new board/committee members, it was the shared experience that CoDWS who approached pairs or trios of individuals enjoyed more success than when trying to encourage one person to get involved on their own. Interestingly, Austrian CoDWS place a more significant emphasis on identifying candidates based on skillset. Engineers, plumbers, electricians and managers are integral to the make-up of volunteer boards.

Looking towards the future, attendees all agreed that it is essential that every CoDWS focuses on ensuring at least one of their board/committee members has particular expertise in communications.

NFGWS senior development officer, Jean Rosney, presenting to the ACOWAS-EU Water Conference on the GWS sector and the implementation of the recast Drinking Water Directive in Ireland.

'Water conservation area - any pollution prohibited!' Source protection measures around a borewell source for the WWG St Oswald co-operative. Drinking water sources have ascending zones of protection in Austria.

Field trips

Alongside the boardroom sessions, OÖ WASSER, ar-ranged a number of visits to different water co-opera-tives (WG) in Upper Austria. WWG St. Oswald was the first port-of-call, a CoDWS that provides drinking water to circa 2,000 people in the village of Sankt Oswald.

Founded in the 1940s, it is a co-op that is still welcoming around 50 new household connections per year. We visited two of its 18 abstraction points – a protected spring and a nearby 60 metre-deep borewell. Virtually all drinking water supplies in Austria have groundwater or spring sources; the idea of surface water abstraction appeared alien to most.

Given the high quality of Austria's groundwater, many drinking water supplies need very little treatment. Water from the WWG St Oswald spring source requires a simple limestone filtration process to raise its pH levels.

This is then followed by UV treatment as a precautionary measure. Indeed, UV is the only disinfection show in town for drinking water suppliers in Austria. Such is the standard of source water, the complete absence of chlorination is another variance from drinking water treatment processes in Ireland.

Climate impact

Our next stop was Dingdorf, some 60km away. Dingdorf-Abwasser is both a drinking water and wastewater co-operative. Although it also boasts pristine drinking water quality, it is one of many co-operatives that have experienced the impact of climate change.

Following a drought period, analysis of its 60 metre-deep borewell found that a smaller pump would ensure water availability. Water demand management continues to be a key climate action measure for its members.

In the suburbs of the Upper Austrian capital, Linz, lies Rufling. When WG Rufling was established as a drinking water co-op in the 1920s, the area was entirely rural.

ACOWAS-EU representatives pictured with Upper Austrian state government official Stefan Kaineder (navy suit, centre). As member of the state council for water, Mr Kaineder paid tribute to the work of community-owned drinking water supplies around Europe.

Such has been the rate of development since, its borewell abstraction now sits amid an estate of houses. Source protection standards are not compromised however, with ample signage visible to make everyone aware that they are entering a critical zone.

Water from its well and other spring source is treated to mitigate raised levels of manganese, albeit a far cry from the levels some group water schemes have had to contend with.

Listening to WG St Oswald operations manager, Josef Stöttinger, the attitude of its membership towards drinking water is coming full circle.

He explained to us that, in the early days of the co-op, the piped supply of quality water was seen as a revelation. As time moved on it was taken somewhat for granted but, with the effects of climate change, people are starting to better appreciate it as a precious resource.

Salzkammergut

Further south, in the region of Salzkammergut, we met a number of people involved in the CoDWS movement in the community of Bad Goisern. Designated as a World Heritage Site, the mountainous area is renowned for its incredible topography and postcard views. Our hosts were equally impressive.

Local government and community-representative, Schönmayr Roland, explained the history of water co-operatives in the locality.

The two oldest CoDWS in the area were founded in the 1890s, with most dating their origins back to at least the 1950s.

Today, 15 CoDWS provide drinking water to 85% of the 7,600 inhabitants of the villages that make up Bad Goisern. The average water co-operative boasts 50-80 members, with the largest comprising of 800.

'The many co-operatives in Bad Goisern have a great sense of togetherness,' explained Schönmayr.

'The various networks are largely combined so that the co-ops can help each other out with water if there is a supply crisis.'

From listening to Schönmayr and his colleagues, their views on the advantages of CoDWS, themes of ownership, personability and speed of service were to the fore. It was clear for everyone in attendance that they took great pride in their work.

Learnings

Among the notable aspects of our visits to the Austrian CoDWS was the impeccable hygiene and overall standards of their treatment plants and storage facilities.

Stainless steel tanks, extensive tiling, and robust spring and wellhead protection are just a few examples of excellent quality assurance adherence.

More than anything, the ACOWAS-EU conference taught us that the 'community' aspect of the community-owned and community-run group water scheme sector reaches far beyond Ireland. It is a community of shared ideals and experience that is found wherever CoDWS exist. The opportunities to continue working together and learning from each other should not be overlooked.

Left: A borewell source for the WG Rufling co-operative near Linz. The community-owned drinking water supply also has a spring source a short walk away. Right: WG Rufling operations manager, Josef Stöttinger, explains its water treatment process.

What's new in the Water Industry
(mainly as contributed by our adverstisers)

Water safety planning approach at the core of ATU Sligo course

The World Health Organisation states that 'The most effective means of consistently ensuring the safety of a drinking water supply is through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer'.

Drinking Water Safety Plans (DWSPs), which are used globally, form an integral part of the process for the supply of safe drinking water to the public.

Level 6 course

During the second year of the part-time, online and flexible Level 6 Certificate in Drinking Water Treatment Operations programme from Atlantic Technological University (ATU) Sligo, students are introduced to the fundamental aspects of DWSPs in the provision of a safe and secure water supply to the public.

Furthermore, a DWSP is used to identify, assess, and manage potential risks to drinking water quality (from source to tap) for each catchment area to help to protect human health and ensure that the drinking water quality satisfies the relevant national drinking water standards.

In addition, the importance of strong operation and maintenance, to the effective delivery of water safety plans is comprehensively examined within the course. This programme was developed by ATU Sligo in conjunction with Uisce Éireann and the Local Authorities Services National Training Group (LASNTG) to address the ever increasing and demanding needs of water treatment plant operations. In designing the programme, the importance of DWSPs was identified and included in the learning outcomes for graduates.

Online learning

ATU Sligo has been delivering learning online for circa 20 years and has developed programmes specifically for this mode of delivery. Undertaking study online allows students to continue to work from anywhere while utilising their evenings and weekends to upskill and progress their careers. Weekly lectures are online and if students cannot make them for whatever reason, they are recorded for playback at any time and to also aid study.

Two workshops per semester (semesters run September to December and January to May) are held at ATU Sligo campus, which usually include a visit to a drinking water treatment plant. On completion of this Certificate, students can progress to Level 7 & 8 programmes in Environmental Management, and subsequently to Level 9 in Water Services Management.

Further information on all online programmes can be found at www.atu.ie/online-courses.

Regional Reports

Connacht Region

by

Karen Carney & Deirdre O'Neill

Galway

Funding has been approved for the interconnecting pipework that will link Ballyaneen/ Rakerin GWS and Cloondine GWS. The appointed GWS engineer will be seeking tenders shortly.

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A meeting was recently held with Brockagh/Lisduff GWS and two neighbouring group water schemes to discuss the possibility of rationalisation.

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The NFGWS recently carried out a quality assurance site visit with Cappataggle District Community GWS and Kilchreest GWS, and will be following up with both GWSs shortly with recommendations.

***

Approximately 22km of the 41.5km of watermain installation needed for the amalgamation of Kilrickle GWS and Kilcooley GWS has been completed to date. Testing of three sections has already taken place. It is envisaged work will commence in the Kilcooley area in September. When the project is finished, Kilrickle GWS and Kilcooley GWS will be amalgamated with Cappataggle District Community GWS.

***

Work to prepare Cloon (Claregalway) GWS for taking-in-charge by Uisce Éireann has begun. The appointed contractor is progressing with works on private roadways in advance of obtaining road-opening licences for public roads.

***

Cloonkeen/Toomard GWS had to contend with a water outage in June. The committee responded quickly to get its contractor onsite to assess the situation. Initial fears were that it may have been a yield issue or a problem with the abstraction pump. As it transpired, there was an issue with the probe following a lightning strike. The committee was proactive in sending a text to its members, asking them to conserve water as much as possible and to continue to check and report any leaks. The group water scheme also had leak detection personnel on site and found two leaks, which were repaired very quickly.

***

Seán Lenihan (Cappataggle District Community GWS) taking note of borewell levels during the early summer's dry weather.

Derryoober GWS has submitted an updated funding application to the Department of Housing, Local Government and Heritage to upgrade its source, which has ongoing problems with high iron levels.

***

Gallagh GWS organised a water treatment plant visit for its local schools, Brownsgrove NS and Lavally NS. The event was very successful, and including classroom talks from group water scheme personnel and NFGWS development officer, Karen Carney.

***

Work to connect Killeen Brockagh Ballintemple GWS directly to Uisce Éireann is complete. The GWS had previously been receiving Uisce Éireann supply via a neighbouring GWS network.

***

Roo GWS has submitted an updated funding application to the DHGLH for a treatment system upgrade.

***

Toberowen Kiltevna Lissybroder GWS has installed four sampling kiosks, which will be a great addition for operational monitoring the network.

***

Tynagh GWS has installed a new validated UV reactor, along with repair and recommissioning of the GWS's existing UV reactor. The new reactor is now being commissioned.

Pupils from Brownsgrove NS at the Gallagh GWS reservoir during a school field trip as part of an eductional day that included classroom talks and a treatment plant tour.

***

A meeting of Galway DBO 2 took place on 7 June via Zoom. It is planned to hold two meetings a year on Zoom and two in person, with the next in-person meeting planned for 13 September Items discussed at the LMC included capital replacement and the upcoming MARWP.

***

In April, the NFGWS presented at a meeting of the Irish Ocean Literacy Network in Galway, informing attendees of group water scheme source protection work and its collaboration with like-minded stakeholders.

NFGWS staff, Sinéad Higgins, Seán Corrigan, Jean Rosney and Patrick McCabe at the EPA Water Conference, held in Galway on 14-15 June.

Leitrim

There is growing concern among the publicly-sourced GWSs in Leitrim over the length of time it is taking to progress being formally taken-in-charge (TiC) by Uisce Éireann. Many of these GWSs applied to be TiC several years ago, with the works required to bring them to the required standard now substantially complete. Some GWSs have reported that they are fearful for the public health of their members, as they are struggling financially and to keep momentum among their management committees.

Discussions are ongoing between the NFGWS, Leitrim County Council and Uisce Éireann to try and overcome the impasse.

Mayo

Callow Lake GWS held its AGM on 10 May. The GWS had a busy year, with a number of small projects being successfully advanced. It is hoped that the interconnecting pipework between Attymass GWS and Callow Lake GWS to facilitate their agreed amalgamation will be completed this year. The GWS board expressed its concerns over delays in advancing a solution to resolve the ongoing THM issue and is eagerly awaiting the latest report being completed by its employer's representative.

***

Cornboy GWS has completed necessary works to enable full taking-in-charge by Uisce Éireann and it is hoped the formal TiC process will be advanced shortly.

***

A Dooyork GWS network upgrade project is currently at the design and tender stage. It is hoped that the works can be substantially completed before the end of the year.

***

Ellybay/Blacksod GWS is progressing with its network upgrade project to address unaccounted-for water issues through critical mains replacement under the Multi-annual Rural Water Programme.

***

Glencorrib GWS recently met with the NFGWS to discuss the possibility of putting source protection measures in place. Representatives from the GWS recently attended the Lough Carra GWS World Water Day open day and would like to advance a number of its own initiatives. Lough Carra GWS welcomed its new manager Gerard Connolly to the team in early June. We wish Gerard the best of luck in his new role.
It is hoped that the pipework to facilitate the amalgamation between Lough Carra GWS and Robeen GWS will be advanced before the end of the year.

***

Killeen GWS held its AGM on 1 June. The meeting was well-attended, with the GWS welcoming the appointment of some new board members on the night. The group water scheme is currently considering its options in relation to installing solar panels and is in discussions with their DBO contractor.

***

Mayo 1 DBO bundle LMC meeting was held on 10 May. group water scheme treatment plants were generally operating well. There was some discussion about the increasing energy costs.

***

The extension of the public watermain into the Murrisk areas as a community connections project, which recieved significant funding under the Multi-annual Rural Water Programme 2019–2021, is advancing well.

***

Options assessment reports have been completed on a number of the schemes in Mayo DBO 2 seeking to address ongoing THM issues. Further information has been requested by the DHLGH and Mayo County Council to ensure there are no abstraction issues at some of the sites, in light of new water abstraction legislation. It is hoped this information can be gathered as quickly as possible.

Citizens' Assembly on Biodiversity Loss chairperson, and Mayo native, Dr Aoibhinn Ní Shúilleabháin, holding a copy of the NFGWS World Water Day booklet that was distributed in Mayo earlier this year.

Roscommon

In May, Castlestrange GWS met with the NFGWS and Roscommon County Council to discuss possible source protection measures in the immediate area around its borehole.

***

Mid-Roscommon GWS's bio-diversity enhancement and climate action efforts were recognised by Roscommon County Council at a special event on 1 May. The GWS was honoured, alongside a number of other community groups in the county. Well done to the GWS on its great work to date. It's clear that its actions are having a positive impact in raising awareness of issues related to water quality and the environment throughout the county.

***

The amalgamation of Peake/Mantua GWS and Corracreigh GWS will be progressed under the next cycle of the Multi-annual Rural Water Programme. Both schemes have held SGMs and will be applying for funding for the interconnecting pipework.

***

Pollacat Springs GWS welcomed Corduff Corra-charra GWS, Stranooden GWS and Truagh GWS on a visit from County Monaghan. The GWSs are considering the installation of solar PV on their sites, as recommended in energy audits.

***

The Roscommon DBO bundle held a liaison monitoring committee meeting on 4 May.

Members of Mid-Roscommon GWS were honoured for the group water scheme's contribution to climate action at a special event, hosted by Roscommon County Council in May.

Sligo

A meeting was held with Liaison Monitoring Committee meetings took place for the Sligo Northwest & Sligo Southeast DBO bundles on 4 May. The plants performed well over the last quarter with some GWSs experiencing an increase in demand during the dry weather. Some frustration was expressed over delays in receiving operational subsidy payments. The issue has been raised again with Sligo County Council and it is working to address. Scada upgrades are underway in both bundles and are due to be completed later this summer.

Martin Murray (Castlestrange GWS) and Finbar Quinn (Roscommon County Council) during a meeting with the NFGWS around potential source protection measures.

Leinster Region

by Róisín Dowd Smith & Joe Gallagher

Carlow

Ballyellen GWS held its AGM on 31 May. At the meeting the members discussed the future management options for the scheme. An SGM of its members will be held later this year.

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St Mullins Parish GWS held its AGM on 30 May. The GWS continues to operate well and is considering the development of a supplementary source.

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The South Leinster DBO bundle held a liaison monitoring committee meeting on 25 May. Following a tendering process for the appointment of an employer's representative for the bundle, each GWS will be officially appointing an employer's representative for the remainder of the contract.

Kildare

Ballindoolin GWS is liaising with its consultant engineer to prepare a preliminary design and estimates for a network upgrade project in advance of a funding application under the next Multi-Annual Rural Water Programme.

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Kilteel GWS is currently working with its consultant engineer to investigate the potential of a suitable alternative water source within the catchment lands available to the scheme. A trial borewell has been drilled and analysis of the water quality are ongoing.

***

Lipstown Narraghmore GWS has engaged the services of consultant engineer to aid with future proposals under the next MARWP cycle. The GWS and its engineer are working to prepare an evidence-based funding application for a network upgrade project.

Kilkenny

Caherleske Coolagh GWS facilitated an open day for GWS in the southeast to demonstrate its newly installed PV array. The event was well-attended, with technical experts present to explain the operation of the panels to the attendees.

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Kilree Stoneyford GWS is seeking funding for the replacement of a pump.

***

The NFGWS held a meeting with Kilkenny County Council during May to discuss potential GWS projects for the upcoming Multi-annual Rural Water Programme. Progressing rationalisation and amalgamation projects within the county was discussed in detail, with information planned with relevant GWSs over the coming months.

***

An information meeting was held among the GWSs in rationalisation and amalgamation cluster no. 2 during May to discuss progressing potential amalgamation and rationalisation. The meeting was well-attended and each scheme is currently busy collecting the necessary information required to consider the most sustainable option for their GWS. A similar meeting was also held in May with the schemes in the northwest of the county.

5 GWSs in Kilkenny vote to rationalise

Five group water schemes in County Kilkenny have voted to rationalise as one new entity in a move that will help ensure long-term sustainability for their members.

The five GWSs involved in the Kilkenny rationalisation and amalgamation 'Cluster No. 3' held individual special general meetings during March and April to consider full rationalisation between the schemes.

All five GWSs (Ballycallan GWS, Ballymack GWS, Cuffes-grange GWS, Newtown GWS and Windgap GWS) agreed — by either unanimous or majority decisions — to rationalise into a new entity, called 'Kilkenny West Group Water Scheme Co-operative Society Limited'.

The rationalisation project has been progressing since the completion of a feasibility study in 2021. Numerous meetings and discussions were had with the GWSs over the past 2 years, and many of the schemes held information meetings with their members in advance of the SGMs to ensure members were fully informed of the proposal being put forward.

Next steps

Following the round of SGMs, the newly elected board of directors met and the necessary paperwork has been submitted to the Register of Friendly Societies.

As a result of the decision, the five group water schemes are now in a position to appoint a GWS manager to assist with the day-to-day management and operation of the schemes, which heretofore had been done entirely on a voluntary basis. The Board intends to advertise for the position of manager in the coming weeks.

Left: Representatives from the group water schemes in Kilkenny Cluster no.3 at recent meeting regarding their proposed rationalisation. Right: George Watters, chairman of Windgap GWS, signing rationalisation paperwork and being witnessed by John Dunphy, peace commissioner.

Laois

Ballypickas GWS held its AGM on 17 April. The GWS is awaiting the announcement of the next MARWP to make a submission to extend the GWS to supply additional houses and the local GAA club, which have water quality issues at present.

***

At a Special General Meeting in June, the membership of Crannagh GWS voted to be taken-in-charge by Uisce Éireann. The GWS is working with Laois County Council on its application and to identify any works required to enable a connection.

***

The NFGWS is working with Cullahill GWS to develop a trial water safety plan, in line with the new Drinking Water Regulations, published in March. This will be progressed over the coming months.

***

The Heath GWS is in the process of appointing a new caretaker. The position was advertised during May and interviews will be held shortly.

***

The Laois Rural Water Monitoring Committee held a meeting on 19 April. There was a good discussion on the latest water quality results across the county. Overall results are positive and Laois County Council is working to reduce the timescale in reporting treated water quality results to the GWSs. There was a good discussion on the Recast Drinking Water Directive and its implications for rural water.

Louth

Mountain Park GWS sought emergency funding for the upgrade of their OSEC system, following failure of some components earlier in the year. An application for funding was submitted to Louth County Council and approved in March and the works commenced are being carried out in Q2.

Killeigh/Cloneygowan/Killurin GWS has recently installed security fencing around its water treatment plant and has also purchased a new GWS van.

***

Ballymakenny GWS and Grangebellew GWS hope to complete a feasibility study to identify the enabling works required should the two GWSs decide to physically amalgamate. On completion of the report, both schemes intend to hold separate special general meetings of their members to consider the proposal. Both schemes held their AGMs over recent months, where the amalgamation option was discussed with members.

***

The potential for further rationalisation among GWSs within the county is also being considered. An information meeting between the GWSs, the NFGWS and Louth County Council will be held over the coming months to consider potential options.

Meath

Kiltale GWS and the wider community was deeply saddened by the recent death of Mary Reynolds. Mary was dedicated member of the GWS committee for many years, where she formerly held the position of treasurer. Throughout her life, Mary was extremely active in her local community. She was a prominent member of the Irish Countrywomen's Association (ICA), an organisation that played a key role in the foundation of the GWS sector. A founding member of the Kiltale ICA guild, Mary was later elected President of the Meath ICA. May she rest in peace.

Offaly

Publicly-sourced Ballycommon Kilclonfert GWS experienced an increase in operational costs last year due to an overall increase in electricity costs. The GWS is now considering the option of taking-in-charge by Uisce Éireann and will work with Offaly County Council on an application for the next MARWP.

***

Ballykilleen GWS is hoping to monitor its wells over the coming months to assess safe yield levels. This will help prepare the GWS for future drought periods. It's great to see GWSs planning and preparing for such events.

***

Bloomhill GWS is hoping to get new members involved on its committee. This small scheme has grown in membership size over the last few years and the committee feels it is important for all members to get involved in the scheme.

***

Cadamstown GWS has been monitoring the levels within its new borewell throughout the prolonged dry period. This well was drilled last August as an emergency measure, as the existing wells had gone extremely low and were only able to produce enough water to supply 20% of GWS demand. Thankfully there have been no issues to date, but continued monitoring of levels will provide early warning of any problems.

Clareen GWS also drilled a new well last year to prevent water shortages. This has proved very successful, including during the recent dry period, and shows how forward planning can prevent serious supply issues arising.

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Eglish & Drumcullen (Rath) GWS extended its network to supply a small neighbouring GWS. These works also facilitated the connection of a number of houses between the two networks.

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Killeigh/Cloneygowan/Killurin GWS recently held its AGM, where it discussed increasing electricity bills. The GWS has decided to look at options to reduce the energy costs, with its accounts showing that the cost for energy doubled compared to previous years. The GWS recently installed security fencing around its treatment plant and has also purchased a new GWS van.

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Mount Lucas GWS has applied to the wind farm located on the GWS network to install a water refill station on the walk and cycle track around the site. This is a very popular facility and a refill station would be a great addition for those who frequent the track.

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Tubber GWS has held discussions with Offaly County Council in relation to a possible rationalisation with Boher Leamonaghan GWS. The GWS committee will review available options and hopes to meet with the neighbouring GWS in the coming weeks to explore the possibility further.

Westmeath

Multyfarnham GWS is in discussions with its engineer and local contractors to explore possible options to address a problematic section of distribution watermain. The GWS has experienced a large number of leaks on this section over the last year and this has cost both time and money to locate and repair issues. The amount of water wasted on this relatively short section has amounted to a large percentage of overall water demand. The GWS is looking at the possibility of pipe bursting this section.

Wexford

Blackstairs GWS has received Wexford Rural Water Monitoring Committee held a meeting on 26 April.

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Blackstairs GWS held its AGM on 29 March. GWS manager, Joe Coleman, updated the members present on activities over the past 12 months. The Board is hoping to focus on updating some of the consumer meters over the year ahead, as well as addressing unaccounted-for water in the GWS distribution network. It is hoped that the reservoir works to install a bypass facility will be completed in the coming months.

Wicklow

Ballingate GWS recently carried out work on its network, focusing on pressure management. The GWS identified an area for the installation of a pressure-reducing valve. This will have an impact on reducing the overall pressure on this section of watermain and hopefully reduce levels of unaccounted-for water in that area. The GWS will use remaining funding to replace meters on its network and is currently requesting prices to complete the project.

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Askinagap GWS is currently exploring the development of a supplementary source. Production from the GWS borewells is reducing and the GWS is investigating the potential of a nearby spring source.

Munster Region

by Adrian Smyth & Joe Gallagher

Clare

Dysart Toonagh GWS facilitated a school visit from Toonagh NS on 26 April. The visit, in conjunction with the NFGWS, finished with a trip to the GWS source, Ballycullinan Lough and the water treatment plant.

The GWS also held its AGM on 10 May.

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Publicly-sourced Kildysart Coolmeen GWS has been in contact with Clare County Council and the Department of Housing, Local Government and Heritage regarding continued subsidy support. Uisce Éireann (UE) is proceeding with the taking-in-charge of the GWS on a section by section approach. It is important the GWS can maintain current subsidy levels until the taking in charge process if fully completed.

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Kilmaley Inagh GWS facilitated a school visit from Kilnamona NS. The visit was hosted in conjunction with the NFGWS on 15 May. It included a tour of the GWS water treatment plant and the pupils helped in raising the GWS's Group Water Scheme Excellence Awards flag for quality assurance and water safety planning.

The GWS held its AGM on 24 May.

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Kilnaboy GWS held its AGM on 3 April.

Cork

It is hoped the remainder of the Aghern GWS network will be supplied by Uisce Éireann shortly, with just some minor items to be completed.

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Following extensive testing and engagement, the preferred option for Ballydonegan GWS appears to be that Uisce Éireann will use the existing GWS source to augment its own supply in Allihies when taking-in-charge takes place.

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Installation of a dual barrier disinfection system and associated monitoring technology has now been completed in the Clonpriest Ballymadog GWS water treatment plant.

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Graigue GWS has gone to tender for the replacement of media in its manganese filtration system.

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Members of Rossmore GWS and Ballygurteen GWS being presented with their respective zone of contribution (ZOC) reports.

Pupils from Kilmona National School raising the Kilmaley Inagh GWS excellence flag during a school visit to the GWS treatment plant.

Work is progressing well with publicly-sourced Dromgarriff GWS in preparation for taking-in-charge by Uisce Éireann.

Limerick

Ballinamona GWS is hoping to install a SCADA system at its treatment plant to control flows and to turn on and off pumps, thus preventing the need for manual intervention.

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Ballybricken GWS and Caherline GWS met recently to discuss the potential rationalisation of both GWSs. The GWSs are located very close to each other, are of similar size and condition, which lends itself well to a straight forward merger. The GWSs will meet again in the coming weeks to review finances etc. and then hope to hold respective SGMs.

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Ballyduff GWS is hoping to open discussions with neighbouring group water schemes to explore the possibility of rationalisation.

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Bulgaden GWS is in discussions with the landowner of its source to see if the group water scheme can purchase the land outright. It hopes to use its own reserves, along with a possible contribution from members, given its importance.

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Ongoing maintenance and management efforts by publicly-sourced Feohanagh Castlemahon GWS has brought about continued improvements in levels of overall water demand. With demand further reduced in recent months and the survey of the assets complete, the GWS will be in contact with Limerick County Council to progress taking-in-charge by Uisce Éireann (UÉ) as soon as possible. Outstanding water bills are being collected and this money will be used to offset the amount outstanding to UÉ to date.

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Griston GWS will make an application for funding under the next Multi-annual Rural Water Programme to address infrastructural deficits. Currently, the GWS cannot turn off water from the outlet of the reservoir in order to fix a leak. This causes huge water loss and difficulty when addressing leaks on the network. The GWS will also need to install meters on all connections to accommodate charging for water usage. The GWS hopes to secure funding to address these issues.

Group water schemes in attendance at the practical demonstation element of chlorine handling training, hosted in Coshma GWS on 27 April.

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Kilfinny GWS had to bring an old supply into use during the prolonged dry spell. Water demand levels rose significantly and well levels dropped in its other sources. The use of the old well was supervised by Limerick County Council and a 'boil water notice' was put in place as a precaution.

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Group water schemes from Limerick, Cork and Clare attended a chlorine handling training course in Adare on 27 April. The course included a desk-based module, along with a practical demonstration. Thank you to Coshma GWS for facilitatng the practical element of the training.

Tipperary

Abbeyville GWS held an SGM on 27 April to facilitate the formation of a co-operative society and the election of an eight-member GWS board. Well done and best of luck to the new board.

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Ardcroney GWS held its AGM on 11 May. GWS Manager Eleanor Maher reported how the GWS operated well over the past year. The Manager and board are aiming to reduce the group water scheme's unaccounted-for water over the year ahead. The GWS is completing an energy audit of the its treatment and pumping regime, and the board will be focusing on the recommendations identified to improve GWS efficiencies (Ardcroney GWS is one of the 36 GWSs participating in the NFGWS BECA Project).

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Fantane GWS held its AGM on 18 May. The GWS reported to its members that its electricity bill has been significantly reduced, following the upgrade of recent pipework. In addition, the GWS has benefited from signing up to a competitive electricity rate for three years with its electricity supplier.

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Gurteenkilla GWS held its AGM on 30 May.

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Lisheenaclountha GWS is seeking approval for emergency funding to cover costs incurred during the 2022 summer drought.

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Newhill Leigh GWS and Longfordpass GWS met recently to sign the paperwork necessary to facilitate an amalgamation between the two GWSs. An application for funding to complete the necessary interconnecting pipework will be submitted under the next MARWP.

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Pike Knockshegowna GWS has been dealing with ongoing issues of bursts in pipework on the network. The GWS is eagerly awaiting the response from Uisce Éireann in relation to a pre-connection enquiry.

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Shallee GWS has installed a new borehole pump following the failure of its existing pump, which had been in place for over 25 years.

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The Tipperary Rural Water Monitoring Committee met on 30 May. There was good discussion on the recast Drinking Water Directive and the new drinking water regulations. The committee is anxious to promote water conservation across GWSs in the county, particularly regarding the uptake of rainwater harvesting on farms. The committee agreed to further engage with Teagasc on the topic, with a view to working collaboratively on an initiative.

New Carrigahorig GWS chairperson, Eddie Quinn, and the rest of the committee thanking outgoing chairperson, James Coburn for his long service to the GWS board.

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A training course, ran by Tipperary County Council, was delivered to unregulated GWS in the county on 12 June. The course focused on quality assurance and the requirements of the new Drinking Water Regulations.

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Along with Ardcroney GWS, Moyne GWS and Ashill GWS have begun the process of carrying out energy audits. It is hoped the reports will be completed soon and the group water schemes can then explore funding options for the implementation of measures.

Waterford

Coolcormack Valley Group Water Scheme is progressing with the paperwork required for taking-in-charge by Uisce Éireann, with the assistance of Waterford County Council and the NFGWS.

Kay Cantwell (Newhill Leigh GWS) and Paddy Dwyer (Longfordpass GWS) shake hands during a meeting between both GWSs to sign amalgamation paperwork.

Ulster Region

by Barry Dolan

Cavan

Dhuish GWS visited local school, Corlea National School, on 20 April with the assistance of the NFGWS to promote water conservation. NFGWS development officers, Adrian Smyth and Barry Dolan, gave all classes an interactive and fun presentation, highlighting how the students can play a major part in biodiversity and water conservation. The day also included a trip to the nearby water treatment plant and GWS source, Annagheirin Lough.

The green schools committee was delighted to see GWS manager, Gerry McIntyre, flushing lines close to the school and listened to local stories about the scheme. The day was a great success with each student receiving a unique pack, including: a reusable water bottle, *All About Water* booklet, and native silver birch tree. Local newspaper, *The Anglo Celt,* published a full page feature on the event.

Dhuish GWS also completed network flushing in early June and had a very successful AGM in April.

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Billis Lavey GWS has recently completed maintenance to the office and store room area. The NFGWS attended its AGM on Wednesday 31 May.

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Crossdoney GWS is currently upgrading the water treatment plant. Works are due to be completed in August 2023.

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Kildallan GWS has just commenced with its programme to replace all of its members' meters. The GWS is installing the latest 'smart' meters, hoping that this will help narrow down water losses earlier and avoid troublesome surprises for consumers when receiving their annual bill. The "smart" meter can be read from the comfort of the office on a daily/weekly/monthly basis using the LoRaWan system. LoRaWan is a low power, wide-range protocol that is designed to connect battery operated devices to the internet.

In this case, the device is the meter, which sends a signal to the network gateway (small satellite dishes). This, in turn, transmits the information to their server and then onward to the GWS laptops/tablets. The GWS is installing 250 meters over the summer months, with a further 250 on order for the winter project.

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Kilsherdany GWS AGM took place on Thursday 25 May and was attended by the NFGWS.

New GWS manager, Julie Fairbairn, recently hosted Barry Dolan, NFGWS development officer, to give an introduction to the scheme, including a tour of the catchment area.

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The NFGWS attended the Dernakesh Group Water Scheme AGM, which was held on 3 May in Maudabawn. Topics included manganese challenges, subsidy, roadopening licensing and non-domestic water rates.

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Drumkeery GWS AGM was held on Wednesday, 10 May. NFGWS staff were in attendance and the big news on the night was the decision to make major investment in new office facilities closer to the water treatment plant. This is a great development for the GWS's continued efforts to increase its operational capacity.

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Cavan County Council recently completed an audit with Mountainlodge GWS. The audit included an onsite visit to the water treatment plant, reservoir and its lake source, Lough Astural.

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Milltown GWS has completed a number of recent improvements and upgrades to its network. The GWS has installed a number of scour valves and stop valves, along with new valve at its treatment plant. Four new sampling points on the network have also enhanced its chlorine and operational monitoring capacity.

Kildallan GWS chaiperson, Tadhg Murphy, and Martin Smith, fitting Martin's new meter, ably assisted by Martin's family. Brian Bacon and Jane Austin on camera duty.

Personnel from Dhuish GWS during its visit to Corlea National School to promote water conservation and the work of the group water scheme.

Donegal

A treatment system trial and associated sampling is so far working well in Toraigh GWS. Further investigations are being carried out, following the completion of a desktop study by an appointed hydrogeologist.

Meenabool GWS is seeking quotations for a consulting engineer as part of a project to upgrade 1.6km of watermain. A proposed extension to supply 42 extra houses is under review, as estimated costs has brought its feasibility into question. The GWS will get detailed quotations before making a final decision.

Paddy Ward, Ross MacDonald (both Stranooden GWS), David Mitchell (Corduff Corracharra GWS) and Peter Oliver Loughran (Truagh GWS), pictured with Anthony Lee (Pollacat Springs GWS), during a visit to the Roscommon group water scheme to get a tour of its solar PV array.

Monaghan

Killanny & Reaghstown GWS is currently installing a water refill station at the local children's play park. The installation will be open to use by those in locality, which includes a national school, church and is on the main walking loop of the area.

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Truagh GWS has recently commenced preparation work to replace 2km of watermain to maintain and improve the service to members. At its AGM, held on 25 April, Barry Dolan presented details on current community engagement and training options for the locality.

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Monaghan County Council recently completed an audit with Churchill & Oram GWS. The audit included a provisional online meeting in addition to an onsite visit to the water treatment plant, reservoirs, and Milltown Lough.

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Magheracloone GWS is currently working on a new three-year plan for network upgrades, including the replacement of problematic pipework. The GWS is also in the initial stages of a yield survey of the source following an options report prepared for the Department of Housing, Local Government and Heritage.

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Stranooden GWS has made a start on the next stage of its source protection project with mapping of a selected stream catchment. The GWS has since commenced a targeted sampling programme.

The GWS also held its first steering group meeting attended by all relevant stakeholders and all schools (9 in total) in the catchment have had a visit from the source protection officer to highlight the challenges and issues in protecting our source water which involved a visit to the source lake and a workshop at the treatment plant observing the differences in the invertebrates from poor and good streams and an overview of the treatment process at the plant.

The GWS's source protection work was highlighted on RTÉ television's news bulletins in July, in a piece discussing the rising temperatures in surface waterbodies across Ireland, as a result of climate change.

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A number of Monaghan GWSs recently visited Pollacat Springs GWS in County Roscommon to get see its solar PV array, with a view to exploring renewable energy sources themselves.

Rural Water Services Conference 2023

Embracing change – opportunities and challenges for the group water scheme sector

Thursday 7 September 2023

Hodson Bay Hotel, Athlone, County Roscommon

Conference Programme

8:30am – 9:15am	Registration - Tea/Coffee
First session	Chairperson: **Tommy Ryan**, *Cathaoirleach,* WSTG & *Chief Executive,* Cavan County Council
9:15am – 9:25am	Welcome & Introduction: **Tommy Ryan**, *Cathaoirleach,* WSTG & *Chief Executive,* Cavan County Council
9:25am – 9:40am	**Ministerial Address** **Darragh O'Brien**, TD, Minister for Housing, Local Government & Heritage (DHLGH) (TBC)
9:40am – 10:00am	**Research & Information Report on Rural Water** **Brian Gallagher**, Technical Director, TOBIN Consulting Engineers
10:00am – 10:20am	**Legislation Changes Impacting Water Suppliers** **Jean Rosney**, Senior Development Co-ordinator, NFGWS
10:20am – 10:40am	**Upcoming Multi-annual Rural Water Programme** **Douglas Kelly**, Principal Officer, Rural Water Unit, DHLGH
10:40am – 11:00am	Panel discussion and questions & answers
11:00am – 11:30am	Tea/Coffee Break
Second Session	Chairperson: **Dr Jolanta Burke**, Senior Lecturer, Royal College of Surgeons in Ireland
11:30am – 11:50am	**Developing a Water Safety Plan – Kilconieron Group Water Scheme's Experience** **Geraldine Taylor**, Manager - Kilconieron Group Water Scheme
11:50am – 12:10pm	**Source Protection Pilot Project Final Report** **Patrick McCabe**, Catchment Scientist, NFGWS **Seán Corrigan**, Source Protection Mitigations Lead, NFGWS
12:10pm – 12:30pm	**A Changed Approach to Achieving Environmental Compliance** **Gerard Hannon** – Chief Technician, Environment Section, Roscommon County Council
12:30pm – 1:00pm	Panel discussion and questions & answers
1:00pm – 2:15pm	Lunch
Third Session	Chairperson: **Dr Triona McGrath**, Research and Policy Lead, An Fóram Uisce
2:15pm – 2:35pm	**Celebrating 25 years of the NFGWS** **Barry Deane**, Chief Executive Officer, NFGWS
2:35pm – 4:00pm	**Panel Discussion on: 'Encouraging Greater Participation on GWSs'** **Mary Connolly**, Corrick GWS, Co. Sligo **Seán Clerkin**, Tydavnet GWS, Co. Monaghan **Shane Curley**, Glinsk Creggs GWS, Co Galway **Darragh Walsh**, Irish Co-operative Organisation Society Limited
4:00pm	Tea/Coffee & Departure

To book this year's Rural Water Services Conference, contact Julie Brannigan at NFGWS, 24 Old Cross Square, Monaghan.
Tel: 047 72766 **Email:** julie@nfgws.ie