

DÁIL ÉIREANN

AN COMHCHOISTE UM THITHÍOCHT, RIALTAS ÁITIÚIL AGUS OIDHREACTH

JOINT COMMITTEE ON HOUSING, LOCAL GOVERNMENT AND HERITAGE

Déardaoin, 7 Aibreán 2022

Thursday, 7 April 2022

Tháinig an Comhchoiste le chéile ag 1.30 p.m.

The Joint Committee met at 1.30 p.m.

Comhaltaí a bhí i láthair / Members present:

Teachtaí Dála / Deputies	Seanadóirí / Senators
Joe Flaherty,	Victor Boyhan.
Thomas Gould,	
Emer Higgins,	
Cian O'Callaghan,	
Eoin Ó Broin.	

Teachta / Deputy Steven Matthews sa Chathaoir / in the Chair.

Draft River Basin Management Plan for Ireland 2022-2027: Discussion

Chairman: Good afternoon, I welcome everybody. The committee is meeting to discuss the draft river basin management plan for Ireland 2022-2027. The public consideration period on that has just finished. It is the third river basin management plan to be produced for Ireland. We are joined in the room by Dr. Matt Crowe, chairperson, Mr. Dónal Purcell, senior executive officer, and Dr. Triona McGrath, research lead, the Water Forum; and Professor Frank O'Mara, Mr. Noel Meehan and Mr. Eddie Burgess, Teagasc. Online, we are joined over Teams by Dr. Elaine McGoff, natural environment officer, and Ms Phoebe Duvall, planning and environmental policy officer, An Taisce; and Mr. Mark Boyden, cathaoirleach, and Ms Sinéad O'Brien, coordinator, Sustainable Water Network, SWAN. Members have been circulated with the opening statements and briefings from our expert witnesses.

I will read a note on privilege. I remind members of the constitutional requirement that they must be physically present within the confines of Leinster House in order to participate in public meetings. Those attending remotely from within the Leinster House complex are protected by absolute privilege in respect of their contributions to today's meeting. This means they have an absolute defence against any defamation action for anything they say at the meeting. For witnesses attending remotely from outside the Leinster House complex, there are some limitations on parliamentary privilege and, as such, they may not benefit from the same level of immunity from legal proceedings as a person physically present in the complex. Members and witnesses are expected not to abuse the privilege they enjoy and it is my duty as Chair to ensure it is not abused. Therefore, if their statements are potentially defamatory in relation to an identifiable person or entity, they will be directed to discontinue their remarks. It is imperative they comply with any such direction.

Members and witnesses are reminded of the long-standing parliamentary practice to the effect that they should not comment on, criticise or make charges against a person outside the House or an official either by name or in such a way as to make him or her identifiable.

We also invited the Environmental Protection Agency, EPA, to the meeting but its representatives were unable to attend at this time. I hoped they would be able to frame or outline the river basin management plans. I will read my outline. I put this together quite quickly so if there are mistakes in it, please feel free to correct me.

The river basin management plans are a key component of how we implement the water framework directive, which was adopted by member states across the EU in 2000. It requires that all waters, rivers, lakes, groundwaters, estuaries, coastal waters, canals and reservoirs are protected and measures put in place to ensure the quality of these waters is restored to "good" status by 2027 at the latest, with some exceptions. The directive governs all activities that may impact this objective or the quality or quantity of water. The directive requires an integrated approach across all sectors, including agriculture, industry, the spatial planning policy, sustainable management and protection of water resources. It impacts on and is equally impacted by a diverse range of environmental plans and regulations. The river basin management plan sets out the measures necessary to protect and improve the quality of our waters. These plans are prepared in six-year cycles, during which a programme of measures must be implemented to achieve water quality objectives. The objective is linked to and reinforces other EU environmental directives, including directives relating to the protection of diversity, the specific uses of water, such as the drinking water, bathing water and urban wastewater directives, and directives concerned with the regulation of activities to protect the environment. The nitrates directive

also forms an integral part of the water framework directive and is key for the protection of water against agricultural pressures. The committee recently received the statutory instrument regulation relating to the nitrates directive.

River basin management plans work on a catchment basis. In Ireland, the development and implementation of the river basin management plan is achieved through an integrated catchment management approach and uses the catchments, sub-catchments and water bodies as the functional areas and units of the plan. Using catchments, sub-catchments and water bodies to examine the pressures on our water resources at an appropriate scale allows us to effectively manage our waters. It is also used as a means to bring together all public bodies, communities and businesses that have a connection to these catchments. The process involves gathering the best available information and data to understand the catchment, looking at all the uses of water, whether drinking, agricultural, industrial or recreational, and the ecosystems that depend on that water to survive. It also involves engaging local communities and involving them in the management of the catchment and adopting appropriate measures to ensure activities that represent a significant threat to water resources are effectively managed.

Ireland prepares a river basin management plan every six years, which sets targets to address water quality issues, including the protection, improvement and sustainable management of the water environment. This is the third plan. Further cycles every six years will involve ongoing protection of water bodies. The public participation process is an integral part of the river basin management planning process. In accordance with the requirements of the directive, the Department has engaged in public consultation at three critical stages in the river basin management plan. These include outlining the draft timetable, consultation for development of the river basin management plans, and identification of significant water management issues to be addressed in the plans. Today, our committee is meeting to consider how we can participate and contribute to that consultation. I thank the expert witnesses who have joined us today to assist us with our scrutiny of the draft river basin management plan. Some of the witnesses might recognise some of that text, because it was extracted from the draft plan as produced. I wanted to put it on the record.

I invite Dr. Crowe to make the opening statement on behalf of the Water Forum.

Dr. Matthew Crowe: We are delighted to be here to talk to the committee about the draft river basin management plan. I am the chair of the Water Forum. I was appointed in the last couple of months. I am here with Mr. Dónal Purcell and Dr. Triona McGrath, who are members of the secretariat that supports the forum.

The forum was established on a statutory basis in 2018 to provide stakeholder input and advice to policy development. There are 25 members, representing a broad range of sectors and views on water issues. The forum has statutory advisory roles relating to the Minister for Housing, Local Government and Heritage, Irish Water, the Commission for Regulation of Utilities and the Water Policy Advisory Committee. I acknowledge the previous chair of the Water Forum, Tom Collins, for his many years of public service in matters relating to water, Connie Rochford for chairing the forum between Tom leaving and my recent appointment, and Barry Dean from the National Federation of Group Water Schemes for chairing the forum's water services committee. I thank all the members, past and present, for their contributions, time and public service, and the forum's secretariat for all its support.

Regarding the hearings today, we welcome that the committee is taking such an interest in the draft river basin management plan. The next six years will be crucial. This is the third

cycle. The water framework directive was agreed more than 20 years ago. Two six-year cycles have already taken place in that period. Many problems remain to be solved. Over the next six years, we need to step up the level of ambition and rate of progress and start to see radical improvements in water quality, management of our precious water resources, and in the area of water services. Implementation is key. We can have a great plan, but if it is not implemented, it means nothing in the longer term.

I refer to the main recommendations of the forum. The document we prepared runs to nearly 60 pages, with 103 recommendations altogether. The committee will be glad to hear that I will not go through them all today. They represent the agreed position of members following much engagement with the Department, the Environmental Protection Agency, the Local Authority Waters Programme, and the agricultural sustainability support and advisory programme, which is here today too, and many other organisations. They cover all the relevant areas, including governance, monitoring, evaluation, financing, public participation, and the key pressures on water. In the next minute or two, I will refer to an outcomes-based approach, governance and finance, public participation, and pressures. We are delighted to get into more detail during the discussion.

We recommend an outcomes-based approach with targeted measures, metrics and key performance indicators for every water body in Ireland. There are about 4,500 in total. Each water body either needs to be protected, if already of good status, or improved if at poor or moderate status. Detail is provided in the submission about how this could be designed. The forum is happy to engage with whoever it needs to about the development of such an approach.

Regarding governance and financing, we recommend a number of reforms to governance structures to help to strengthen the overall governance framework. These include the inclusion of a full-time project management secretariat, more structured engagement between the three governance tiers, and opportunities for engagement between the forum and each tier. We also recommend quickly establishing the proposed interdepartmental group to develop a comprehensive financial strategy to support implementation of climate, water and biodiversity objectives in an integrated and joined-up fashion. I hope, during the course of the hearing, that we get to talk about the multiple benefits issue, with water, climate and nature being interconnected.

We recommend a new national approach to meaningful public participation to help to radically improve how the public participates in the implementation of the water framework directive, leading to a vision and action plan for meaningful public participation in each of the 46 catchment areas in Ireland. The forum can assist in the development and implementation of such an approach. As I have learned in the course of the two months I have been involved in the forum, it has a lot of expertise relating to public participation and engagement. We can draw on that over the next six years.

We have sections about all the pressures in the detailed submission. We want to make a couple of general points first. We need much better alignment of sectoral policies and strategies with the objectives of the water framework directive across all sectors that can have either a negative or positive impact on water. Many sectoral activities, such as new developments, flood relief works, and so on, also need robust water framework assessments to ensure they do not have a negative impact on water. Looking at the history of this, it has taken Ireland a long time to figure out how to work through the legislation so that a directive such as the water framework directive appears regularly when looking at new planning developments and so on. That is something that we need to deal with in the course of the next plan. There is much to be

done, but we are building on a lot of progress, in particular in the most recent truncated cycle, which was just for a four-year period. I again thank the committee members for inviting us here. We are very happy to answer any questions they may have and to provide any additional follow-up information we might be able to give to the committee from the forum while it is carrying out its deliberations.

Chairman: I thank Dr. Crowe. I invite Mr. Mark Boyden to make the opening statement on behalf of SWAN.

Mr. Mark Boyden: I thank the committee for the invitation to appear before it. The Sustainable Water Network assists in fulfilling vital public participation functions referred to by Dr. Crowe, which is required by the water framework directive and other water-related policy, by both disseminating the evolving status of the implementation of these instruments in Ireland, as well as collating feedback from numerous stakeholders. We have a solemn duty to faithfully convey these opinions and concerns from contributors, to ensure their voices are heard and are present at the table.

The value of clean, healthy waters is clear, and even more so as we enter a time of uncertain rainfall and other influences induced by climate change. Absolutely everything depends upon our achieving high status waters - from the health of our people, to our stewardship of biodiversity, and extending to the value of our agricultural produce. That is by way of introduction. I will now defer to my colleague, SWAN co-ordinator, Ms Sinéad O'Brien, to brief the committee on the deeply considered SWAN assessment of the current draft river basin management plan. The committee will have received the full submission in separate correspondence.

Ms Sinéad O'Brien: First, I wish to make a few introductory remarks about the current state of our water and I will then present a synopsis of the six key issues SWAN has identified. A little like the Water Forum, we have a lot of issues, but we have just selected our top issues to present to the committee today.

Despite the impression of Ireland as clean and green globally, more than half of our rivers, lakes and estuaries are currently unhealthy. That means they are failing water framework directive status. Nitrate and phosphate pollution is at an unsatisfactory level and it has increased significantly since 2013, and we have lost a shocking 96% of our most pristine rivers in the past 30 years. In addition, more recently, an interim assessment of the previous river basin management plan reveals that only two out of ten expected outcomes of the plan have been achieved.

While SWAN very much commends the work of officials in the Department's water advisory unit, staff in the local authority waters programme and in the excellent EPA catchments unit, we believe all of this good work has been negated by conflicting policy in other areas, in particular a lack of investment and unsustainable land use, which is driving nutrients to levels that are unsustainable for the environment and to the detriment of Ireland and ultimately its people.

I will give committee members a quick flavour of our key issues, some of which are shared with the Water Forum. The first one is the lack of ambition and specific actions in the plan. Our overarching message to the committee today is that there is a lack of ambition in the plan and it falls far short of what is required. It lacks targeted actions to bring all of our water bodies up to good status, which is required by the water framework directive, and is not a coherent response to the directive. Neither is it in line with the programme for Government commitment on the directive. The continuing decline in water quality demonstrates that the current policy is not working. That leads to our first recommendation which is that the ambition of the plan must be

in line with the directive and it must include a full set of targeted, specific measures necessary to bring every water body up to good status by 2027, as required by the directive. We must do that if we are to avoid the opprobrium of the EU and our own citizens.

The second issue to which we want to draw the committee's attention is water governance. Despite some new administrative structures that we might discuss later, water management remains fragmented and opaque and there is no central body or agency responsible for implementation of the previous or current plans. This was also highlighted by the Institute of Public Administration in a review last year. Our recommendation in this regard is that we need to establish an appropriately resourced river basin management plan project and management secretariat that is responsible for oversight, co-ordination and monitoring of the plan.

Our third recommendation on public participation is closely related to this. While we welcome the establishment of the national Water Forum, of which I am very happy to be a member, and the work of community water officers, in addition to the commitment to develop 46 catchment plans, the river basin management plan does not have a commitment that the public will be involved in their development. Volunteer-run catchment groups such as the Rivers Trust are not resourced in the way they need to be if they are to play the vital role envisaged for them by the State. We recommend that the public must be involved in the development of plans for the 46 catchments around the country and that they need to be resourced adequately to do that in order to secure effective public engagement. This needs to be facilitated by a team of 46 catchment water officers, as opposed to the 13 we have now.

As we all know, agriculture has the most significant impact on our waters, but since colleagues from An Taisce will be dealing specifically with that, I will not speak any more about it and I will move on to urban waste water. The draft plan is far too weak on the significant impact of urban waste discharges on the environment. This is the main source of pollution in 208 water bodies, yet the proposed plan does not set out measures to fix these by the deadline. We recommend that Irish Water's capital investment plan must include specific work and actions to address pollution in those 208 water bodies that are polluted by sewage. It must also set out transparently where this waste water pollution is happening; the waste water plant or system causing it; and where there is and, critically, where there is not - a plan of action to address this, with a timeline.

The second last issue to which I draw the attention of the committee is forestry. Again, there are no new measures in the plan, targeted or otherwise, to address the impact of forestry, despite the fact that it is causing pollution in 233 water bodies, including in many of the pristine water bodies we spoke of earlier. Instead, the plan relies on the roll-out and uptake of current initiatives such as the licensing system, with no link made to how that will restore degraded waters. The additional risk posed by increased national climate change targets for forestry is not addressed in the plan. We recommend that all forestry operations must be subject to a water framework directive-specific assessment, and they must contain site-specific stipulations for water protection, taking into account the cumulative impacts of multiple plantations in a catchment. We also need sensitivity mapping to identify the most vulnerable catchments, so that as forestry is rolled out in the coming years we ensure that only the right tree is planted in the right place.

The final point relates to physical modifications to our waters. This poses the second biggest pressure to inland waterways, with channelisation having the most impact due to the significant disturbance and damage to the ecology caused by in-stream dredging and clearance activities, including siltation, disturbance of spawning beds, changes in water quality and disconnecting

rivers from their floodplains and wetlands. This is in clear contravention of the water framework directive, which mandated that we should have had regulations in place since 2012 for these activities. Therefore, we welcome the proposal in the plan that there will be new legislation and new water and planning guidelines. With all due regard to community safety, this new legislation must include a WFD-specific assessment in advance of interventions such as dredging, drainage and flood protection. Projects must achieve WFD compliance and there must be an urgent assessment of catchment-scale soft options which maximise upstream attenuation, as part of sustainable flood management. We are also calling for a prohibition on wetland drainage and commitment to a national river and wetland restoration programme. I thank the members for their attention. We hope the committee may wish to play a role in securing a stronger and more ambitious plan that reverses pollution and ensures the security of clean and safe water for people, nature and the economy in these deeply uncertain times.

Chairman: I invite one of the representatives of Teagasc to make its opening statement.

Dr. Frank O'Mara: I would like to thank the Chairman and the members of the committee for the invitation to attend the meeting today. I will introduce our team. I am the director of Teagasc, and with me are Mr. Eddie Burgess, specialist advisor to the agricultural catchments programme and Mr. Noel Meehan, manager of the agricultural sustainability support and advisory programme. Water quality and, in particular, minimising the impact of agriculture has been a priority area for Teagasc for many years. We have a large body of water quality research that is largely centred around the agricultural catchments programme, ACP, which started in 2008 and is funded by the Department of Agriculture, Food and the Marine. In addition to our core advisory activities which provide general advice on water quality, we have a dedicated agricultural sustainability support and advisory programme, ASSAP, which works with farmers in a free and confidential advisory service to help improve water quality.

The ACP operates in six small agriculturally-dominated catchment areas selected to represent different farming systems and soil types. The support and co-operation of 300 farmers in these catchment areas allows Teagasc to monitor soils, weather, farming practice, ground water and surface water. The programme also evaluates economic performance and agricultural productivity on these farms. By building up this information over the years, we learn how farming influences water quality and how the regulations, namely, the nitrates directive and its derogation, impact on farming. The high resolution monitoring of the ACP, which has been done every ten minutes, continuously since 2008, has given an in-depth understanding of the processes that influence water quality from when it falls as rain on farmland to when it leaves a catchment area in our streams. Teagasc's ACP research contributes significantly to Ireland's annual EU reporting on the nitrates derogation and provides a scientific basis to Teagasc's submission for any review of Ireland's nitrates directive national action programme.

The ASSAP was established as part of the River Basin Management Plan 2018-2021. It is a collaborative programme and is funded by the Department of Housing Local Government and Heritage, the Department of Agriculture, Food and the Marine, and Dairy industry Ireland, DII. The ASSAP provides a free and confidential advisory service for farmers in the 190 priority areas for action located throughout the country. The aim of the ASSAP is to provide farmers with advice focused on the prevention of contaminant losses to waters with a view to attaining water framework directive water quality targets. The advisory service is provided by Teagasc and the dairy processing co-ops. Currently, Teagasc provides 20 advisers and the dairy processing co-ops provide 13 advisers. The dairy processing co-ops have committed to providing an additional five advisers to the programme in 2022. The ASSAP is designed to

work closely with farmers in each priority area for action, PAA. The local authority waters programme, LAWPRO, provides the science that identifies what is impacting water quality - nutrients, sediment, pesticides, pathogens and toxic substances - and where this occurs in each PAA. The ASSAP advisers then contact the relevant farmers and offer to visit and assess the farm for any issues that may be impacting water quality. Advisers assess the farm across three areas: farmyard management and practices; land management, including critical source areas, CSAs; and nutrient management practices. At the end of the visit the adviser and farmer will agree on where the farmer should focus improvements or actions, and identify the right measure in the right place to help prevent contaminants from entering water. To date, the ASSAP programme advisers have visited a total of 2,829 farms, and 553 follow-up farm visits have been also completed. Farmer engagement is very strong, with 95% of farmers contacted availing of the ASSAP service, and agreement to implement recommended measures at 93%. More than 14,500 issues have been identified by advisers on farms, an average of five per farm, and 44% have been deemed to be high-risk issues.

For water quality improvements to be realised through ASSAP interventions, there needs to be a high level of implementation of the mitigation actions recommended by advisers, and the actions must continually be implemented into the future. Currently, there is variation in the level of implementation of mitigation actions by farmers across the issues identified. Data from the ASSAP interim report for 2020 showed that the level of implementation of measures is positive. On average, 51% of the mitigation actions recommended are commenced, completed or being implemented on an ongoing basis. The non-implementation of actions, where farmers have not started or are not proceeding, is averaged at 37%, with the remaining 12% made up of actions not assigned any implementation status. Although farmers' willingness to take on mitigation actions and the implementation of measures is positive, there is a need for a greater level of implementation of actions across all issues for water quality improvements to occur. Further support for the farmers from the ASSAP advisers is required to help ensure the right measure is used in the right place on farms. We are happy to expand on any aspect of our work, including the ASSAP and the ACP, during the meeting.

Chairman: I invite Dr. McGoff to make the opening statement on behalf of An Taisce.

Dr. Elaine McGoff: I thank the committee for the invitation to present here today. I am Dr. Elaine McGoff. I am the natural environment officer with An Taisce. I have a PhD in freshwater ecology. I am joined by my colleague, Ms Phoebe Duvall. I wish to state at the outset that An Taisce supports all of the points and recommendations that were raised by SWAN, but I will focus on agriculture, given that it is the most significant pressure on water quality. I want to address the agricultural measures in the draft river basin management plan, RBMP, and to highlight the critical role that the nitrates action programme, NAP, and good agricultural practice, GAP, regulations play in that. This is the third river basin management plan, and it comes in the midst of an ever-worsening water quality crisis - a crisis that is leading to loss of nature, swimming bans and drinking water contamination. There are a number of catchments in the south and south-east, such as the Barrow, the Slaney and the Lee, which are of particular concern in regard to nitrate pollution from agriculture. More than one third of all river sites have increasing levels of nitrate pollution. Clearly, radical changes are necessary in the management of nitrogen inputs to agricultural land to comply with the water framework directive.

On the agricultural measures proposed in the river basin management plan, the RBMP relies heavily on the measures proposed in the nitrates action programme and the good agricultural practice regulations. Beyond that, the other measures proposed are voluntary, somewhat vague,

not time-tabled or targeted. This is why the reliance on the measures in the NAP is absolutely critical. If they fail, then the largest pressure on water quality will not be adequately addressed. In reality, if they fail, things will get significantly worse. With that in mind, it should be of grave concern that the Department of Housing, Local Government and Heritage itself has acknowledged that the previous NAP failed because of agricultural industry expansion and poor compliance. To put numbers on that, the dairy herd has increased by approximately 50% since 2010, and artificial fertiliser import has increased by almost 40% in a similar timeframe. This pressure was clearly recognised in the documentation which accompanied the NAP, with the strategic environmental assessment stating: "...reduced stocking rates...offers greater levels of protection to the natural environment and is recommended..." It went on to state that "In a number of cases there is a clear driver from the natural environment for change...but this change has not been adopted within the draft NAP for economic reasons." It is important to note that economics does not come into the nitrates directive, and cannot lawfully be used as an excuse to undermine environmental protection.

We acknowledge some additional measures have been added to the nitrates action programme that will partially address nitrate pollution but, in our view, they are inadequate to tackle it properly. I will give three examples, the first of which relates to the direct nitrate load onto grazing land. Teagasc was asked to conduct some modelling of various scenarios to inform policy decisions to reduce nitrate runoff from agriculture. One of the main drivers that was identified was that cattle urine deposited directly onto fields leads to more than 62% of nitrate loss. It is the main driver of nitrate loss, far above artificial fertiliser and slurry, yet no mitigation for this is provided for in the NAP or GAP regulations. Why is this?

The second measure relates to fertiliser reductions. The nitrates action programme proposes reducing artificial fertiliser loads by up to 15%. While that is welcome, EPA data indicate that in some catchments in the south and the south east, a 50%-plus reduction in nitrogen load will be necessary to meet water quality standards. This raises the question as to what percentage reduction in fertiliser is required to protect water quality in these catchments, and why Teagasc did not model this when it clearly has the capacity.

The third issue to be aware of is compliance. Compliance with the good agricultural practice regulations is recognised by all parties as being low and it has been acknowledged by the Department that fixing it is a key part of addressing water quality declines. However, the NAP does not provide any new enforcement measures for the relevant authorities and proposes open-ended measures such as reviews of local authority capacity and "potentially" targeting high-risk areas. How can compliance be adequately addressed without tangible, time-tabled measures?

Having laid out the problems, I will propose some recommendations for how agricultural water pollution could be addressed via the river basin management plan. The NAP has been finalised, so we now need to look to the river basin management plan to provide some additional safeguards. The first recommendation is for a catchment or waterbody-based approach. Each waterbody will have only a certain carrying capacity for nutrients, and it is time we took that kind of an approach and figured out what are those thresholds. The second recommendation relates to introducing environmental risk assessments for all intensive farms, including derogation farms, through a permitting or licensing system similar to that by which pig and poultry farms need to abide. Intensification should be permitted only if it can be demonstrated it will not impact on water quality. Third, for existing farms deemed to be a risk, regulatory, voluntary and combined measures should be implemented, including through herd reductions, with

compensatory measures put in place to support this where necessary. Most important, we need a solid evidence base to show the measures farmers are putting in place are going to work. We know from the EPA what reductions need to happen and where, while Teagasc can model how we should achieve those reductions. Why has that link not been made? Why are we not joining the dots?

A CSO study last year found 79% of people surveyed put water pollution as their top environmental concern, above all else. The public are not being louder about this because water pollution is often invisible. It is only a matter of time, however, before the public become aware of the scale of the problem we are facing with our water quality, and then they will be looking for answers as to why this was allowed to happen. This is a key opportunity for us to turn things around. The science could not be clearer: we need an ambitious and far-reaching river basin management plan to address this. As I demonstrated, it is not enough to rely on the inadequate nitrates action programme. The river basin management plan we have seen is sorely lacking in ambition and we would very much like it to be addressed.

Chairman: I thank Dr. McGoff. There were a number of questions for Teagasc there. For the information of our guests, witnesses may not question other witnesses and should ask questions through the Chair. Nevertheless, our guests from Teagasc may wish to come back in on some of those questions later.

Dr. Elaine McGoff: To clarify, the questions were posed in general and not directed specifically at Teagasc. They are directed also at the Department or whoever wishes to answer them.

Chairman: I thank Dr. McGoff.

Deputy Thomas Gould: I thank all our guests. There is a lot in this issue. This is big stuff we are talking about. It has been great to get so many opinions and so much information. What did Ms O'Brien mean when she talked about local communities needing to be more involved in water management? Specifically, what does she believe should be done?

Ms Sinéad O'Brien: The water framework directive is quite novel in that it has a specific requirement to encourage the active involvement of stakeholders and local communities. Through the work of LAWPRO, the local authorities' water programme, local catchment groups and rivers trusts have been established and have done good work in raising awareness, but the next step is to get those groups actively involved in making decisions regarding the management of their waters. Some areas have very active groups, such as Cork Environmental Forum, which is very active in regard to water. There is a question as to who will develop these 46 catchment plans, and I hope we will get to have a discussion about the confusing governance as well.

When those catchment plans are being developed, local communities have to be actively involved in their development. To do that, there needs to be at least one community water officer for each of those areas and they need to work closely with the communities, garnering their views and knitting them in to the development of the plan. Parallel to that, those local groups have to be well resourced. We have seen in the river basin management plan that the Government and the Department see an intrinsic role for them, but there is very little resourcing. Most of these community groups are voluntary, with perhaps one or two of them employing someone part time, yet they are expected to carry out river surveys and citizen surveys, river clean-ups and so on. We recommend, therefore, that all those catchment groups and rivers trusts should be funded with at least one staff member who can co-ordinate their input into the development

of those plans.

Deputy Thomas Gould: Much of the focus earlier was on rural rivers and wetlands but it is important also to examine urban areas. The area I represent, Cork North-Central, contains a number of urban areas, not least around the Glenn river and the Bride river. There is an effect on the wildlife. The Glen River Park is a beautiful area in the middle of an urban area. Every couple of months on Twitter, an issue is raised with respect to the water quality and there might be reports of sewage or green slime in the water. What is the plan to prevent issues such as that arising? They apply not just to the Glen River Park but also to the Bride river and other rivers. I am not sure which of our guests wishes to answer this. How can we eliminate or reduce the issue?

Ms Sinéad O'Brien: That is a really good point and the Deputy hit the nail on the head. He captured how many different issues exist. In an urban river such as the one going through the Glen, there are many potential impacts on it. It is not a simple answer and what is needed is an integrated approach. There needs to be somebody, such as a catchment manager, who will monitor the multiple impacts on the river and come up with a plan, as well as involve the local community. That is why we recommend there needs to be 46 community water officers. If somebody is going for a walk near the Glen and sees green slime or smells foul odours, he or she will be able to get in touch with the community water officer, who, in the model we envisage, will be in charge of working out whom to get in touch with, whether that is the environment section in Cork City Council or, if somebody is using a digger where he or she should not be, the community water officer might decide the person should get in touch with the EPA. They form that key liaison point, which we do not have at the moment. We have been arguing for many years that there needs to be such a liaison point. I will leave it at that and let Dr. Crow pick it up from there.

Dr. Matthew Crowe: It is a brilliant question because it encapsulates the challenge everywhere. I mentioned in my opening statement that there are about 4,500 water bodies in Ireland. If you break up the whole country there are 46 catchments and the River Lee would be an example of one of the large catchment areas. They are subdivided into sub-catchments and there are about 600 of them in the country altogether. You are getting more and more down into the local as you go from national down through the catchments. The point about the catchment approach is you are trying to develop this three-dimensional picture of what is going on in an area and the example of the park the Deputy mentioned is replicated everywhere. I lived in Wexford and I could think of places there where there are similar issues. The problem is these issues are never easy to solve because there could be missed connections going in and there could be sewage or overflows.

We need to have these ways of bringing everybody together. When I say “everybody” I mean the forces of the State, including: the local authorities; LAWPRO, which is an entity of the local authorities that has become specialist in the area of water quality and management; and the local communities. This public participation is a huge challenge and there are no easy answers to it. That is why the forum has raised it as such a big issue. It is one of the three big issues we have mentioned. Over the next six years, in the third river basin management plan there is a chance to focus in on that public participation and to work out how to do it better. I do not know what the answers to it are. I have been a members of the Tidy Towns committee in Wexford and stuff like that and it is usually the same people who gather to do things in local areas. It is not easy but it is worth trying to fix.

If you take, for example, the area the Deputy mentioned in Cork, the chances are that there

are things that can be done that will improve water quality, nature and biodiversity in the area. Those actions might have benefits for climate change and there could be something to do with flood management going on there as well. There is all that connectivity which you can only get if a lot of local people are involved because they tend to know the place better. It is the same with farming as well because farmers know their farms better than anybody. If you do not talk to the farmer you will not really understand what is going on there either. That is another form of local engagement and participation that we can evolve and develop to a much higher level over the next six years than we have up to now.

Deputy Thomas Gould: I ask the Chairman to give me a small bit of leeway because I will have to leave later. There was one other issue, namely, dumping into our lakes, streams and waterways. It is mentioned in the report but there are no specific actions mentioned. I see it in Cork North-Central and about ten years ago there was a major flood in Blackpool, which had been flooded a number of times. There are ESB cables on these big wheels and one of them came down the River Bride and got stuck under the bridge in Blackpool. It was there for a while and then there were severe rains. Everything was brushed down and got caught and then the whole place flooded. As a consequence none of the businesses there can get insurance because there is a flood risk. When I was a councillor on Cork City Council at the time it was a question of who manages the streams and waterways and who is responsible. There are some good community groups out there that do fabulous voluntary work and it is brilliant that people get involved in their communities. It ties up communities, especially when a lot of communities would have had home ownership or people in social housing one time whereas nowadays a lot of people are renting and moving into communities. Being involved in community clean-ups and managing waterways is good but who has the responsibility from a Government point of view to ensure they are managed and maintained and that work is done with the community? There is nothing worse than seeing a beautiful stream or river with litter everywhere. What action needs to be taken?

Chairman: One of the last witnesses suggested a full-time catchment management person so that might answer that question. I will move on to the next member but I am sure the witnesses will address the overall management of our waters, which is a key part of this.

Senator Victor Boyhan: I want to be brief because this is complex. I thank the witnesses. I want to declare that I am on the Oireachtas Joint Committee on Agriculture, Food and the Marine as well. The Water Forum, SWAN and An Taisce came with firm recommendations and I want to acknowledge that. It is always great when groups have concerns but also come up with recommendations. That is always positive and helpful.

I will start with Teagasc and I would have some concerns about its opening statement. There was a key line in the statement from the Water Forum and which stated: "Emphasis will also need to be placed on building relationships with landowners (farmers, peatlands, forestry), facilitating training and knowledge exchange." That was apt and the issue everyone has talked about is partnership, consultation, understanding, public engagement and trust and all of that is important. I see a role for Teagasc in all of that and the witnesses will see that themselves. I understand where Teagasc is coming from, I am a great supporter of it and I studied Teagasc courses as Teagasc has an educational role. There is an issue that many farmers are not necessarily conscious of, namely, their contribution to pollution. Our guests from Teagasc talked about percentages but we did not hear numbers. There are 20 Teagasc asset advisers and there are some from the dairy private sector. Why would there not be? They have a vested interest in that, which is not to be critical of them but Teagasc is a State agency and it talks about the

farmers engaging. I would like to drill down into numbers more. I am not saying the witnesses will have that detail today but they might be in a position to come back to the committee in a further written supplementary submission. We need to know more about this.

Why are people not engaging? It ties in with An Taisce, which also made a good submission and it has made recommendations. An Taisce's opening statement states: "Most importantly, we need a solid evidence base that the measures farmers are putting in place are going to work." With all due respect, I was a bit disappointed in Teagasc's presentation. I am not saying it is conflicted but it works closely with farmers and promotes them and maybe it felt constrained in all of that. We have pathogens, fertilisers, herbicides and nutrient management plans and we have a lot of challenges in agriculture. It is not done deliberately but there has to be knowledge transfer, education, training, supports and encouragement. I am not too sure whether Teagasc needs more advisers out there engaging. On the whole farmers want to do the business but there is always a cost factor and it is always about production and the bottom line. That is not to be critical of anyone. I genuinely believe the farming community wants to engage and there are different levels and degrees of knowledge, etc. I would like to hear more from Teagasc at a future date. That is to be helpful, not negative.

Our guests from SWAN talked about the issues of engagement. One of its recommendations is that the public must be involved in the development of the plans for local water, so it might talk about that.

I am very taken with An Taisce's submission. Dr. McGoff might just dwell on the issue of what she thinks is the best way to measure this. We must remember the farming community feels under pressure and feels it is being knocked in everything. We have to work in a strategic, communicative and participative way. Dr. McGoff might just comment individually on those points.

As I said, my real ask today is that Teagasc would come up with much more detail on its engagement and how it can address this. Perhaps there might be an opportunity for the other committee of which I am a member, namely, the Joint Oireachtas Committee on Agriculture, Food and the Marine, to invite Dr. O'Mara in.

Dr. Frank O'Mara: I thank the Senator for his comments and challenges to us. I have been to the Joint Committee on Agriculture, Food and the Marine a number of times and we get plenty of robust questioning there as well.

We can come back with more detail later but I would like to set our submission in a little bit more context, and I apologise that we perhaps did not do that. We have about 250 advisers with a client list of approximately 44,000, who are farmers who have a contractual arrangement with us. We deal with those 44,000 on a one-to-one basis, but we would also provide much information and advice to the generality of farmers because all our events are free to people to attend. We publish a lot of material in media and so on. We put a lot information out there.

On water quality, just to step back a minute, we see sustainability being at the core of what we do. We define sustainability as having a number of legs, none of which is more important than the other. There is economic, environmental and social sustainability. We cannot have a functioning food system that does not have the three of those working well. All our advisory programmes and the research programmes that support those are about trying to deliver that sustainability, and water quality is a key aspect of environmental sustainability. Our general advisory messages to farmers would incorporate a huge amount of advice around how to man-

age their farms to ensure good outcomes for water quality. The Senator mentioned nutrient management planning, derogation plans and advice to farmers around fertiliser or how to use organic manures. That is a key part of the business that we do and the information that we communicate to farmers everyday through our 250 advisers.

What I talked about in the opening statement was two specific programmes that deal just with water quality - the agricultural catchments programme, which around the research and measurement end of it, and the new agricultural sustainability support and advisory programme, ASSAP, which is specific and-----

Senator Victor Boyhan: I am conscious of time. I fully accept all of that. It would be helpful if Dr. O'Mara could supply more information in terms of the programmes and his proactive engagement with the agricultural sector.

In the last few moments, I would like a response from An Taisce on what it would like to see in terms of beefing up this sort of engagement with the farming community and this solid evidence-based information that it requests and talks about in its recommendations.

Dr. Elaine McGoff: It is absolutely critical that we engage with farmers. We need two approaches. We need a bottom-up approach, so we absolutely have to engage farmers, but we also need strong and robust regulation coming from the top. We cannot get where we need to get to without both of those. Farmers have proven to be very willing to put matters in place. They are jumping through the hoops that they are being asked jump through. However, the problem is that they are not the right hoops and will not get us where we need to get to. The problem is that agricultural policy to date has been focused on maintaining business as usual in the model that we already have in place. We need to step back and consider whether it is the right model. Looking at what is happening with the Ukraine situation now, where we have serious problems getting enough fertiliser and importing fodder, it exposes how vulnerable our agricultural model is to shocks in international trade routes. This leaves our farmers very vulnerable and in a very insecure situation. We would like to see a change in approach to a much more diverse agricultural model, where farmers are supported to farm in all sorts of different ways and grow different types of crops and grow food for human consumption. That very much will need the farmers at the table. It will need numerous parties at the table to figure out how we get to where we need to get to. It cannot just be a top-down or bottom-up approach as we need Government supports. We would like to see everybody sit down at the table to honestly assess the situation - we are lacking a lot of honesty at the moment – and say this is where we need to go, identify the roadblocks and figure out how to get past them. Without doing that, we will constantly tinker around the edges and not get to grips with this.

Chairman: I will go back to Deputy Flaherty for Fianna Fáil, followed by Deputy Higgins for Fine Gael, who have about seven minutes.

Deputy Joe Flaherty: I want to thank all of the speakers for coming here today. It has been very informative and helpful. I straddle two committees as well. I am also on the Joint Committee on Agriculture, Food and the Marine, so I am familiar with many of the issues that the witnesses raised.

It is good to see, particularly in terms of what Teagasc presented, farmers are not being vilified. Too often, farmers are vilified and are the very incarnation of evil when it comes deprivation of water quality, but that is not the case. That is probably borne out in the agricultural sustainability support and advisory programme, which is an excellent initiative. I have spoken

to a number of farmers who have engaged with the programme and have found it hugely helpful. This is very much the route that we need to go down. We need to go down a consultative route. Farmers are the custodians of the land and are very much the custodians of the land and the environment. They are appreciative of, and are keen to play a part in, ensuring that we have very good water quality.

On engagement, I know some of the co-ops also have an advisory function. Is there cohesion between the Teagasc service and the co-ops? Are the groups communicating with each other or are we looking at two stand-alone functions? Perhaps a Teagasc representative could come back to me on that point first.

Mr. Noel Meehan: I thank the Deputy for his question. Yes, we are very much co-ordinated with our colleagues in the dairy processing co-ops. As our statement outlined, we are very much reliant on LAWPRO to give us direction on where to visit based on its science in the streams. It would tell us which farmers or areas to visit. We would go and visit the farmers at that stage. The way it is broken down is that Teagasc will visit the farmers who are drystock, tillage, sheep and so on, and the co-op advisers will visit their own particular dairy suppliers. We have a very detailed template as to how we assess a farm so there is uniformity across all advisers as to how they assess a farm. We have all received the exact same training via EPA and LAWPRO. Therefore, there is consistency of assessment going on with regard to how we assess farm. There is also consistency of recommendations around what mitigation actions need to be put in place. We are very much aligned, one with the other, as to how we assess farms.

Deputy Joe Flaherty: Very good. I would be very impressed with the numbers. It is just under 2,900 and follow-up engagement is very strong at 95%. That probably speaks to the belief that this is very much a consultative approach and not a stick approach and that Teagasc is engaging proactively with farmers. Perhaps we need to make farmers more aware that the service is there. At the minute, it is reactive. Teagasc is reliant on local authorities to come to it and flag an issue. Obviously, it is dependent on staff. Does Mr. Meehan see a situation where we can be pre-emptive rather than reactive in this area?

Mr. Noel Meehan: Yes. The way the ASSAP was originally structured is the way that is going at the minute. The way it was divided up was a restore function. Basically, what ASSAP and LAWPRO are trying to do is that where a water body is not meeting its water framework directive target and is at moderate or poor status, that is a restore function and the idea is that we would go in and try to restore that water quality. The Deputy is asking if there is a protect function, which is the phrase that would be used by the EPA and perhaps it is part of the river basin management plan as well. With the protect function the idea is that one would have a discussion with farmers before issues manifest themselves in the river or stream and get things fixed prior to the impact that might be there. That is the question the Deputy is asking. Currently, our role in ASSAP is not that role. We have 20 Teagasc and 13 co-operative advisers, which will be increasing to 18. We have 33 advisers at present, but that will increase to 38. Our role is based on the restore function. LAWPRO identifies where the problems are and we try to work with the farmers in collaboration to try to improve the water quality. That is our role at present.

As an aside, we had an assessment of the ASSAP carried out by an expert panel last September. The current chair of the Water Forum was part of that expert group. One of the recommendations from the expert group was to set down and project forward what the role of ASSAP will be into the future. That is a job for the joint funding Departments, to have a discussion on that in consultation with stakeholders. To answer the Deputy's question, it is not part of the plan at present, but it may be.

There is another point, and I am sorry for delaying, Chairman. In the forthcoming river basin management plan and the priority areas for action that we are working in, there will also be local authorities working in those and they will have a protect function, as far as I understand. What the Deputy is asking may be undertaken by local authorities but, as it stands, ASSAP has not got that function yet.

Deputy Joe Flaherty: I have a final question. We will have to do the glass half full and the glass half empty. The half empty part is the non-implementation or not proceeding. We are establishing that it is one in three, which would be a cause for concern. Obviously, farming is very challenged at present, with the war in Ukraine, escalating fuel costs and so forth. Many of the rehabilitative works and transitional changes that are needed are going to incur an expense, and there is no recourse for farmers where they need to take these actions.

Mr. Noel Meehan: That is correct. Currently, once ASSAP asks a farmer to implement a measure, we do not have any money to offer that farmer. A lot of the measures we are asking farmers to take are out of the farmers' pockets. To be fair, many of the measures we are asking for are not expensive. It is more about practice change and doing certain things at different times to minimise impact, so the costs of what we are asking are quite low. There is nobody from the two Departments here but both the Department of Housing, Local Government and Heritage and the Department of Agriculture, Food and the Marine have made a commitment to provide some funding. All these details have to be finalised, and I will not get into that, but there is a commitment for funding from both Departments to help farmers implement measures for water quality. However, that will not happen until 2023 or thereabouts so we have to continue our work in the meantime, but that commitment is there.

Deputy Joe Flaherty: I appreciate Teagasc is not making any major announcements today, but what is the level of funding it believes is necessary to try to get this one third of farmers who are not engaging, whether they are not able to engage or not able to follow through?

Mr. Noel Meehan: I am certainly not going to make any pronouncements. As far as I am aware, it has been published that there will be €10 million per year for five years from the Department of Agriculture, Food and the Marine and €2 million per year for five years from the Department of Housing, Local Government and Heritage. That is my understanding, but I am very much open to correction on that.

Deputy Joe Flaherty: Is that specifically going to farmers for rehabilitative works?

Mr. Noel Meehan: Yes. There are various levels of requirement in the new environment architecture that is there. There are eco-schemes, agri-environment climate measures, AECMs, co-operation projects, European innovation projects, EIPs, and so forth. This will fall outside all of those. It is basically to try to mop up farmers who fall outside of those, and there will be a significant cohort of farmers who will fall outside them. Obviously, environmental schemes do not suit everybody and many of the co-operation projects are focused on the more peripheral western seaboard area. It is to try to catch those other farmers.

Deputy Joe Flaherty: I thank Mr. Meehan. It has been very helpful and informative.

Chairman: There is a portion of the carbon tax as well ring-fenced towards agricultural environmental measures. To your knowledge, is any of it going back in that direction as well?

Mr. Noel Meehan: I am not sure, Chairman. I do not think so. This is a specific fund. I do not know from where that fund is being financed, but it is there.

Chairman: Aside from the retrofitting and social protection measures for which carbon tax is ring-fenced, it is also to go towards farming environmental practice measures. Dr. Crowe wishes to comment.

Dr. Matthew Crowe: I wish to comment on the protect issue because it is very important for the third cycle. The second cycle was truncated. It was really a four-year cycle because it took Ireland longer to get the plan together than other countries in Europe for a variety of reasons. The focus for the second cycle was very much on restore. The plan was constructed in a way that what are called the basic measures would deal with the protect bit and then the additional measures, such as the creation of LAWPRO, ASSAP and new things, would deal with the restore bit. What has happened is that while there is evidence from the most recent EPA reports that there are improvements happening in the areas for action, where a focus from LAWPRO and ASSAP is taking place and a number of water bodies are improving, unfortunately, there are also a number of water bodies in other places that are deteriorating. That is why the protect piece is so important for the third cycle. Essentially, the protect needs to be considered on an equal footing to restore. If it is not, the risk is that we will put lots of resources into the restore bit and probably be very successful in doing that, but, meanwhile, in other catchments water quality will deteriorate and, essentially, we end up in the same place overall.

All that can be catered for by proper integrated catchment management, which the country is learning how to do far better than it would have been able to do six years ago or so. There is a lot of hope that this can be resolved. When I mentioned the outcome-based approach at the start, which the Water Forum has done a great deal of thinking about over the last few months, the point is that every water body needs an objective for the next six years. That objective is either to keep it good quality if it is already at good quality, which is the protect bit, or to restore it if it is at bad, moderate or poor status currently. That is a big job, but that part of it is fairly simple in terms of just having a concept in one's head about what the scale of the challenge is. If we do not do that, I guarantee that six years hence there will be continued deterioration of the waters that are currently at good quality. Some of them will continue to deteriorate. It is something that is particularly important for the design of this plan.

Chairman: Mr. Meehan wants to come in on that.

Mr. Noel Meehan: I will add to Dr. Crowe's comments. We are in the restore function but as water quality improves in these areas it is very important when ASSAP and LAWPRO are finished their business there that the protect function is maintained. A big part of what we see contributing to that, and this ties in with some of the comments from our other colleagues today, is that we need to educate and upskill the farmers, the advisory services and the local community. We will know what is causing the problems in the rivers and we will know what will fix the problems in the rivers. We must make sure everybody else knows that and not slip back into the bad old ways. That is a very important point, and an important part of what ASSAP is trying to do as well once we finish up is to ensure we leave that body of knowledge behind us so it does not slip back.

Chairman: Absolutely. A key component of any environmental management system is continuous monitoring and continuously trying to improve.

Deputy Emer Higgins: I thank the witnesses for a really informative discussion. It is great to get so many different perspectives from key stakeholders, which, ultimately, is what we all are. Dr. Crowe spoke about there being 4,500 waterbodies. It is such an enormous task when it is put like that, bearing in mind the large number of stakeholders for each of those bodies and

the fact that each body will require objectives, whether that is to protect or restore. There needs to be some level of an action plan for every waterbody, which is a mammoth task. It is because of the strength of our stakeholders and of organisations such as our guests' that this is not as daunting a task as it would otherwise be.

I commend the Water Forum on its very comprehensive and well thought-out submission. I liked the way its representatives talked about an outcome-based approach and went through some practical measures that could be implemented. There was a reference to governance and they spoke about the pressure in regard to training and engagement with landowners. Dr. O'Mara of Teagasc gave a rundown of the agricultural sustainability support advisory project. I have to admit, I did not know much about this but it was so encouraging to hear about the level of outreach to farmers that is happening, with free and confidential advice to help them improve water quality and minimise the impact on our waterbodies. Nevertheless, I am concerned about that one third of farmers who are non-compliant, which he mentioned. I appreciate he dealt with this in response to what Deputy Flaherty asked, and that it is not Teagasc's jurisdiction to enforce this, but how can Teagasc, the Government or whatever stakeholder he considers most appropriate not only incentivise compliance on those matters but also deliver it? We need compliance across the board.

One of the interesting points in the SWAN submission related to forestry, which, of course, is relevant to and intertwined with the issues of water basins and waterbodies. I would love to learn a little more about that perspective from the SWAN representatives.

Ms Sinéad O'Brien: I might take the first question before deferring to my colleagues in An Taisce, who do an awful lot of work in forestry. The Deputy hit the nail on the head with her question about how we can ensure implementation. I too was struck by the figure of 37% of farmers who are not implementing the measures. This comes back to the recommendation both SWAN and the Water Forum are making, namely, that we need a centralised unit to oversee implementation. At the moment, there are some measures under forestry and measures ASSAP is implementing, but nobody is overseeing them and matching up the measures to results and targets.

We recommend a catchment-based approach, whereby a manager in each of the 46 catchment areas would oversee the implementation. Second, as was recommended last year by the Institute of Public Administration, there should be a river basin management plan secretariat within the Department that would examine the targets in the river basin management plan, plans that SWAN hopes will be more ambitious than they are currently are, and track and assess implementation as we go. In that way, we can resolve questions such as the Deputy's about why only two thirds of farmers are implementing measures, what the barriers are to that and how we can address them, and whether they can be supported. For example, perhaps some farmers are just not compliant and it is an enforcement issue. A central unit could address all those issues.

I will not take up much more time but might give a flavour for how complex this is. At the moment, operational groups in each region look at these various issues, such as forestry and agriculture in all the catchments in a region. Under them, there are regional operational groups, and there is also the water policy advisory committee at the highest, assistant secretary level. Under that, there is the national catchment management group, and under that again, the national implementation group. All the groups are doing good work, although some of them do not talk to one another. They are supposed to engage with the national Water Forum but they are not adequately engaging with us. It is very fragmented and also quite opaque. Our clear recommendation is that we need that central unit, within the Department of Housing, Local

Government and Heritage, to oversee the implementation and track its progress.

Deputy Emer Higgins: What budgetary estimates are there for that kind of framework Ms O'Brien describes?

Ms Sinéad O'Brien: We have not put a budget on it. I think it is something the Department would need to consider. In Sweden, for example, a team of about 30 people oversees the implementation of the water framework directive, and that does not even include the scientists. I believe our water advisory unit - I am open to correction on this - comprises five people, who are completely overworked and very committed but who just do not have the resources they need.

Deputy Emer Higgins: Before we hear from our guests from Teagasc and An Taisce, I might clarify something regarding the 37% figure. In fairness, and I apologise if I gave the impression otherwise, it includes actions that have not started as opposed to comprising only cases of non-compliance.

Dr. Elaine McGoff: Forestry is the third most significant pressure on water quality and it disproportionately impacts on our high-status waterbodies, that is, our best of the best, or the sorts of rivers that are pictured on tourist brochures and that everyone wants to see. We have gone from having 500 high-status waterbodies 30 years ago to having 20. Things are really bad and forestry is one of the main pressures on that.

One of the main issues relates to something called legacy forestry. On many of these sites, trees were planted where they should never have been planted and they have been there for decades. It is problematic to figure out what to do with them, but the approach so far has been, to a certain extent, to ignore them or to say it is problematic and that, therefore, we will not address them. An Taisce is a prescribed body for forestry, which means that people who apply for a forestry licence are referred to us and we have a look at the application. We look at a couple of hundred forestry applications a year. The water protection measures, as part of the licensing system, are incredibly weak. They rely on standard protocols to protect water but we can see, given forestry constitutes the third most prevalent pressure, that they are not working. The river basin management plan refers to existing policies and measures but it is somewhat pointless to point to them given, clearly, they are not working.

What we would like to see - An Taisce and SWAN are in agreement on this - is sensitivity mapping. Similar to the catchment approach, it would involve examining a given waterbody to see whether it could take a certain level of afforestation, where it would be too sensitive for trees to be planted, and where they should and should not be planted. We would also like to see a specific water framework directive assessment for any afforestation licences where they will not have to rely on these standard measures and can say for definite that there will not be an impact on water quality. Moreover, we need a plan for legacy forestry. We cannot keep ignoring it because it is an ongoing pressure on our most pristine waterbodies and the animals that live in them, such as the freshwater pearl mussel. This is especially important in light of climate change mitigation, whereby there is quite a strong push to plant more trees. That is great if the trees are being planted in the right place but we need to ensure they will be, and the sensitivity mapping is the key to that.

Dr. Frank O'Mara: The Deputy highlighted an important issue and then made an important clarification such that, when we talk about one third of farmers, it is not the case that one third of farmers are not compliant. The figure comprises a combination of farmers who have not started the process as well as those who are not proceeding. On average, five actions have

been identified for every farmer. A farmer, therefore, may have implemented three of them and may have yet to start the other two, which does not mean he or she is not compliant. We are not saying one third of farmers are not compliant with the actions that have been identified by the advisory programme. Mr. Meehan might expand on that.

Mr. Noel Meehan: A big part of what we do relates to the implementation measures. If we do not have implementation measures, we will not see an improvement in water quality. We had to formulate a way of monitoring the level of implementation and it is a five-point process. It indicates if a measure has not started or is not proceeding, for example, and this might be where a farmer may have agreed to a measure initially but when we returned has decided not to do it for various reasons. I will explain that in a moment. A third point is where a measure has commenced, such as if a water course has been fenced off. The fourth point is where a water course's fencing is completed and the other option is where the process is ongoing. For the "ongoing" option, it is where we speak of practice change. It is where a farmer may have been putting slurry on a field on 15 January but we have indicated it brings too high a risk and we would like the farmer to put it out later in the season, when it would be less risky. Such practice change would be always ongoing, forever and a day, if the farmer wants that. That is the way we have done that.

The 37% figure refers to where farmers have not started, where farmers have just not gotten to start the measure. It could be because of planning permission issues or because they are waiting for funding from some source. Part of the reason both Departments have committed funding to support measures is that when we ask farmers to do measures and they tell us they cannot for reasons X, Y and Z, we feed that back to the Departments dealing with agriculture and housing and local government. Barriers to implementation have been mentioned and we have reported feedback from farmers about such barriers. The barrier that is repeatedly the most reported is around the fencing of water courses from livestock access. There are complex reasons for farmers not doing this, relating to cost, alternative drinking water supplies, the ground being rented or a farmer's age and a lack of successor, for example. It is a very complex matter but we report it to the funding Departments. It is one of the reasons the fund I spoke of a while ago has been made available. It is about trying to get through those barriers and improving the level of implementation. I absolutely agree that this is a key action and we are working very hard with farmers to get that level of implementation as high as possible.

Chairman: The next slot is for the Green Party and I will take it. I have a keen interest in water and, with the expertise we have in the room, I know the witnesses have much experience and a lifetime of dedication to this. My email inbox is not full every week with emails from people concerned about water quality. I have been knocking on doors for 20 years as a politician and it is rare that water quality is raised with me. In general, when people see a river, there is no way of telling it is at risk unless there is a really strong visual indicator. It sounds and looks the same. The riverbank growth might look the same, unless the water is of really bad quality or there is something obvious like smell or stagnation etc.

How do we make obvious the issue we have with water quality in this country? It is a finite resource and our health depends on the extraction of drinking water. How do we make this an important matter for the general public? How do we raise awareness? There may be sewage-related algal growth that could be a verdant green in a stream. Many people might look at it and consider it lovely but the experts in the room know it is an indicator of probable sewage contamination. How do we get the general public to see this as important as climate action? It is part of biodiversity, clearly, but water quality is not something that is raised with me regularly,

although it is something I have been interested in studying for years.

Dr. Matthew Crowe: I am happy to start on that but there are others before the committee - I am looking at Mr. Boyden in particular - with years of engagement on this. The process is not easy because this issue is not as visible as others. There is a forum recommendation about digging into the issue of meaningful public participation but we do not know what that means yet. There is also the idea of developing a new national approach to public participation. There is developmental work to be done on how to get people more interested and engaged in the matter. Nonetheless, there are plenty of examples around the country where this is happening. There are river trusts in place and there are many catchment management groups. Both Mr. Boyden and Ms O'Brien are very familiar with many of these initiatives around the country. There are plenty of pockets of good practice. In developing a national approach to this, what we might look at first is where the process is working reasonably well and how we can learn from this and build on it.

Chairman: Where is it working well and where can we take a model of a catchment or river area that we can emulate across the 46 catchments?

Dr. Matthew Crowe: I cannot think of the names off the top of my head but wherever there is a river trust would be a good example. There is one in Donegal and Inishowen that is really good. There is also one for the Moy as well. These are examples of very good practice.

The other problem with this is that one size will not fit all. We will not be able to take something that works somewhere and replicate it everywhere else. The issues will be different, including levels of interest. Young people must be more engaged. In the Water Forum we must consider where are the young people as the youth are not represented here. The Water Forum is the stakeholder forum for water issues and it is something I, as the new chair, want to look at. I want to see how we can get those young people more engaged with the conversation. They are very engaged on climate action, as the Chairman has said, and to be honest, from the perspective of a typical member of the public, there is no distinction between water or climate. Climate is the driving force now so why not take advantage of that, and in dealing with climate issues we can ensure we also deal with water quality and nature issues? They are all connected. That is certainly one way to approach the matter.

Chairman: I absolutely agree about bringing in young people, as they are a real driving force.

Mr. Eddie Burgess: I agree completely with the Chairman's comments and concerns. In the project I work on there are more than 300 farmers and we are monitoring the nitrates action programme. We had to encourage them to engage and work with us, and that was not easy. Over time they have, by and large, built an interest in water quality. Some are happy for us to be there but have not really engaged with us. It is difficult and farmers are not rewarded financially for water quality. It is seen as a regulation that restricts their productivity and income. It is seen as a compliance issue for which they could be penalised. It is very easy, if we do not bring people with us, for people to become isolated, resent the process and not want to engage. It is very important to bring people with us.

What has worked well with our process are the small farmer discussion groups. These are groups of between eight and 18 and we explain aspects of water quality, doing a visual demonstration of small stream characterisation. We do a kick sample and show them the life in the riverbed. Most farmers would not be aware of that, although for every ten farmers, nine would

have a stream on their land with that life in it. It is very beneficial for them to see that.

On the different agricultural sectors, the dairy industry, by and large, has been the most engaged and the processing co-ops are the most engaged with water quality because the expansion of that industry is largely dependent on that derogation from the nitrates directive, which has been mentioned. In the rules that have been brought in to maintain good water quality, dairy is in focus because of the expansion that has taken place since the removal of quotas. I think other sectors of agriculture in general need to have the same level of engagement with water quality that the dairy industry has shown, and they are not doing so. It comes back to some of the points that Dr. McGoff made in her presentation. I agree that compliance with regulation is an issue, but the regulations need to work and need to be put in place. It is very easy for some approaches to be over-simplified. For example, there is a lot more that leads to nitrate loss than nitrate application rate. The soil type, the weather, the actual farming system and the timing of application all have huge impacts on nitrate loss. It is ironic. Sometimes we see places where there is a very small nitrogen application or stocking rate and there is a much larger nitrate loss. In order to bring farmers with us, the regulations need to be effective. If they are misplaced, people will resent them, will be alienated and will not engage with us.

Chairman: I will go to Dr. McGoff and then to Ms O'Brien to respond.

Dr. Elaine McGoff: It is a really good question. It is one that we ask ourselves. We have campaigned on this area and we want to get as much traction as possible among the public. One way to gain attention is to follow the lead of New Zealand, where they massively ramped up their dairy intensification. Then there were swimming bans across the country and absolute outrage. Obviously, it would be nice not have to get to that stage. I think one of the key things is political leadership. I would hope that politicians will not wait for people to come knocking on their doors to take action. The fact that the committee has invited us here today indicates that that is very much not the case, and I commend the members for that. In An Taisce, we get a lot of people contacting us about various issues. Many of those issues are to do with water quality, but, harking back to Ms O'Brien's point, the problem is that nobody has ultimate responsibility for this. People contact us and ask who to contact. We tell them who to contact and they are essentially given the run around. They have recognised a problem, they have identified it and they know what the issue is, but they find it very difficult to get anybody to take action. That is where Ms O'Brien's suggestion of having 46 catchment officers could be hugely valuable in terms of engaging the public in water quality. The officers could raise awareness and could help fix issues. At the moment, the members of the public with whom we are dealing are becoming completely disillusioned and they are giving up. Perhaps they are not going to their politicians because it seems that nobody cares about water quality. I would very much like to see political leadership get to the point where we have people that are responsible for water quality and people to whom the public can turn, so that we can shine some light on this and gain traction with the public.

Chairman: I ask Ms O'Brien to be brief. We are well over time and I have to go to Deputy O'Callaghan next.

Ms Sinéad O'Brien: I have four points to make and I will focus on two of them. I would like to reiterate what Dr. Crowe said about looking at the catchments where there are river trusts already working. I think that is a good place to start because they have people who are motivated and interested on the ground already. I am going to come back to the point we made about resourcing and funding them properly. We cannot expect local groups to run a public awareness campaign on their local river, all done on a voluntary basis. They need staff. That

is one recommendation. The other recommendation I would make is that this consultation and work on the river basin management plan is an opportunity for us to be a lot more honest about the quality of our water. I have found that people have been contacting SWAN a lot more in the past couple of years now that there is much more recreational use of water. However, those people are still very confused about the quality of the water. For example, last year and the year before, when there were swimming bans on beaches in County Clare, it was very unclear as to what the cause was. There was a lack of information for people. As was mentioned, often one cannot tell from the water that it is polluted. In fact, we know that in a lot of cases, the rivers are not swimmable, to use Dr. McGoff's words. I think the State needs to start being honest about the waters that are not healthy for use. In that case, people would become a lot more aware of it. I had an engagement with a recreational stakeholder group recently, where I raised the issue of unhealthy water quality in an area of a blue way that was being promoted locally. They said they did not want to know because people might not want to use the blue way then. To pick up on Dr. McGoff's point, political leadership is needed, even from a public health point of view, if we want to continue expanding our water-based tourism and recreation.

Chairman: Apologies for that slot running over. I call on Deputy O'Callaghan.

Deputy Cian O'Callaghan: I ask that, in future, if any members miss their speaking slots, which can happen for very good reasons, we stick to the speaking order to be fair to everyone. I thank the witnesses for attending and for their contributions. I am taking three key points from this. First, we have a huge challenge on our hands and we are very far off where we need to be, while there is some good work going on. Secondly, there is a need for some sort of a structure, a centralised unit or some way of having strategic oversight and holding public bodies to account. The third point I am taking from this is that public participation is key. It is very important both in terms of people being actively involved in solutions and, critically, in terms of holding public bodies to account. We can see that in any other area where there is good public participation, it can really drive accountability and change. For that to work, from what I have seen in other areas, the key is that public participation is meaningful. Otherwise, people get disillusioned and disempowered over time. Key to it being meaningful is that it is backed up with strong accountability and enforcement mechanisms. Otherwise, people are raising issues and trying to participate, and eventually tail off if they feel there is not a meaningful way, when they spot things, of getting them addressed. I want to give one example of a local area and what it means. It is not an area in my constituency. The Ward River Valley Regional Park is a linear park south of Swords, and is a river basin area. Local activists in that area have been doing a huge amount of work voluntarily trying to clean it up and consistently raising issues on what they see as the failings and shortcomings of their local authority. They state, for example, that when the local authority brings outside agencies into river basin areas to carry out work, it fails to properly oversee that, which results in environmental damage and damage to the water courses. The local authority fails to enforce against regular users. For example, if sports clubs leave plastic litter on pitches, it gets mangled by the council when it comes along and cuts the grass, and that goes into the water courses. On biodiversity, the local activists say the local authority carried out works that are not in any way helpful, including using concrete-filled towers for flood defences, cutting away wild scrub, and putting down rat poison rather than cleaning out old dumped food waste, for example. There have been issues with old oil drums and car tyres sitting in the river basin for more than ten years. There are all these issues they have been raising for years and they feel they are not getting anywhere on this. I have a question for the representatives of the Water Forum. Is there any mechanism for local communities to hold to account public bodies, such as local authorities or others, that they feel are failing to implement their responsibilities under the river basin management plan? Is there recourse for them? If

not, what is the Water Forum's view on changes that need to be made in terms of structures to be put in place to hold bodies to account?

Dr. Matthew Crowe: I am looking at some of our more detailed recommendations. We have a set of recommendations on governance and local authorities, which deal with enforcement and compliance. It is recommended that every local authority appoint a water framework directive officer. There is a bit about transparency and accountability there as well. One of the problems is that the local authorities probably have been under-resourced for water protection for a long time. Nearly 20 years ago local authorities implemented a set of regulations called the phosphorous regulations which even preceded the water framework directive. Some local authorities took advantage of that at the time. Some local authorities are better resourced than others. LAWPRO was established as part of the second river basin management plan as a shared service for local government to deal with water quality in a much more targeted way. It focuses all its efforts on the areas for action which were identified in the plan and working with ASSAP and various others to do that. The gap that is left is the rest. Another part of the jigsaw that needs to be put together for the third river basin management plan is to address the gap in local authority resourcing for the water framework directive. Local authorities carry most of the responsibility for overall water management and water protection.

Deputy Cian O'Callaghan: Members of this committee are keenly aware of how under-resourced are local authorities. In a range of different subject areas, we need to grapple with the fact that local authorities are under-resourced.

Dr. Matthew Crowe: The Department is carrying out a review into that at the moment.

Deputy Cian O'Callaghan: A key issue for local authorities is the areas to prioritise. We cannot simply wait until local authorities are better resourced; they need to be. We also need to have structures in place to ensure this is something they prioritise. That means there needs to be an accountability mechanism whereby if a local authority is not up to scratch, concerned members of the public are able to do something about it. Of course, they can raise it through their local elected members and so forth. However, I think there needs to be another mechanism. I am not singling out local authorities on this; it applies to any public bodies with responsibility.

I have a question for Teagasc. The nitrates action programme proposes reducing artificial fertiliser loads by up to 15% whereas the EPA data indicate that in some catchments in the south and south east a reduction of more than 50% in nitrogen load would be necessary to meet the water quality standards. Can modelling be done on this?

Mr. Eddie Burgess: Modelling is being done on this. Nitrate loss is a complex issue. The load applied increases the risk for nitrate loss. It does not necessarily increase the nitrate loss. The very oversimplified opinion is that cutting the amount of nitrogen applied will automatically result in a cut in nitrate loss. That is not necessarily the case. Different types of farming systems are riskier. Different soil types are riskier. Different seasons are riskier. Different years, depending on the climate in that year, may be more or less risky. All of these need to come into consideration to try to mitigate nitrate loss. That was the point I was trying to make earlier about measures being introduced. For example, Denmark introduced buffer zones 15 m back from water courses to improve water quality. Nitrate levels did not change a bit but it penalised farmers significantly. That method needed to be removed. When measures are introduced it is important to know they are effective. That is what we are evaluating in the agricultural catchments programme.

Deputy Cian O’Callaghan: I thank Mr. Burgess for that very useful response. I also ask the representatives of An Taisce and SWAN for their views on that.

Dr. Elaine McGoff: Obviously, nitrate loss is very complex. It depends on slope, weather and soil type. However, the load is not coming out of nowhere. We also need to consider how much nitrogen farmers are putting onto the land. It interacts with all those features. We cannot disregard the load as being a vital driver in the amount of nitrate loss. As Mr. Burgess pointed out, it depends on a range of factors. The problem is that the nitrates action programme does not take a tailored approach; it is a one-size-fits-all approach. It does not look at different soil types, different weather or any of these factors. All the data coming from Teagasc and the EPA indicate that we need tailored site-specific approaches and solutions, but that is not what we are being given. All these fantastic data are being provided by the EPA and very useful modelling is being provided by Teagasc. However, from what I can see they are not being used in designing measures that we are seeing in the nitrates action programme or in the river basin management plan. The committee should highlight that we are not making the best use of all the fantastic data we have and we need to join the dots.

Chairman: The question was also directed to the representatives of SWAN. I call Ms O’Brien and then we can come back to Dr. O’Mara.

Ms Sinéad O’Brien: My colleague in An Taisce covered it very well. I go back to Teagasc and ask about the disconnect. Notwithstanding the fact that it is very site specific and not just to do with the inputs, there is a disconnect between the very high levels of reductions we need in some catchments and the fact that the nitrates action plan targets only a 15% reduction. I apologise; we are not allowed to ask a question of Teagasc. Hypothetically-----

Chairman: Through the Chair, I will relay that question to Teagasc and give its representatives the opportunity to respond to those two questions. Just for clarity, these are Deputy Cian O’Callaghan’s questions.

Dr. Frank O’Mara: I wish to add one or two comments on the nitrogen issue further to my colleague’s comments. I stress that there is a convergence of issues relating to nitrogen. Nitrogen is a really important part of our advice to farmers on reducing greenhouse gas emissions. They need to use nitrogen correctly, use the right type and use as little as possible. Obviously, the exact same messages are pertinent to water quality. That has been part of our advisory messages in recent years. This year it has been reinforced by the impact on fertiliser prices of the war in Ukraine. Farmers are using nitrogen very judiciously this year because it is so expensive. The challenge for them this year is being able to afford to buy enough to allow them to grow their crops properly.

It is not just a grassland issue. Earlier someone spoke about us not having enough nitrogen to grow grass to feed our animals. We need nitrogen to grow our crops. We need nitrogen for all our farming activity. There is a convergence of issues. In a way it is good that we have this very strong focus on nitrogen. We do not deny that the load of nitrogen is an important factor. However, as Mr. Burgess said, it is much more nuanced.

That brings me to the point I wanted to make in response to the question the Chairman relayed on the complementary roles of regulation and advice. Regulation can set a framework for how things are to be done. Advice is about how things should happen on a given day, week or month. For instance, we tailor our advice about when fertiliser should be applied depending on weather conditions and soil type. That is layered on top of the regulations. That shows the

complementarity between an advisory organisation like ours and the regulation that Government and policymakers set. I believe we need both. We cannot rely totally on regulation to solve these issues and we cannot rely totally on advice to solve these issues.

Chairman: I note Dr. O'Mara's comments about speaking rotation. It is hard to watch the screen and the Teams messages in this room. I apologise; I should have brought him in sooner.

Deputy Eoin Ó Broin: I thank the witnesses for their submissions and presentations. I apologise for not being able to attend the full session. Unfortunately, I had a number of conflicting meetings. Do not worry, though, as we will ensure we catch up with all of it afterwards.

I am sure the Chair outlined the purpose of this meeting at the start, but I wish to emphasise that we are keen as a committee to have some kind of correspondence as part of the public consultation, not necessarily to make detailed observations that the witnesses' organisations make, given that they are far more expert in this area than we are, but to set out high-level priorities that we could make as politicians with some responsibility to track these issues. I raise this point because some of my questions will relate directly to the work the committee will do after the witnesses have left and we consider what kind of submission we would like to make. Notwithstanding how technical all of this is and the large volume of documents the witnesses have to go through, we believe this committee has an important role in contributing to the debate. The witnesses' contributions are part of helping to inform us and bring us up to speed.

When reading the submissions beforehand, particularly SWAN's opening statement, two points jumped out at me. This is our third river basin management plan. A large amount of work has been done and there is far greater organisation and co-ordination, more targets, regulations and staff, etc. In many respects, though, some of the key indicators are not moving in the right direction. This is a concern. If we want to ensure the third plan is better than the second and first, we have to understand with the benefit of hindsight what went wrong, what could have been done better and what improvements the final plan could make.

Ms O'Brien outlined the figures. Some of them make for stark reading. Unlike the Chair's area, there are active groups in my constituency that are concerned about the wellbeing of the River Camac. The Friends of the Camac are key in that respect. Regardless of whether we are getting representations, though, it is incumbent on us to respond if we are given this kind of information.

My first question is for Ms O'Brien. There is a clear implication in her submission that SWAN does not believe the draft plan is fully compliant with the water framework directive. That is alarming. It is not the first time we have heard such concerns from organisations when dealing with other Government plans. I invite Ms O'Brien to provide us with more detail on where she believes the plan is not compliant so that we can give that our attention in private session.

I was aware, albeit in a limited fashion, that there were new structures and additional staff in the EPA and in the local authority sector to try to deal with some of the water quality issues. In key areas, though, water quality has declined. I will ask an open question of everyone. With an eye to the kinds of recommendation we could make to the public consultation, why have key aspects of water quality declined despite the additional resources and additional staff and what can we do to counteract it?

I get the sense from what I have heard so far that policy cohesion is a challenge. There are

many agencies and organisations involved as well as complex issues in terms of European law and Irish law and policy. Do we have a sufficient level of policy coherence? What could we do to try to make policy more coherent across the various actors?

I will next ask something that is a bit of a cheat question we ask whenever witnesses appear before us. If they were writing our submission or advising us on it and they could only suggest one priority they wanted us to name, what would it be?

I am interested in the nitrates matter. I accept the complexities of it. Mr. Burgess and Dr. O'Mara made a strong case for those and no one present would disagree, but we have been increasing our overall nitrates usage in recent years as part of the increase in the size of the herd. Even with a more nuanced approach, good, strong and targeted regulation and good advice, for how long would that be compatible? If the herd keeps increasing or is maintained at its current level, and given the level of nitrates, be that spill-off from the nitrates themselves or, as the witnesses pointed out in their submission, direct discharge from urine into the soil, will we be able to meet the targets and what will we have to do to achieve them?

Perhaps Ms O'Brien will reply first to my question on compliance with the water framework directive.

Ms Sinéad O'Brien: It is a fundamental issue. We are of the view that the plan is not compliant with the directive. According to the directive, all of our water bodies had to reach good status by 2015 – does everyone remember 2015? – and then by 2021 and that there should be no further deterioration. It provided for three cycles, with the final deadline in 2027. The directive requires that we identify the pressures and impacts on all water bodies and implement measures to address those and bring the water bodies up to good status. The directive provides for two types of measures. The first are basic measures, which are the ones with which committee members, as legislators, will be familiar: all of our basic legislation; the urban waste water treatment directive; and the European Union (Good Agricultural Practice for Protection of Waters) Regulations, or GAP regulations. If these measures do not work, we have to introduce targeted additional measures. That is the requirement, but what we see in the plan are broad brushstroke generic measures that, in many cases such as agriculture and forestry, repackage what is already in place, for example, a review, an enhancement of uptake of forestry grant schemes, etc., with no assessment of how many water bodies they will bring up to good status. This is why we say it is not compliant. It does not set out targeted measures, as we and the Water Forum are recommending for each water body.

A second way in which it is not compliant is more legally specific. There is now European case law under the Weser judgment, according to which a development should not go ahead under the water framework directive unless the relevant authority can demonstrate that the development will not compromise the affected water body in meeting its targets. To us, this suggests strongly that assessments of such developments need to take place, but that is not happening in the case of forestry or agriculture. It is not happening with physical developments either, although the plan sets out a proposal for new legislation to bring those into compliance.

I will allow my colleagues to answer the Deputy's other questions.

Dr. Elaine McGoff: Deputy Ó Broin asked difficult questions about why water quality was still declining and what our one request would be. Water quality is declining because we essentially do not have anyone cracking the whip. There is no one ensuring that everyone is pulling his or her weight. There is no accountability, it is a piecemeal approach and there is no

integrated catchment management. We need to determine what can happen in a specific catchment, how much it can take, how much forestry there should be and the sensitive areas where there should be no development. There is no way of doing that other than by taking a catchment approach. The river is an expression of what is happening across a much larger land area and the two cannot be disentangled. You cannot just address one issue. Instead, you have to address everything. There is a known approach, namely, integrated catchment management, but we are not good at doing that in Ireland. It is where we need to be moving.

That brings me to the one recommendation I would ask the committee to make. Choosing one is difficult, as I could probably list hundreds, but I will settle for one. We need an integrated catchment management approach with clear accountability – someone cracking the whip and keeping an eye on things – and transparency. We need to know what we have to do to reach our water framework directive objectives. We need a GAP analysis. This is not just about agriculture. Urban waste water treatment is a disaster. We have raw sewage going into our seas and there is no clear indication as to when that will be addressed. There needs to be clear accountability, an integrated catchment management plan and transparency. I am not sure as to whether all of that would fit within one request-----

Deputy Eoin Ó Broin: That is three, but I am being generous today.

Chairman: Did the Deputy also wish to put his questions to Teagasc and the Water Forum?

Deputy Eoin Ó Broin: Yes. The middle questions were for everyone.

Mr. Eddie Burgess: On why water quality is continuing to decline, it is important to distinguish which aspect of water quality we are discussing. There are many different aspects to water quality and in different locations different aspects are relevant. The Deputy asked me to comment on how far we can go with the intensification in the dairy herd. In two of our catchments, we have had significant expansion in dairy since over the 12 years we have been monitoring and there has been no significant change in the water quality in those catchments. That is the result of good nutrient management and practice. Water quality is not necessarily related to intensity. The phosphorous issue is tied in with overland flow and wetter land sites. The water quality maps show it tends to be more widespread across the country and not necessarily focused on the areas where dairy expansion has taken place. It is very important, as has been said here time and again, that the actions to improve water quality are targeted on the soil type, which is smaller than catchment level, to be applicable for that.

It is important also to emphasise that it is not all bad news. There have been improvements in water quality. As reported by Dr. McGoff in regard to the priority areas for action in the latest indicators report from the EPA, water quality has moved in the right direction. If we want to bring communities and different sectors of society with us, we have to emphasise the positives as well as the problems.

Dr. Frank O'Mara: I would like to add briefly to what has been said with regard to the nitrogen issue. There is a realisation and a desire within agriculture in Ireland to move to a system that uses less nitrogen, whether for greenhouse gas emissions, water quality or, now, for cost and availability. All of the strategies around how the sector is going to respond, whether EU driven, farm to fork or our own climate or food vision, envisage us transitioning to a lower nitrogen usage and replacing that with nitrogen that plants abstract from the air. The atmosphere is 70% nitrogen. The target of our advice is around how we can transition farmers, in particular our more intensive farmers, to a system of production where they are relying more on clover

and multi-species swards to supply a lot of the nitrogen that they need for the system rather than on buying it and paying a €1,000 per tonne for it. That is the direction of travel. There are many drivers pushing and pulling the system in that regard.

The Deputy asked what would be the ask of Teagasc. We are a part of Government. We do not ask or tell Government what to do.

Deputy Eoin Ó Broin: I am sure it does so very quietly when nobody is listening.

Dr. Frank O'Mara: No. Our proposition would be that regulation has a role but we will not get there by cracking the whip or trying to force people into things. There are 139,000 individuals in farming. The impact they have on water quality is the sum of that 139,000. We have to bring that cohort with us. The work that my colleagues are doing in their respective programmes, the ASSAP and the agricultural catchments programme, ACP, shows that when we do engage with farmers, in particular on a field-by-field level and in regard to, say, the slope in a particular field which they need to keep away from with the slurry and so on, and the impact of what they might do, they are willing to take on board the measures. Our ask would be that we would have an approach of working with people in the river basin plans and that that endeavour is resourced properly as well. A lot of progress has been made through the ASSAP programme, which is co-funded by the Departments of Agriculture, Food and the Marine and Housing, Local Government and Heritage and the industry. That is a great, joined up type approach. That would be my ask.

Dr. Matthew Crowe: I will start with the Deputy's final question in regard to the top priority. It probably would be the outcomes-based approach recommendation that we have made. We have made three or four key recommendations, which are mentioned in the opening statement, but there are many other recommendations. We need an outcomes-based approach, particularly because this is the third cycle. There will be further cycles. This is the final cycle of the water framework directive, but catchment management will be around long after we are all gone. This thing will continue for a long time. The outcomes-based approach must give equal weighting to protecting the waters that are still in good status and to improving the waters that are at bad, poor or moderate status. Getting that balance right is critical. The catchment approach referenced by Dr. McGoff is the way to do that. The catchment approach requires us to look at both because in these situations we are dealing with complicated land management issues. There is a lot of detail in our submission on the outcome based approach, which the Deputy might want to have a look at.

On the issue of water quality worsening, the committee needs to engage with the EPA to get an up-to-date picture on water quality and exactly what is happening with the trends. There is a need to look under the bonnet. In the second river basin management plan, the priority areas for action were set up. The data published by the EPA show that there are net improvements happening in those areas. Whether that can be ascribed exactly to the work that LAWPRO and ASSAP are doing there is probably too early to tell. It will take a bit longer to be able to unravel all of that. Those improvements are being offset by deterioration in other water bodies in other parts of the country that are outside of the areas for action. The most recent EPA indicator report - the EPA being able to speak with authority on this - shows there is a glimmer of hope. The overall picture is beginning to turn a little. It will take at least one more monitoring cycle, possibly two, to see whether that is a blip or a trend. There is definitely evidence of improvement in certain areas. That indicates that where targeted actions are taken, there is a greater chance of water quality improvements.

The policy cohesion issue is huge. There are different policy issues. In the environmental area alone, there are climate, nature, air quality and water quality issues, but they are all interconnected. The more integrated they are, the better the chance of getting good outcomes for them all. For example, in regard to agriculture, quite often if the farmer is being asked to do a particular thing on a farm, if it is done in a particular way, it will deliver for climate, nature and water and it might also deliver economically for the farmer as well, which amounts to multiple wins. It is very difficult to design systems that are fully integrated because people are more comfortable in their silos. That is a really big challenge. The land use review that is currently going on is really important for all of this because most of these issues are about how we use our land.

In regard to the forestry issue, the forum has made a number of recommendations in regard to forestry as well. Under the climate action plan, there is a target to grow a lot more trees to deal with the carbon neutrality issue. That is a good thing to do but it needs to be done in a way that will improve water quality. The legacy issues of forestry need to be dealt with at the same time as making sure that whatever additional forestry is planted will be good rather than bad for water quality. That too relates to land use and how we work out all of those inter-related things that happen in regard to land. The policy is a little complicated. We have brought attention to this in our submission, where we refer to the need for national policies in different areas to be proofed against the water framework directive. It is important to compare one against the other to make sure other policies, be that CAP, the NAP and so on, will have a positive contribution to water quality over the period of time.

The other point was on urban wastewater. It is the same Department, so at least with urban wastewater and water quality one is dealing with the same Department. Those two should be just hand in glove. Again, we have a number of recommendations in the forum's submission on urban wastewater. The main one is the water bodies that have been identified as being at risk from urban wastewater. It needs to be clearly set out in the plan what is going to happen with them. The second river basin management plan had an appendix in it listing the water services investments that were going to happen over that particular plan period, so it is important something similar is in the third plan. There is probably much better information now than four or five years ago on Irish Water investment. There is far better information on the pressures and identifying where the real pressures are. We can be way more targeted now about all this stuff in the next six years. That comes back to the outcome-based approach again because it must be targeted.

Deputy Eoin Ó Broin: I thank Dr. Crowe.

Chairman: That was a very helpful round of questions from Deputy Ó Broin because it has focused us. I know how it is when you are only given one wish. There are four sets of witnesses and I have eight wishes written down so the Deputy did well out of that round of questions. Just to clarify, on the Deputy's opening comment, I was not suggesting there is not engagement in my constituency with community-----

Deputy Eoin Ó Broin: Yes, absolutely.

Chairman: -----citizens' groups, coastal care groups, Tidy Towns groups and people with a concern. I just said the phone does not ring off the desk. I am sure the Deputy's inbox is the same.

Deputy Eoin Ó Broin: Absolutely.

Chairman: I want it to be that issue because that is what actually makes politicians react much of the time. We can lead and we can set out what our objectives are and where we should be going and much of it is directed by European directives. If it was not for European directives we would be way behind where we are at the moment but it is about how we get it so when I knock on a door, someone asks me why their water quality is deteriorating and what impact is this going to have on their health, on the environment and on their children's future. They are the issues I want people to raise with us, and some people do.

We are in a free round of questions now and I think it might be just myself and Deputy Ó Broin.

Deputy Eoin Ó Broin: Unfortunately, I have another meeting at 4 p.m. It is one of those days.

Chairman: Fortunately, I have a long list of questions. In the draft it plan it says 54% of water bodies are at risk. The river basin management plan set out that by 2027 we achieve "good" status. Is it reasonable, or do our guests have confidence, that we can attain good status for all those water bodies within five years? I think I remember the first river basin management plan and it certainly did not say 2027. Did it? The year just keeps pushing out. Am I right on that?

Dr. Matthew Crowe: Ms O'Brien mentioned the water framework. When the framework directive was originally brought in the target date was 2015. This was for the whole of Europe.

Chairman: That is what I remember. It was a lot sooner than 2027, anyway.

Dr. Matthew Crowe: Yes. No country got anywhere close to meeting that. The first six-year cycle ended in 2015. The directive also provided for two additional cycles. We are now into the third cycle, which is up to 2027. Ms O'Brien rightly pointed out the directive set as a target good water quality by 2015, with particular situations where there could be exceptions to that.

Chairman: Yes.

Dr. Matthew Crowe: This is a learning process. It must be recognised there is going to be life beyond 2027 as well. In answer to the question of whether I think all water bodies are going to be of good quality in 2027, they will not be. There is no chance of that happening.

Chairman: Are we going to be looking for a derogation on the water framework directive similar to our derogations on the nitrates directive? Furthermore, where are we on the European league table when it comes to compliance with the nitrates directive or the water framework directive? They are European directives and it is important we benchmark ourselves against those performing the best and see how they are managing it so we can learn from them.

Dr. Matthew Crowe: The Chairman would need to talk to the Department about those issues.

Chairman: Yes. Dr. McGoff and Ms O'Brien are indicating.

Dr. Elaine McGoff: On the question of whether we will reach good status by 2027, I agree with Dr. Crowe there is no chance we will. I put that question to the Department myself at a webinar a couple of months back and it also said this plan is not going to get us where we need to go to. I appreciate this is a mammoth task but as the Department recognises we are not going

to get where we need to go to, can it then do a gap analysis of it. What are the roadblocks? How far are we going to get? What would be required even with investment and measures to get us to where we need to go? It would give the public far greater transparency. We would know what the problems are and why we are not getting to good status. That is really lacking. Until I asked that question quite directly of the Department, there was, I guess, a certain pretence the river basin management plan was going to solve all our problems. It is like the emperor's new clothes. Everybody knows it is not. I would like to see us being more honest about it, laying it out in black and white and allowing stakeholders to fully understand the roadblocks.

Chairman: I thank Dr. McGoff. I will go to Ms O'Brien and then come back to Mr. Burgess.

Ms Sinéad O'Brien: I agree with Dr. McGoff. Building on what she said, it is very easy to fall into discussions about how it is not feasible at this stage and there are only so many years left. However, the water framework directive has a very clear and precise procedure as to how you go about deciding what is feasible to get done between now and 2027. You set out the measures that are needed and then you can do an assessment to work out whether it is technically unfeasible or disproportionately costly. If you can demonstrate that then you can set out either an alternative objective or a time exemption to reaching the objective. That is what is required for every water body. Building on what Dr. McGoff said, that is what we need to see for all water bodies according to the Article 4 assessment required in the directive so we can see how far and how long, as Dr. McGoff said, it is going to take. The plan as is does not even tell us how many water bodies it is planning to get up to good status so we cannot even tell that. There is another report on the LAWPRO website that looks at the areas that are being targeted for action, these priority areas, which are the only ones - the lucky ones, that are getting this targeted approach. In that report it looks as if about three quarters of our waters will get these targeted extra actions from ASSAP and LAWPRO but then there is no assessment as to whether those will work either, so I fully support Dr. McGoff's request that we get full transparency on this. Then we can start having a societal and political discussion about the trade-offs and what Ireland is willing to pay for.

Mr. Eddie Burgess: It is just an observation on where we stand in the European league. I do not know what position we are in, but we are in the top or in the better water quality position, especially our groundwater bodies. More than 98% of our groundwater bodies are good status and meet the requirement. That would be significantly higher than most other European countries. The derogation that has just been approved for the nitrates directive for agriculture allowing farmers to exceed the 170 limit would not be approved if we were not in that position. There are only four EU members states that have a derogation and we are one of them. On the trend that is being reported on, if we are good it does not mean we sit our laurels. If there is a trend moving in the wrong direction for particular aspects of water quality that needs to be reversed. It needs to be stopped.

Chairman: Does Mr. Burgess see a point when we will not need derogations on the nitrates directive?

Mr. Eddie Burgess: The derogation is not a derogation from an objective of the nitrates directive. It is a derogation allowing farmers to exceed a particular stocking rate. Is the question if I see a situation where we do not require it or that it will not be approved?

Chairman: If you take water quality, climate emissions and everything, does Mr. Burgess see a switch in the situation where the stocking rate would meet that as set out?

Mr. Eddie Burgess: No. To be honest I do not. There are plenty of situations in Ireland where farmers can carry out their farming practice on a grassland farm at a stocking rate above 170 and below 250 and not have a negative and detrimental impact on the environment.

Chairman: That depends on the soil type, the slope and the location.

Mr. Eddie Burgess: It also depends on compliance with the measures that are there for the derogation. Derogation farmers have to go over and above what is routine for other farmers who are not in a derogation.

Chairman: An Taisce might have mentioned forestry in its submission. I ask the witnesses to expand on the legacy forestry issues we have. Many of our forestry issues go back 25 or 30 years or more. How would An Taisce deal with those situations now? Is our forestry going in the right direction? Did An Taisce mention that in its submission?

Dr. Elaine McGoff: It was in the SWAN submission but I can cover that. One of the problems with the legacy of forestry is that there is a replanting obligation in the forestry legislation which essentially states that once land is afforested and once you fell it, you are obliged to reforest it. There are opportunities to derogate from that but they happen rarely. We need to see that obligation amended. A lot of that forestry might be in very sensitive freshwater pearl mussel catchments. Freshwater pearl mussel require open peatland habitat because they require constant hydrology and any trees in that area, regardless of what kind, will decimate freshwater pearl mussels. In those sort of areas we need a return to open peatland habitat. One of the issues is that removing the trees can sometimes increase siltation so it has to be done carefully and I have heard mention of the requirement to fell them using helicopters. Although it sounds preposterous apparently it is commonly used on the Continent. I acknowledge that it is a difficult thing to grapple with but that does not mean we should not grapple with it. We have to address it and it has climate impacts too because that peatland is drained and is giving off carbon. There is a multitude of environmental reasons to take the bull by the horns, therefore.

On whether we are going the right way with our forestry, An Taisce sits on the Minister of State, Senator Hackett's Project Woodland group. It is difficult to give a short answer. It is not going the right way yet. Work is in progress and I will reserve judgment until I see how Project Woodland progresses. To date, forestry has had a significant impact on our water quality and biodiversity and it has often been planted on peat soil, which has been drained, leading to rising climate emissions. It is not a good news story and it remains to be seen if it can be turned into one. We are not at that place.

Dr. Matthew Crowe: The Water Forum made 13 recommendations on forestry but I will go through a few of the key points. It is the highest status waters that have been particularly impacted by forestry. In the second river basin management plan the single greatest pressure was on the high status waters and they might be second in the updated characterisation work done by the EPA. The number of water bodies is not huge. The Water Forum recommends that for the 233 water bodies where forestry has been identified as a significant pressure, targeted measures would restore, protect or include it to indicate how the plan will reduce the forestry pressure from these water bodies.

I will come back to the point I was making earlier about the connectivity of different policies. If the climate policy will require an expansion of forestry while the water policy needs to address the fact that high status waters have been negatively impacted by legacy forestry and by forestry which is still there in some cases then those two policies have to meet and align with

each other. You are back to this policy alignment issue. In 2027 we do not want to be in situation where forestry has expanded nationally to deal with the climate crisis and where the high status water issue has got worse. Those two things need to be taken together in tandem but you have two separate national plans. These include: the climate action plan which is dealing with the climate issues; the river basin management plan that is dealing with the water issues; and the new forestry strategy and Project Woodland that Dr. McGoff mentioned, which is looking at what the future of forestry will look like overall. For the credibility of all, forestry included, that legacy issue needs to be put to bed, which means there is a six-year window of opportunity to deal with that. If people are coming back here in six or seven years' time talking about how it all went the committee wants them to be reporting that the legacy issue has been resolved. It should not be 233; it should be zero or a much smaller number of sites that are being impacted by forestry in the high status waters. Forestry should be a positive thing for water, not a negative thing.

Chairman: I would agree with Dr. Crowe. We probably did not do it right over the years. That is why it is a negative thing.

Dr. Matthew Crowe: Exactly.

Chairman: We definitely did not do it right. There is a massive reduction in the pristine water category. Was it An Taisce or SWAN that detailed this in its submission?

Dr. Elaine McGoff: It is down to 20.

Chairman: From a figure of how many?

Dr. Elaine McGoff: From 500.

Chairman: What are the main reasons that we have gone from 500 to 20? We have heard that forestry is one of them so has analysis been done on that?

Dr. Elaine McGoff: I will refer the question to Ms O'Brien because SWAN commissioned a report on this.

Ms Sinéad O'Brien: It is not as straightforward with these waters because they are so sensitive that they can respond badly to a small and specific impact and they tend to be small catchments in the headwaters. In that case it is often forestry. As Dr. Crowe said, forestry is the second-biggest impact. The other impact is physical work such as drainage for land use like agriculture, farming or forestry. I remember a scientist from the EPA telling us several years ago that even sheep that had been dipped crossing a stream could affect the status of one of those waters and bring it tumbling down from pristine into a deteriorated state. Septic tanks can also have an impact. It is not straightforward and that is why we are saying that each of those water bodies needs an urgent threat response and emergency response type catchment-specific plan. We should look at what is happening in those catchments field-by-field and house-by-house so that they can be restored or protected. I am sorry I cannot provide a more straightforward answer. It is nuanced because these waters are so finely tuned and delicately balanced.

Chairman: There is a question in the An Taisce submission I am interested in and that was not answered. The submission states:

Teagasc were asked to do some modelling of various scenarios to inform policy decisions to reduce nitrate runoff from agriculture [This is "The Impact of Nitrogen Manage-

ment Strategies within Grass Based Dairy Systems”]. One of the main drivers identified was that cattle urine deposited directly onto fields leads to over 62% of nitrate loss. It is the main driver of nitrate loss, far above artificial fertiliser (29%) and slurry (8%), yet there is no mitigation for this provided in the NAP or GAP regulations.

I will put that question to Teagasc. Does it agree with those figures and that no mitigation is provided for in that? Is that something that can be mitigated?

Dr. Frank O’Mara: I might ask my colleagues to help me here. The Chairman is being a bit hard. We have gone through that modelling theme here so I do not know whether those figures are very specific.

Chairman: Okay, I accept that. To clarify, that was a question submitted by An Taisce that I find interesting. If Dr. O’Mara does not have that data, I will not put him on the spot and ask for them. An interesting question has been raised, however. If Dr. O’Mara wants to give us a written submission, I would be happy with that or he may want to have a stab at it now.

Dr. Frank O’Mara: Maybe one of my colleagues would like to respond.

Mr. Eddie Burgess: Again, I do not have the figures or the knowledge of the contribution from urine off the top of my head but a disproportionately large factor contributes to nitrogen loss. The thinking behind what was presented from that submission is correct. I cannot vouch that it is 62% but urine changes to urea, which is a major source of nitrogen. With a urine patch, it is all being deposited at a single location and it is wet. Nitrate is carried by water through the ground so it is a problem. However, mitigation actions at the end of the year when soils get wetter are that stocking rates are over a larger area. Land that has been cut for silage is no longer closed up and the grazing intensity is over the whole farm, which helps alleviate it but not completely. It is correct that it is a concern.

Chairman: Okay. I thank Mr. Burgess. I thought that was an interesting question to ask. We got quite a lot of questions on agriculture but the other main sources, obviously, are wastewater treatment plants and discharges to rivers or lakes. There was a suggestion that Irish Water should clearly itemise the mediation measures that are required across the entire system. Who made that submission?

Ms Sinéad O’Brien: That was me, Chairman.

Chairman: Is it just that Ms O’Brien feels that Irish Water, prior to which it would have been the local authorities, has not itemised clearly enough or put a costing on all those works that need to be done to bring it back? To me, point source pollution is really an investment issue.

Ms Sinéad O’Brien: Yes. It is Irish Water but I am going to put it back on the Department. The Department of Housing, Local Government and Heritage is the competent authority, ultimately, for wastewater. It is answerable to the European Commission in terms of compliance with the urban wastewater treatment directive. In fact, we have an infringement case open against us and it is to the Department that the infringement unit will be calling. In fact, it is not Irish Water so much as the Department that is the drafter of the river basin management plan.

We are asking that for the 208 water bodies that are polluted by sewage, where sewage is the main source of pollution and not an agricultural source, for example, measures need to be put in place to address that. So, what does that mean? That means for wastewater treatment plants

or systems, whether the sewer overflow or plant discharge is causing that pollution, there needs to be work to fix that in Irish Water's capital investment programme. The capital investment programme is going to run to 2029 and the deadline is 2027. Therefore, we can see already there is a mismatch there.

When we start to actually look at the figures, however, that is the least of our problems. Of those 208 water bodies for which we are saying urgent measures to remediate are needed, if we look at the Environmental Protection Agency, EPA, urban wastewater treatment report, it does something SWAN does not agree with. The EPA said it will take a long time so it will prioritise the most significant ones. It has identified the 42 top areas that are polluted by sewage. Then, it looked to see what Irish Water's performance has been. Members will see in its report that of those 42 areas, only 15 of those - it maybe 13; I will have to check my figures - have measures in place. Irish Water has measures in place not even to fix them by 2024 but to have development or infrastructure beginning by 2024. We have, therefore, gone from 208 water bodies to 42 priority areas identified by the EPA to 15 areas for which Irish Water has a plan to remediate.

As Dr. Crowe and the Chairman himself said earlier, this should be a straightforward enough issue to address. It falls within the remit of the Department of Housing, Local Government and Heritage so there are no conflicting sectors. I am not saying this is straightforward. There are numerous reasons this is not happening, first and foremost of which is obviously investment. I am sure Irish Water would also have other reasons. We are saying that in the interests of transparency, what the river basin management plan should do, which it does not, is identify all the water bodies of those 208 that are polluted by sewage, then name the systems and plants that are causing that pollution. It should then identify the ones for which there is a plan to fix and by what time and the ones for which there is no plan to fix and give a clear explanation as to why there is not one. That could be down to investment, planning or something to do with markets and consultants not being available or whatever it is. It should then conduct a gap analysis. Members of the committee and the public can then have a look at that to see what the State's plan is and whether we find that satisfactory. That for us is the first step. Ultimately, however, we are calling for measures to address all those issues, at least by the end the capital investment programme if not by the water framework objective of 2027.

Chairman: I thank Ms O'Brien. My final question kind of goes back to bringing the public along with us. We have to bring everyone along in everything we do, whether it is agriculture, industry or individual users or residents. I read the latest EPA publication, that is, its indicators report from 2020. I find some of the graphs and charts confusing as well. I try to work out if where we see a drop in quality level down to another means that area got better and was moved. It is kind of difficult sometimes to work it out.

Every river a person crosses in this country has a bridge at some point on which the name of the river is written. I would like to see an indicator sign to say this is a green, orange or red river to really clarify in people's minds that our water quality in our rivers is at risk. Those kinds of clear indicators are important.

We might look at regional maps. I know there are good online facilities where one can zoom right in and see that certain segments of a river are of poor quality and are probably better further upstream or kind of lose that toxicity or negative aspect as they go further downstream. That goes for maps for children's classrooms as well. We all know the local rivers in our regions. We all had to learn them off by heart in school years ago. If classrooms had a map on the wall every year to say their closest river was in poor quality and that was caused by the wastewater treatment plant downstream, it could show the impacts on people's health or that the

biodiversity in their area is impacted. We need to be really clear like that.

The EPA does fantastic work. It pulls together and provides all those data sets but I do not think the general public reads that document in depth the way we are. That is something we need to address and is probably the way in which Dr. Crowe talked about bringing younger people into it as well. It is a suggestion.

We are almost out of time now. I can offer the witnesses some time if they wish to make a final point. I have been writing down the points and suggestions they have made, which the committee will have a look at. We will put together a submission based on the witnesses' engagement today. If anybody wishes to make a final point, the floor is theirs. I see that Mr. Boyden, Dr. McGoff, Dr. Crowe and Dr. O'Mara have their hands up. We will go in that order.

Mr. Mark Boyden: I thank the Deputy. I will pick up on the themes regarding outreach and public engagement. Dr. Crowe referred to it. Mr. Eddie Burgess referred to the citizens' science-related engagements with farmers, which is really important. Going back to these questions of getting people involved, getting them to care, and moving the water question higher on the political agenda, awareness is key. The local authority waters programme, LAWPRO, has a huge role to play, as does the Rivers Trust and local initiatives such as the one at the River Camac that Deputy Ó Broin referred to. These are significant and need to be endowed properly. My day job is production of the StreamScapes programme. Over the last 33 years, since 1989, we have worked in 24 counties, both North and South. We work with local communities to produce awareness-raising activities. Awareness leads to pride, concern and then to action. We have to look at this. I know Tom Collins, as previous chair of the Water Forum, was looking at how these issues could be incorporated into the national curriculum at primary school and perhaps also secondary school level.

We want to reinforce and second all those mentions of citizen science and engagement, as well awareness of best practice. We get participants in StreamScapes programmes to consider that their toilet, shower and sink are all ultimately tributaries to the river, so they could be given names. Simple, creative interventions such as this can go a long way to changing the status of our waters.

Chairman: Hopefully so. Maybe water will be the main issue as climate was in discussions ten to 20 years ago. I do not think we should have to wait ten or 15 years for it to become the main issue.

Dr. Elaine McGoff: I thank the committee for the opportunity to come in to talk to it. It is encouraging to see water quality being given the attention that other environmental pressures are getting. Climate change and biodiversity get a lot of attention and water often feels like the poor cousin. We welcome the committee taking time to engage on this. The river basin management plan is key. I welcome the committee writing to the Department about it. I encourage it to ask for much greater ambition. This is our best shot to address water quality declines. The committee has an important role to play in that. I encourage it to wield as much influence as it can. An Taisce and SWAN are ready to help in that regard. If we can provide the committee with any information, please do not hesitate to ask.

Dr. Matthew Crowe: I thank the Chair and the members of the committee for taking the time to consider the draft river basin management plan and to consider making a submission about it. An interesting aspect of the forum is that it has 25 members representing 13 different sectors. The forum has had six months of work, discussions, debates and presentations from a

range of different organisations. These 25 individuals, representing 13 different sectors, came to an agreement about recommendations regarding water quality for the next six years. That is no mean feat. Each of those groups and individuals have their own individual views. They have managed to bring it together to present this submission, which is the common ground that has been described. That is the strength of the forum. When there is common ground, there is a greater chance of implementation. I urge the committee to think about the forum's submission in that way. It would, of course, be complemented by sector-specific submissions from individuals. While both Dr. McGoff and Ms O'Brien are on the forum, they will also make their own submissions, as I am sure other organisations represented on the forum will. I am sure they would love to have an opportunity to speak about their specific issues.

I cannot overemphasise the importance of the common ground being identified here or of the collaboration that went into developing that common ground. People had to put their collaborative hat on to give and take in order to arrive at these agreed positions that everybody can sign up to. That augurs well for the future. Water and catchment management is such a complicated area and is even more complicated when connected to climate, nature and air. Much collaboration will be needed, with people working together, trade-offs and so on to make this really work. I thank the committee.

Dr. Frank O'Mara: I have a few reflections on this interesting session. There have been good questions that have drawn out many important issues. The closing reflections I would like to make think back to when we started on implementation of the water framework directive. It is 12 years since the catchments programme was set up. We have learned a lot. We are in a very different position with regard to our knowledge of water quality, the impact that agriculture can have on it and how we can address that impact. We have learned much in that time. The country is in a much better position with regard to its ability to monitor water quality and to report on it. We have time series data about water now. That is all great.

We have much better modelling capability relating to this issue. We have new programmes in place, such as the asset programme, which has only been in place for three or four years. It will not deliver a transformation overnight but it has shown ability to engage at the right level with farmers. The catchment programme is continuing. We have a new programme that we started, the Signpost programme, which mainly relates to climate change, but also tries to take an integrated view of environmental and economic sustainability. It looks at how farmers can transform their business and address all important environmental aspects. Our advisers have tools that they did not have ten or 12 years ago. Their knowledge in the area is chalk and cheese. Great strides have been made in building capacity and putting in place the needed resources and infrastructure.

We do not have any farmers here today. We are a research and advisory body, not practising farmers, or, at least, that is not our function here today. Trying to represent their voice, they are engaged with this issue. As Mr. Burgess said, dairy farmers, who probably farm at the highest level of intensity, recognise that they have to address this issue. We see that with intensive farmers and with the huge growth in things such as the European innovation programme and farmers wanting to address issues such as this. All those things are in place now. That is not to minimise the challenge or look at it through rose-tinted glasses. We are in a much stronger position now. Hopefully, we are seeing some of the green shoots of progress that were mentioned in the priority areas of action. By nature, I am an optimist. I want to finish on that note. This is a challenge that the country and the agri-sector can and will rise to.

Chairman: I thank Dr. O'Mara. All of the witnesses made important points. Nobody wants

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to damage or pollute water supplies. We are all aware that it is finite and precious. We rely on it. It is a staple of human life, with everything that goes with it. Dr. Crowe talked about a collaborative approach and I entirely agree. It is the same approach needed to address climate. We cannot say it is the fault of one group and that it needs to do something. Every one of us plays a part in using and polluting water. Every house in the country sends gallons of contaminated water to wastewater treatment plants. We have not even spoken about abstraction today, which is another issue. The impact that climate will have on water networks, sedimentation of rivers, flow and all the other aspects is significant.

On behalf of the committee, I thank the witnesses for their assistance and expertise. We will compile a report based on the meeting. We could not invite every stakeholder group. We thought, at short notice, that the witnesses here today were representative of all the groups. I thank Teagasc, the Water Forum, SWAN and An Taisce for being here. We will send a copy of our submission when the committee has agreed it.

The joint committee adjourned at 4.32 p.m. until 11 a.m. on Tuesday, 26 April 2022.