Consultation on the Draft River Basin Management Plan for Ireland (2018-2021)

EPA Submission

31st August 2017

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Executive Summary

The EPA welcomes the new draft River Basin Management Plan (RBMP) and its overall integrated catchment management approach. The importance of a clean, well-protected water environment for our health, our wellbeing, our economy and our quality of life is clear. The final Plan has the potential to substantially address the challenge of protecting and delivering improved water quality in Ireland which will in turn support a thriving society and economy. The EPA has prepared this submission to support the delivery of an effective River Basin Management Plan for the country and wishes to make the following key points. A set of recommendations is also included for consideration.

The EPA recently published its latest Water Quality in Ireland Report covering the six-year period between 2010 and 2015. This is the first full, six-year, assessment of the 'status' of our waters under the Water Framework Directive. The assessment concludes that while there has been little overall change in water status in the six years up to the end of 2015, there has been:

- a failure to meet the planned national target of 13 per cent improvement in water status for the six-year period;
- a failure to prevent deterioration of water status at hundreds of water bodies around the country, which cancels out the improvements in water status at a similar number of water bodies in other parts of the country;
- a continued and welcome reduction in the number of seriously polluted waters, the worst of the worst - only six river water bodies were categorised as 'Bad' in 2010–2015 compared to 19 in 2007–2009; and
- a continued and unwelcome decline in the number of our pristine rivers, the best of the best - only 21 sites achieved the highest quality rating from 2013-2015 compared to over 500 sites in the late 1980s.

Overall, 91 per cent of groundwater bodies, 57 per cent of rivers, 46 per cent of lakes, 31 per cent of estuaries and 79 per cent of coastal waters were found to be of good quality under the Water Framework Directive. The Water Framework Directive, other than in exceptional circumstances, requires good water status for all water bodies and specifically prohibits deterioration of waters already at good status. It is particularly disappointing that so many water bodies deteriorated in status between 2010 and 2015. Ireland now needs to put in place with a renewed sense of urgency the necessary measures and resources to halt any further deterioration of water status and to make the necessary improvements to water bodies that require improvement. Clean and well protected water is a key national asset and supports many important economic activities such as agriculture, manufacturing and tourism as well as supporting our health and well-being. We must do a lot more and work much harder at protecting this vital national asset.

Early Action

The Draft Plan states that substantial water quality 'status' improvements (meaning an overall improvement in the percentage of waters achieving an improvement in 'status' as defined by the Water Framework Directive) will be challenging to achieve and are unlikely to be evident by the end of the current cycle, which will run from 2018 to 2021. Given the scale of the challenge and the Plan's short implementation phase, the EPA urges that early and sustained action be taken in this cycle to achieve

improvements and prevent any further deterioration that can be built upon over the longer term. This will require actively building on the successful collaborative foundations put in place over the past three years through the reform of water governance. The EPA is committed to playing its part in this collaborative effort to deliver good outcomes for water.

Agriculture

As the single biggest pressure on the water environment, strengthening the programme of measures to tackle diffuse agricultural pollution will be key to the overall success of the Plan. There is a major challenge ahead to deliver a sustainable agricultural production system, as envisaged by Food Wise 2025, that protects our water environment for the use and benefit of all and meets our international commitments including those under the Nitrates Directive and WFD. A suite of practical evidence-based measures to address diffuse agricultural pollution should be developed as a matter of urgency so that they can be implemented during this cycle to achieve water quality improvements over this cycle and the next. These measures should also, where possible, deliver climate change, flood management, biodiversity, economic, social and other co-benefits.

The successful implementation of measures to address diffuse agricultural pollution will require deep and meaningful engagement with farmers and farming organisations and their active participation. The EPA believes that a cohort of farm advisors with specialist environmental training is needed to transfer the learnings from research, characterisation and best practice to the farming community and to assist individual farmers in taking appropriate action. The EPA calls on the Lead Departments (DHPLG and DAFM) to support the provision of such an advisory service and will be available to provide support and assistance as required. We recommend that engagement between the DHPLG and DAFM in the context of the mid cycle review of the Rural Development Programme should be used to focus resources to support actions where WFD assessments have determined a need.

Physical Planning

The EPA welcomes the proposed development of high level statutory guidance in relation to WFD and planning as a major step forward in making the Plan and its implementation dynamic. Similar to the principle of the "**right measure in the right place**", ensuring the "**right development in the right place**" is fundamental to protecting water quality in the long-term. Substantial training and engagement is needed with planners and those engaged in forestry and agricultural planning to ensure that the guidance produced is adhered to and implemented at an operational level. To affirm the importance of this measure, the final Plan should include a timeline for the completion of the guidance and a programme of training and engagement with the planning community.

Governance

To deliver better and sustained water quality outcomes during this cycle, effective and resilient governance structures are needed. The collaborative work between various public authorities over the last three years since the enactment of the Water Policy Regulations in 2014 provides an excellent foundation from which to build. Further detail on roles and responsibilities and resource requirements should be included in the final Plan and should reflect recent governance developments such as the establishment during 2017 of the National Water Forum and the regional operational committees. The OECD Principles on Water Governance[1] could serve as a useful framework to ensure that the final RBMP

[1] http://www.oecd.org/cfe/regional-policy/OECD-Principles-on-Water-Governance-brochure.pdf

governance arrangements support strong and transparent implementation of actions. This approach could provide a mechanism for promoting better coordination and integration across other policy areas such as flooding, marine protection, biodiversity and climate change. Integration will deliver better outcomes for water quality and aquatic systems and is also likely to be a more cost effective approach than developing and implementing multiple plans covering similar issues in the same water bodies.

Monitoring and Implementation

The final Plan should provide details of the indicators proposed to be used to track implementation of the Plan and programme of measures, taking into account WFD reporting requirements. The OECD is currently developing indicators under its Principles on Water Governance which could inform the development of the final set of indicators. The overall approach to implementation adopted for Food Wise 2025 also provides a very useful template for tracking implementation.

Public Engagement

While collaboration among public bodies has undoubtedly improved over the past three years, the EPA recognises that better and deeper engagement with civic society and communities at local and regional level is needed during this cycle. This should build on the initial excellent work of the Local Authority Water and Communities Office (LAWCO) since its establishment in 2016 and the recent establishment of the National Water Forum. In this context, we recommend that the structures to implement the Plan and associated work programmes at the regional and local level should provide for on-going consultation and engagement with the relevant stakeholders at the appropriate level. The role of citizen science and how this may be harnessed during the Plan implementation phase also merits consideration by LAWCO.

Water Services

Achieving improvements in urban waste water treatment and public drinking water requires major investments in critical water infrastructure to ensure consumers are protected from pollution and health risks. Significant delays have occurred in the planned delivery of priority projects and addressing these delays in the programme of measures will be critical to ensuring adequate progress is made by 2021. The EPA has identified a substantial number of water bodies impacted by diffuse urban pollution, linked to Combined Sewer Overflows and drainage system discharges from towns and villages. We recommend that focussed work by Irish Water and local authorities to address diffuse urban pollution should be included as a measure in the final Plan. In addition, we recommend that measures to address poor quality private water supplies (e.g. VTEC in private wells) and the increasing levels of pesticides (in particular MCPA) in drinking water should also be included in the final Plan.

Regarding the potential water quality impacts associated with actions to address lead in public drinking water, the EPA recommends that the Department's Lead Mitigation Advisory Group should take into account the supply specific risk assessments and the proposed actions arising from them. In the interests of transparency, we recommend that decisions in relation to each public supply should be made publicly available by Irish Water.

Research

The draft Plan sets out certain requirements in relation to research to support the implementation of the Plan including funding research on Invasive Alien Species, forestry-water interactions, hydromorphology and marl and oligotrophic lakes. The Water Research Pillar of the EPA Research

Strategy 2014-2020 plays a pivotal role in addressing emerging research needs in relation to WFD implementation. The EPA emphasises that funding for this research will continue to be needed to ensure that gaps in our understanding of the interplay between pressures, pathways and water receptors are addressed to better inform future action.

Vision

To assist in communicating the Plan's vision and mission, the EPA recommends the development of a collective **"Healthy Catchments"** brand (akin to the **"Healthy Ireland"** brand). This brand, and associated awareness programmes and initiatives, could be used to inform and engage the public on the more integrated and coordinated approach being taken by the many public, private, representative, civic and community organisations involved in WFD implementation. We also recommend that the Plan should, in addition to addressing the Directive, encompass within its remit the achievement of relevant Sustainable Development Goals. The link to Health and Wellbeing could also be highlighted further and developed as a standalone section in the final Plan to connect with communities and the work that is being done on blue spaces and health.

Compliance and Enforcement

The EPA recognises the need to take a more collaborative approach to addressing the myriad of challenges facing the water environment. This does not mean, however, that action to improve compliance with existing obligations does not have an important role in supporting the achievement of WFD objectives. The EPA recommends that a section on compliance and enforcement should be included within the final Plan, including consequences for non-compliance, responsibilities and resource requirements.

Climate Change

Water and climate change are inextricably linked. The EPA recommends that further coverage of climate change adaptation and mitigation is needed in the final Plan. The final Plan should be consistent with the National Policy Position on Climate (NPP[2]), both in terms of the mitigation of greenhouse gas emissions and adaptation to climate change. It will be important to ensure that measures in the final Plan are consistent with the NPP, and associated plans including the National Mitigation Plan[8], National Adaptation Framework and sectoral, regional and local adaptation strategies.

Invasive Alien Species

The inclusion in the draft Plan of actions to address invasive alien species is welcome. We recommend the inclusion in the final Plan of an additional action to develop training and protocols to address acute issues like the freshwater crayfish plague and to promote better control of invasive alien species nationally.

Finally, prior to adoption, the EPA recommends that the Plan should be checked against the requirements of Article 13 and Annex VII of the Directive to ensure that all legal compliance obligations are met.

[2] http://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Policy-Position.aspx

In Conclusion

The failure to achieve the planned improvements in water status between 2010 and 2015 was very disappointing. So too the deterioration in status of hundreds of water bodies and the continued loss of our most pristine high status waters, the best of the best. However, there has been sustained effort at all levels of government and public administration since 2012 to reform and strengthen the governance structures, improve the overall evidence base, increase the level of resourcing dedicated to water management and improve citizen engagement. This work is now beginning to have a real impact and provides solid foundations on which to build between now and 2021.

In facing up to the water challenges confronting us, we are getting much better at collectively working out who does what, why, at which level and how. We need to keep building and improving the evidence base so that the right measures can be targeted in the right place to deliver better water outcomes. We need to nurture and grow the reformed governance structures at national, regional and local level – they are still relatively new and will require on-going support and engagement if they are to deliver. The planned additional local authority resources need to be put in place and made operational. Finally, collaboration and engagement with civic society needs to broadened and deepened through the National Water Forum and the work of the Local Authority Water and Communities Office. If we collectively agree to take these steps and are relentless in implementing the agreed actions in the final Plan then we should see real and sustained improvements in water quality and an end to the failure to protect our rivers, lakes and estuaries from deterioration.

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31st August 2017

Recommendations

EPA's key recommendations, to be considered in finalising the Plan, are summarised in Box 1.

Box. 1 Key EPA Recommendations	
#1	Take early and sustained action in this cycle to achieve improvements that can be built upon over the longer term.
#2	Develop a 'Healthy Catchments' brand to communicate the Plan's vision and the integrated catchment management approach being adopted and to emphasise the link between water quality and health.
#3	Develop a "Health and Wellbeing" section in the Plan to connect with communities and link with the work being done on blue spaces and health.
#4	Assess the Plan against the OECD Principles on Water Governance.
#5	Include the National Water Forum and Regional Operational Committees in a revised Governance Framework.
#6	Promote better coordination and integration with other plans and programmes that impact on water.
#7	Deliver substantial supplementary actions during this cycle to support achievement of status improvements by 2027.
#8	Agree a suite of practical evidence-based measures to address diffuse agricultural pollution.
#9	Create a cohort of farm advisors with specialist environmental training to assist individual farmers in taking appropriate action.
#10	Focus Rural Development Programme resources to addressing diffuse agricultural pollution where WFD assessments determine a need for action.
#11	Detail the indicators that will be used to track progress on implementation.
#12	Include provisions for consultation with all relevant stakeholders within regional and local implementation structures and seek to harness the role of citizen science.
#13	Continue to fund research to address the gaps in our understanding of the interplay between pressures, pathways and water receptors to better inform WFD action.
#14	Set out time lines and programme for the delivery of the high-level guidance on WFD and Planning.
#15	Engage with planning community, including those engaged in forestry and agricultural planning, to ensure that the guidance is actively implemented at an operational level.
#16	Address climate change further in the final Plan and include a concrete commitment to ensuring integration with key climate plans.

#17	Complete all Drinking Water Safety Plans currently in progress.
#18	Address as a priority supplies on the Remedial Action List.
#19	Share Irish Water Source Protection Risk Assessments publicly.
#20	Include actions to address poor quality Private Water Supplies via WFD implementation structures.
#21	Formulate specific actions to address pesticides (in particular MCPA) within the agricultural Programme of Measures.
#22	Continue to promote the removal of lead from the drinking water infrastructure and make supply-specific lead risk assessments publicly available.
#23	Increase financial resources to upgrade sewer networks and treatment facilities to treat wastewater to the standard needed to protect human health and water quality.
#24	Take account of newly identified agglomerations that are significant pressures to waters in the development of future waste water investment programmes and amendments to the current one.
#25	Develop and roll out training and protocols to address acute Invasive species issues like the recent freshwater crayfish plague.
#26	Include a mechanism to monitor and respond to other threats including newly identified micropollutants, microplastics and antimicrobial resistance.

Introduction

The EPA welcomes the new draft River Basin Management Plan (RBMP) and the overall integrated catchment management approach that underpins it. The importance of a clean, well-protected water environment for our health, our wellbeing, our quality of life and our economy is clear and we recognise that the final Plan has the potential to substantially address the challenge of protecting and delivering improved water quality in Ireland which will in turn support a thriving society and economy.

The most recent State of the Environment Report outlines, at a strategic level, the current state of Ireland's environment. It sets out the scale of the challenge, the failure to meet the target for water quality improvements for the first cycle of the Water Framework Directive and highlights that the restoration and protection of water quality is a key challenge for Ireland and recommends the implementation of measures to achieve ongoing improvements in the environmental status of water bodies from source to the sea. It also identifies the need to protect pristine and wild places that act as biodiversity hubs, contribute to health and wellbeing and provide sustainable tourism opportunities. At a thematic level, the State of the Environment Report identifies that improving the tracking of plans and policies and the implementation and enforcement of environmental legislation are key challenges for Ireland to address. Each of these findings has direct relevance to the RBMP.

The Draft Plan states that substantial water quality status improvements are unlikely to be evident by the end of the current cycle, which will run from 2018 to 2021. The EPA urges that early and sustained action be taken in this cycle to achieve improvements that can be built upon over the longer term. We also view this cycle as one of transformation and capacity building to create structures and foster engagement across public service and society to collectively and collaboratively work to improve our water environment. In this context, we welcome the new governance structures which have the potential to deliver more effective water management.

The EPA recognises that further work (investigative assessments) by local authorities and others is needed during the plan period at a sub catchment and water body level to identify and target the **right measures in the right place.** The EPA will continue to support the local authorities in this work.

We support the priorities outlined in the draft Plan, focussed on achieving compliance with EU legislation, no deterioration and protecting and enhancing high status water bodies. The EPA will support the proposed Blue Dot initiative to protect and restore high status waters. We recognise that while overall the length of unpolluted river channel has remained relatively constant, there has been a substantial loss in the number of highest quality river sites (i.e. Q value of 5), down from 575 sites in 1987-1990 to only 21 sites in 2013-2015. Where possible, the proposed Blue Dot Programme should encompass the associated estuaries in line with the integrated catchment management approach.

The proposal to establish a statutory national Abstractions Register, with a view to putting in place a control regime for surface and ground water abstractions, is also welcomed by the EPA as a necessary step towards achieving a holistic approach to catchment management. From an EPA perspective, achieving compliance with licences and other authorisations developed to achieve WFD objectives and other water related environment legislation is also a key priority and these issues are discussed in more detail in the following sections. In addition, specific comments in relation to the SEA Environmental Report are provided in Appendix I.

Recommendation 1: Take early and sustained action in this cycle to achieve improvements that can be built upon over the longer term.

Vision for Plan

Elaborating on the Foreword to the draft Plan, the final Plan provides a valuable opportunity to set out a clear vision for vibrant waters and communities that engages all stakeholders and encompasses aspects such as biodiversity, heritage and cultural and citizen science within its ambit. Article 1 of the WDF sets out the Directive's overall purpose, vision and remit which includes protection of aquatic ecosystems and wetlands, promoting sustainable use of water, enhanced protection and controls on discharges, promoting groundwater improvements and contributing to mitigating the effects of floods. Beyond the scope of the Directive, the Plan has the potential to support a wider level of environmental and societal achievement including biodiversity enhancement, flood mitigation and promotion of health and wellbeing. The EPA recommends that the Plan should, in addition to addressing the Directive, consider encompassing within its remit the achievement of relevant Sustainable Development Goals (SDGs). The recently published EU SDG indicator set[3] includes specific indicators relating to Goal 6 (Ensure availability and sustainable management of water and sanitation for all) which should be specifically considered.

Given the developing positive collaboration between many public bodies and the work of LAWCO with communities, the EPA recommends the development of a collective **"Healthy Catchments"** brand for all works being undertaken by public bodies and civil society could support this level of collective action and collaboration (akin to the **"Healthy Ireland"** brand). This brand could be used to inform and engage the public on the more connected and joined up approach being taken by the multiple bodies and agencies involved in.

Health and Wellbeing could also be highlighted further and developed as a standalone section in the final Plan to connect with communities and the work that is being done on blue spaces and health.

Recommendation 2: Develop a 'Healthy Catchments' brand to communicate the Plan's vision and the integrated catchment management approach being adopted and to emphasise the link between water quality and health.

Recommendation 3: Develop a "Health and Wellbeing" section in the Plan to connect with communities and link with the work being done on blue spaces and health.

Governance & Implementation

The EPA considers the development of effective and resilient governance structures to deliver better outcomes for water quality as a critical building block to achieving a clean and well protected water environment. The role of the Water Policy Advisory Committee will continue to be particularly crucial in addressing cross sector and cross policy issues that may arise and providing leadership in the

[3] http://ec.europa.eu/eurostat/documents/276524/7736915/EU-SDG-indicator-set-with-cover-note-170531.pdf

collaborative action that is required to ensure effective implementation once the Plan is in place. A mechanism against which the Department may wish to assess the Plan is the OECD Principles on Water Governance[4] which provide a framework to ensure that the final RBMP governance arrangements support strong and transparent implementation of actions to deliver on positive water quality outcomes.

In relation to the Governance Framework set out in Section 10 of the draft Plan, the recent establishment of the National Water Forum should be reflected in an updated version. The Forum has substantial potential to improve the national dialogue on the value of water and for the continuing integration of public value into the decisions around the programme of measures implementation over the coming years. Moreover, while the draft Plan is currently out for consultation, work has continued to progress via the Regional Water and Environment Committees to develop regional coordination between public organisations to work collaboratively to achieve WFD objectives and other societal objectives. This approach will be key to the implementation work during this and the next cycle of the WFD. Again, it is important that these new operational structures are reflected in the governance model and Implementation Strategy presented in the final Plan.

Substantial progress has been made over the past two years in developing inter organisational coordination on the WFD. Once the Plan has been adopted, work will be needed to continually ensure the closest possible alignment between other plans and programmes that impact on water and the implementation structures in place for the Plan itself. This should be set out in the final Plan as a process to be implemented and monitored. A diagram showing these inter-dependencies would be a useful addition to the plan. This shift from consideration of the WFD as a standalone piece of legislation to a more integrated and systems orientated approach to protection of water and its ecosystems is to be greatly welcomed.

The WFD is linked to a number of other EU directives in several ways. These include Directives relating to the protection of biodiversity (Birds and Habitats Directives), directives related to specific uses of waters (drinking water, bathing waters and urban waste water directives) and to directives concerned with the regulation of activities undertaken in the environment (Industrial Emissions, Environmental Impact Assessment and Environmental Liabilities directives). Directives created after the WFD on topics such as Floods and the Marine Strategy Framework have significant linkages with the WFD which is also supplemented by the Priority Substances Directive and the Groundwater Directive. The Nitrates Directive forms an integral part of WFD implementation and is one of the key instruments in the protection of waters against agricultural pressures. The Sustainable Use of Pesticides and the Sewage Sludge directives also provide for the control of materials applied to land. A specific section of the Plan covering these interactions at a practical level is needed and a diagram would assist in illustrating these interactions.

A large number of national, regional and local plans and programmes have an influence on water management activities and many of the RBMP measures are already being implemented via existing sectoral plans and programmes. These include *inter alia* the Flood Risk Management Plans, Biodiversity Management Plans, National Landscape Strategy, Rural Development Programme 2014-2020, Food Wise 2025, Irish Water's capital investment programme, Marine Strategy Framework Directive Programmes of Measures, county development plans and local area plans, forestry strategies and plans, persistent organic pollutant management plans. Each of these plans and programmes have their own

[4] http://www.oecd.org/cfe/regional-policy/OECD-Principles-on-Water-Governance-brochure.pdf

timelines which in many cases are different from the RBMP that will operate until end-2021. The RBMP provides an opportunity for a more coordinated and coherent approach to implementation of actions and measures across sectors. A schematic should be included in the final Plan showing the links between the RBMP and other key relevant national, regional and local level plans for various sectors. This will assist in clarifying where the RBMP fits in the hierarchy of national, regional and sectoral plans with roles to play in water protection and will serve to highlight the need for the various plans and programmes to be aligned. In the context of land use planning, for example (discussed further below) the links with the draft National Planning Framework and proposed Regional Spatial and Economic Strategies are relevant. Chapter V of the Floods Directive directly addresses coordination with WFD and while there are good working arrangements between the EPA and the OPW in relation to the Floods Directive and the technical aspects of the WFD there is merit in seeking further alignment in governance arrangements during the implementation phase. As the cycles for the two directives will be synchronised in the 3rd cycle of WFD, the final Plan should outline how further alignment between the implementation of the RBMP and Flood Risk Management Plans will be achieved up to 2021 and post 2021.

While consideration of linkages between the Plan and other plans and programmes and ensuring coordination with relevant public body stakeholders is fundamental there is also need to ensure clear tracking of commitments, action implementation and environmental outcomes. The EPA views that once the regional level work programmes are finalised that additional clarity will be provided to define responsibilities, appropriate indicators of progress and effectiveness. The proposed use of indicators (water quality, output and governance indicators) to track implementation of the Plan over its lifetime is welcome. The final Plan should include further details on the indicators proposed.

Recommendation 4: Assess the Plan against the OECD Principles on Water Governance.
Recommendation 5: Include the National Water Forum and Regional Operation Committees in a revised Governance Framework.
Recommendation 6: Promote better coordination and integration with other plans and programmes that impact on water.

Agriculture

Agriculture is the most significant pressure on the water environment with the main impact being eutrophication (i.e. the significant pressure on the greatest number of water bodies). EPA notes that the Minister has identified in the draft Plan that compliance with the Good Agriculture Practice (GAP) Regulations (SI 31 of 2014) through continued implementation of the Nitrates Action Programme and associated inspection regime is a key measure aimed at moving towards meeting the environmental objectives of the WFD. The EPA supports this statement. EPA also sees the supplementary measure of the newly created industry-led Dairy Sustainability Forum as a welcome development that can act as a vehicle for enhanced communication and collaboration among stakeholders that recognises that a high quality water environment is a key underpinning to the success of Ireland's agricultural sector. That being said, the EPA is strongly of the view that it will be critical to deliver on substantial supplementary actions during this cycle of the WFD to support achievement of status improvements by 2027. The remainder of this section develops on this need.

The EPA has undertaken a substantial assessment of the impact of pressures on the water environment at waterbody, sub catchment and catchment scales in conjunction with other stakeholders. This assessment is identifying significant pressures on the water environment at these scales and the Plan clearly identifies the importance of the agricultural sector as a significant pressure in a substantial number of waterbodies. From the characterisation work completed, it is clear that nutrient losses to waters are not uniform across the country and depend on a combination of areas of higher human population and agricultural intensity, and the physical characteristics of the landscape. For example, the highest nitrate levels are found in the freely draining areas in the southeast of the country, while the highest phosphorus levels are found in the poorly draining areas throughout the country. This local and regional variation is a significant constraint on land based activities. The GAP Regulations recognise this regional variability with the storage periods for livestock manure varying based on the location of the holdings (Schedule 3). Some areas are more suitable than others for agricultural intensification and more susceptible areas need more careful protection, for example vulnerable groundwater and drinking water sources and rivers, lakes and estuaries including high status water bodies.

The EPA is using a suite of catchment management support tools to identify areas within catchments with higher likelihood of releasing nutrients and pollutants to waters. This work should be used to assist in identifying areas susceptible to diffuse pollution and is an important step forward in prioritising and targeting strategies, measures and resources to target diffuse agricultural pollution for both environmental and agronomic benefits. While progress has been made, insufficient analysis has been undertaken on the potential measures and their environmental and economic costs/benefits in the different biophysical settings. The EPA sees the development of a suite of practical evidence-based measures to address diffuse agricultural pressures as a key task that needs to be progressed in the early stages of implementation of the Plan, so that these measures can be implemented during this cycle with a view to achieving water quality benefits during both this and the next cycle. Some work has been progressed via a Management Strategies for Agriculture working group over the past year but having an agreed list of priority measures is key to future success.

While identifying these measures is key, their implementation requires a deep and meaningful engagement with farmers and farming organisations. An EPA research project highlighted the challenge of knowledge transfer within the variability of the biophysical setting and more importantly within the context of the socio-economic challenges facing farming communities (The AgImpact Project (Carton *et al*., 2016)). The study identified the need for improved communications that will build mutual trust between and within generators of knowledge, policy development stakeholders and active “on the ground” parties including farmers and advisors. While the draft Plan sets a baseline of actions to be taken, EPA considers that innovative non-statutory actions could improve on this situation. One area where this should be considered is enhancing environmental advisory supports to the farming community which has the potential to engage farming communities in water protection and promote the use of best environmental practices in the management of nutrients. Farm advisors are needed to act as the link between the regulatory bodies and the farmers, for example after the localised investigations (investigative assessments) are done, and to encourage a collaborative approach.

The importance of the Nitrates Action Programme is recognised in the draft Plan and it is notable that the context of this Programme has changed significantly over the last 5 years. There is a major challenge ahead to deliver a sustainable agricultural production system, as envisaged by Food Wise 2025, that protects our water environment for the use and benefit of all while meeting our international

commitments including those under the Nitrates Directive and WFD. CSO figures[5] indicate a substantial increase in the numbers of dairy cows over the last five years. While the overall number of cattle in the country has remained relatively static, the increasing dairy cattle herd and associated increased numbers of applications for a derogation under the Nitrates Directive in recent years to circa 7,000 is notable. Clearly there is potential for increased agricultural pressure to impact on the quality of Ireland's waters unless there are effective measures to protect waters. Damage to Ireland's environment during implementation of the Nitrates Action Programme would have an adverse effect on the credibility of the RBMP and FoodWise 2025 and the way in which the agricultural sector and Ireland is perceived both within Ireland and in the wider international market for its products.

The EPA notes that, like the Irish Water Capital investment programme, there will be need for capital and ongoing expenditure to deliver on the measures to be implemented to address agricultural pollution. The EU Commission Working Document on Agriculture and Sustainable Water Management in the EU (SWD(2017) 153 Final) provides some options for funding in this arena. EPA recommends that engagement between the Department and DAFM in the context of the mid cycle review of the Rural Development Programme should be used to focus resources where WFD assessments determine a need for action.

Recommendation 7: Deliver substantial supplementary actions during this cycle to support achievement of status improvements by 2027.
Recommendation 8: Agree a suite of practical evidence-based measures to address diffuse agricultural pollution.
Recommendation 9: Create a cohort of farm advisors with specialist environmental training to assist individual farmers in taking appropriate action.
Recommendation 10: Focus Rural Development Programme resources to addressing diffuse agricultural pollution where WFD assessments determine a need for action.

Evidence Base

A strong, reliable and independent evidence base is needed to inform decisions around measures and track actual environmental outcomes. Substantial work has been undertaken by the EPA to develop and make available an evidence base to support planning for measures under the Plan. Access to this evidence base is provided via the WFD IT application to all relevant public bodies (via the Environmental Data Exchange Network) and publicly via Catchments.ie website. This evidence base will constitute a baseline on which to measure the effectiveness of the programme of measures. It would be positive for the final Plan to provide details on the 'water quality, output and governance indicators' that will be used to track progress over the timeframe of the Plan. The EPA considers that this evidence base should also be used to consider the impacts of other strategies including Food Wise and agri-environmental elements of the Rural Development Programme, including GLAS. Similarly, links should be made to the Forestry Programme, Forest Policy Review, the Seafood Development Programme, Shellfish Pollution Reduction Programmes and the National Strategic Aquaculture Plan, to provide evidence that the

[5] http://www.cso.ie/en/releasesandpublications/er/clsjp/cropsandlivestocksurveyjuneprovisional2016/

interactions between the programme of measures for WFD is delivering real and quantifiable environmental benefits. This, in turn, will support delivery of other programmes and allow them to evidence the quality of the environment upon which they are dependant. Some reference in the Plan as to how it will link to these programmes is suggested.

Recommendation 11: Detail the indicators that will be used to track progress on implementation.

Public Information & Engagement

In preparing the State of the Environment Report, the EPA identified the critical need to inform, engage and support communities in the protection and improvement of the environment. The EPA recommends that when putting in place the appropriate structures to implement the RBMP and associated regional work programmes at the regional and local level, provisions should be included for consultation with the relevant stakeholders. These regional fora should consider and address more sectoral and spatially specific issues and challenges encountered during the implementation phase.

The establishment of the Local Authorities Waters and Communities Office (LAWCO) has been a very positive step forward in engaging communities in water management. Moreover, the convening of an independent National Water Forum[6] in April 2017 to facilitate stakeholder engagement on all water issues is a very welcome development. From the work undertaken by LAWCO to date, there is substantial anecdotal evidence of a strong public interest in engaging with water protection at a local level. The EPA has, in conjunction with LAWCO and the Department, created the Catchments.ie website as a focal point for public information on the WFD and its implementation (one stop shop). EPA will be publishing the outcomes of the initial characterisation work including the significant pressures on water bodies to further inform all parties during 2017 in advance of the finalisation of the Plan. While not currently covered by the draft Plan, the EPA engages with organisations undertaking water related citizen science programmes and would recommend that LAWCO should consider how this might be progressed during implementation. The EPA suggests that there is also need for other visible signals to users of waters as to the work being undertaken. There are opportunities to promote awareness of catchment management along the tourism related greenways, tourist trails (e.g. the Wild Atlantic Way) and blue route networks, for example through informative displays in places where these trails and greenways intersect with interesting estuarine, coastal or river sites. Enhancing local awareness in such a fashion could also improve awareness among communities of the need to protect and enhance our waters.

While not completely clear, opportunities for linking the Plan to cultural and heritage plans could be considered, for example linking the RBMP to the 'People and Places' heritage plan for County Waterford. Similarly, there would appear to be good potential to link the final Plan to county and local biodiversity plans.

Recommendation 12: Make provisions for consultation with all relevant stakeholders within the regional and local implementation structures.

[6] http://www.housing.gov.ie/water/water-services/minister-coveneys-address-inaugural-meeting-national-water-forum

Role of Research

The EPA notes that the draft Plan sets out certain requirements in relation to research to support the implementation of the Plan including funding research on Invasive Alien Species, forestry-water interactions, hydromorphology and marl and oligotrophic lakes. The Water Research Pillar of the EPA Research Strategy 2014-2020 supports the emerging policy & implementation research needs in relation to the implementation of the WFD. Contributions from research under the WFD include the development of novel methodologies for the characterisation of waterbodies and determination of reference baseline conditions. Detailed analysis of the impact of WFD-related research projects has indicated that 62% of projects demonstrated a high level of policy impact. Within this body of research, EPA has funded research that has greatly increased our knowledge on the transport and attenuation of pollutants through the landscape (PATHWAYS project) leading to the development of Catchment Support Management Tools that have informed WFD characterisation of water bodies.

EPA is currently funding research on Invasive Alien Species prevention, control and eradication led by Sligo Institute of Technology. The research will employ surveys and experiments to inform and improve biosecurity at potential IAS points of entry into Ireland, and reduce secondary spread within the island. Four EPA research projects related to hydromorphology (SILTFLUX, COSAINT, DETECT and RECONNECT) will be completed and the outputs used to inform future actions to mitigate hydromorphological impacts. In its most recent research call the EPA has sought proposals on the management of the small stream network for improved water quality and maintenance of catchment biodiversity and ecosystem services to specifically examine high status sites.

NPWS and EPA are progressing discussions on how to develop the required water related standards to support the conservation objectives for marl and oligotrophic lakes which have been identified as potentially requiring more stringent water quality conditions than are currently in place. Discussions will be progressed with NPWS in relation to scoping work that would be put to the Water Research Coordination Group for consideration. A cluster of research projects on eutrophication has provided scientific data to support appropriate measures or actions for use in the implementation of national policy for reducing phosphorus and nitrogen losses to waters from agricultural sources. Findings from this work provided the basis of existing advice and measures for reducing nutrient losses from agriculture to water.

In line with '**the right measure in the right place'** approach, the 2017 EPA Water Research Call is seeking projects to develop a framework for implementation of targeted approaches for water and catchment management in rural areas. This topic is co-funded with the DAFM. In addition, the EPA research programme provides a means of determining appropriate measures for problematic issues and those that have an Environmental Objective date of or beyond 2027. The EPA looks forward to the final Plan highlighting other research needs for problematic issues, to inform future EPA Water Research Calls. Appendix 2 contains a list of some of the most relevant research completed to date. In addition, EPA will continue to engage in Horizon 2020 and JPI Water to ensure that developing knowledge at a European level informs action within Ireland.

The EPA stresses that funding for this research will continue to be needed to ensure that gaps in our understanding of the interplay between pressures, pathways and water receptors continue to be addressed to inform future action.

Recommendation 13: Continue to fund research to address the gaps in our understanding of the interplay between pressures, pathways and water receptors to inform WFD action.

Planning and WFD

Plans to develop high level statutory guidance in relation to WFD and planning as proposed by the draft Plan is a major step forward in making the Plan and its implementation dynamic. Similar to the principle of the "**right measure in the right place**" is recognising that the "**right development in the right place**" will be key to the long-term success of the plan.

As previously stated, the EPA views this cycle as one of transformation and capacity building to create active structures and engagement across public service and society to collectively and collaboratively work to improve our water environment. Critically the implementation of the Plan will require flexibility to address changes in pressures arising from changes in the economy and society up to 2021. Projected population rise and increased land use change as the economy recovers will lead to additional pressures on the water environment and addressing these at the planning stage is critical to long term improvements. Some areas are more suitable than others for development and more vulnerable areas need more careful protection. The EPA has, via its work on WFD, convened a working group to look at best practice in relation to the interactions between physical planning and WFD. EPA will be making this best practice note available once complete and it should provide a positive input to the high-level planning guidance. The EPA further notes work at a European level to develop guidance on Article 4(7) of the WFD which should inform the high-level guidance. The EPA suggests that a substantial level of engagement is needed with planners and those engaged in forestry and agricultural planning to ensure that the guidance produced is implemented at an operational level. EPA will support training or other events to promote this integration of physical planning and WFD implementation following the completion of the high-level guidance.

In addition, the EPA will continue to engage with the DHPCLG via the SEA process on the preparation of the National Planning Framework which is due to be adopted in late 2017 and will likewise be closely engaging with the Regional Assemblies on the subsequent preparation of the Regional Spatial and Economic Strategies (which will replace the existing Regional Planning Guidelines). The National Planning Framework and the Regional Spatial and Economic Strategies represent the upper tiers in Ireland's planning hierarchy, in turn influencing all county and local development plans. They provide the frameworks for implementing a consistent approach to protecting water quality in land-use planning, including for example addressing unsustainable settlement patterns and managing future population and economic growth and associated water service infrastructure requirements. These planning frameworks, and their supporting environmental assessments, provide a significant opportunity to ensure that key national priorities in relation to water protection are embedded in Irish planning policy.

Recommendation 14: Set out programme for the delivery of the high-level guidance on WFD and Planning.

Recommendation 15: Engage with planning community, including those engaged in forestry and agricultural planning, to ensure that the guidance is actively implemented at an operational level.

Climate Change and Water

Water and climate change are inextricably linked in Ireland. Further coverage of climate change adaptation and mitigation is needed in the final Plan. Climate change is already discernible in Ireland, especially within the temperature record, and is in line with global observations. Projected climate change includes an intensification of the hydrological cycle, with higher intensity rainfall events, more intense storms and storm surge, sea level rise, warmer temperatures and longer periods of low rainfall. These are individually, and in combination, likely to influence river flow rates, water demand, availability and water quality. Changes in phenology have already been observed in Ireland. Conditions enabling the proliferation of algal blooms, further spread of invasive species, longevity of water borne pathogens and changes to water-dependent species and habitats are all likely impacts of climate change. The Plan should consider the vulnerability and risks associated with these phenomena and identify measures to minimise adverse impacts.

More detailed coverage of climate change in the final Plan should ensure that it is consistent with the National Policy Position on Climate, (NPP[7]) both in terms of the mitigation of greenhouse gas emissions and adaptation to climate change. It will be important to ensure that measures in the final Plan are consistent with the NPP, and associated plans including the National Mitigation Plan[8], National Adaptation Framework and sectoral, regional and local adaptation strategies. The Plan should, in the first instance, establish the level of resilience of existing and proposed infrastructures and systems to current climate variability, and identify areas of vulnerability and risk. This analysis may include assessment of response to recent extreme events and the adequacy of existing systems and procedures. With respect to Storm Water Overflows, climate change will also need to be factored in as changes in extreme weather and rainfall could influence SWO events.

The plan should consider the potential for changes in land use and land management in response to both mitigation actions and responses to climate change itself. The National Mitigation Plan highlights actions planned to move Ireland to a low carbon economy and has substantial resonance with the River Basin Management Plan. Notably the Mitigation Plan [8] envisages the need for significant changes in the management of carbon across all land types, with specific measures associated with forestry. In order to realise the co-benefits of climate-related measures for the environment and society (including improvements in water quality, biodiversity, public amenity, tourism), there needs to be an explicit commitment within the final Plan to integration between it and key climate plans such as the National Mitigation Plan. All measures in the final Plan should be checked to assess their vulnerability to climate change and where possible, greenhouse gas mitigation and climate change-resilient measures should be promoted.

Recommendation 16: Address climate change further in the final Plan and include a concrete commitment to ensuring integration with key climate plans.

[7] http://www.dccae.gov.ie/en-ie/climate-action/publications/Pages/National-Policy-Position.aspx
[8] http://www.dccae.gov.ie/en-ie/climate-action/topics/mitigation-reducing-ireland's-greenhouse-gas-emissions/national-mitigation-plan/Pages/default.aspx

Compliance & Enforcement

The EPA recognises the need to take a more collaborative approach to addressing the myriad of challenges facing the water environment. This does not mean, however, that action to improve compliance with existing obligations does not have a role to support the achievement of the objectives of the Directive. The EPA recommends that a section on compliance should be included within the Implementation Strategy in the final Plan, including consequences for non-compliance, responsibilities and resource requirements. The on-going characterisation work undertaken by the EPA has identified industrial and municipal discharges as significant pressures in a number of water bodies. In the main these relate to extractive industries. Where these relate to EPA regulated installations, the EPA will take appropriate action to improve the situation. Where these discharges are regulated by others, the EPA will engage with those parties to ensure appropriate enforcement is undertaken in the context of Section 63 of the EPA Act.

Regarding the expected outcomes of the Plan, it is stated that investment will deliver projects to achieve compliance with the requirements of the Urban Waste Water Treatment Directive. Waste Water Discharge Authorisations were granted to meet the WFD requirements by a specified date and have taken specific account of Protected Area requirements while giving further effect to legislation implementing the Urban Waste Water, Habitats, Drinking Water, Groundwater and Bathing Water Directives. While the EPA fully supports achievement of compliance with the Urban Waste Water Directive, compliance with Environmental Quality Standards and the Waste Water Discharge Authorisations is also required to achieve WFD objectives and support the delivery of the objectives of the other directives listed.

As a regulator of industrial and urban waste water discharges and public drinking water and with responsibility for public authority enforcement, the EPA recognises the opportunity the Plan provides to integrate enforcement actions in these areas. Below are set out specific comments in relation to these areas of responsibility.

On the issue of farm inspections by local authorities, there has been a reduction in local authority inspections in 2014 and 2015 (Article 10 Nitrates Directive Report, 2012–2015 Table 6-1) and while the EPA recognises that inspection is only one mechanism for promoting compliance with the Regulation it would be important that these inspections would continue to be undertaken. The additional information available from the EPA-led characterisation work and work on phosphorus loss from wet soils done by Teagasc could be used to refine the locations where inspections can be done to best effect. The EPA notes that a pure regulatory approach will not be as effective as a more balanced approach which includes substantial engagement with farmers that is set out in this submission.

The EPA recognises the multiple challenges facing Ireland in addressing under investment in water and wastewater infrastructure of past decades. In this context, the EPA wishes to reiterate some of the key challenges that should be addressed in the final Plan relating to drinking water and urban waste water.

Public Drinking Water

Major investments are needed in the public water sector to make sure consumers are protected from pollution and health risks. The EPA has promoted a multi-barrier approach that protects the source waters from pollution which is linked with effective treatment and operation designed to match the quality and variability of the source water to ensure safe and secure drinking water. This is underpinned by the Drinking Water Safety Plan approach. Progress is being made with the development of Drinking

Water Safety Plans with six complete and 173 in preparation at the end of 2015, compared with 6 complete and 53 in preparation in 2014. The completion of these plans is a critical task and will ensure the future resilience of public water supplies from source to tap. In defining public water sector investments there are certain clear priorities that should be included in the final Plan:

- completing risk assessments for sources and plants
- putting in place plans to address the outcomes of the risk assessments (Drinking Water Safety Plans),
- addressing source protection issues identified by the risk assessments or via the characterisation work undertaken in the past 2 years,
- addressing as a priority already identified issues with supplies (i.e. those on the remedial action list including those on long term boil water notices).
- Including in the plan metrics for progress of the National Disinfection Strategy to eliminate long-term Boil Water Notices.

The draft Plan refers to Source Protection Risk Assessments being prepared by Irish Water in the period 2016 to 2021. Extensive work has been done in the past with more than 148 Zones of Contribution delineated and a number of Source Protection Plans having been previously prepared. It is important that Irish Water take these Source Protection Plans fully into account to prevent repeating exercises already completed. Irish Water Source Protection Risk Assessments should be targeted towards areas where no historical work exists to maximise efficiency and effectiveness. The EPA also recommends that the outcomes of these Risk Assessments should be shared publicly so that all stakeholders can take them into account when planning and implementing measures.

Source Protection is also an important area where group water schemes can mitigate against water quality risks. The National Federation of Group Water Schemes launched a programme in 2013 to assess drinking water sources and identify protection measures that could be put in place at those sources. The Group Water Sector completed a total of 208 of the 299 assessments by the end of 2016 with the remaining to be complete by the end of 2018. The EPA recognises the good work being done by the department via the Remedial Action List for Group Water Schemes developed in 2016. The list identifies group water schemes that are at risk of supplying poor quality drinking water because their water treatment systems are inadequate. The Department should consider how the Group water schemes on the list will be enabled and prioritised to improve their treatment systems and protect their source catchments.

Private Drinking Water

The recent EPA report "Focus on Private Water Supplies"[9] emphasised that 20% of Ireland's population is supplied by private water supplies and that water quality in these supplies is consistently poorer than provided via Public water supplies. In this context, there are two specific populations namely small private supplies and household wells.

Using *E. coli* as the measure of quality, the EPA's assessment of sample results highlights that small private supplies (serving 1% of the population) have poor water quality. The EPA's assessment of monitoring found that of the 2,676 small private water supplies registered in Ireland, 37% of these were

[9] http://www.epa.ie/pubs/reports/water/drinking/Focus%20on%20Private%20SuppliesV6.pdf

not monitored at all for *E. coli*, corresponding to 92 public group water schemes, 30 private group water schemes and 864 small private supplies. This is worrying as without regular monitoring the supply users may be drinking water that is of a poor water quality standard and this could have an impact on their health. Of the small private supplies that were not monitored, 270 are hotels, restaurants or other premises serving food to the public, 99 serve national schools or childcare centres and 23 serve nursing homes. Clearly this is not acceptable.

Household wells

There are approximately 170,000 household wells in Ireland serving 10% of the population. EPA estimated that up to 30% of these wells are contaminated by *E. coli.* Moreover, a study of 250 private wells found that 82% did not have an appropriate water treatment system in place. This issue is compounded by HSE reports of substantially growing number of cases of Verotoxigenic E. coli (VTEC) – a pathogenic form of *E. coli* (Private wells in Ireland has the highest incidence in Europe of VTEC). Consumers of water from household wells are at a much greater risk of VTEC than those who drink water from either public or private mains supplies with patients being up to four times more likely to have consumed untreated water from household wells.

The EPA strongly recommends that all private supplies including household wells should be tested annually and treatment provided if contamination found. EPA considers that there is considerable merit in formulating plans to address this issue via the implementation structures being put in place for the WFD that could be tracked alongside other actions being taken under the Plan.

Other Drinking Water Issues

Pesticides

Certain issues relating to drinking water effect both public and private water provision. Pesticide exceedances in the context of the drinking water directive were primarily due to MCPA a herbicide used to control the growth of rushes which is in turn linked to land eligibility for farm payments. Since the publication of the draft RBMP, the Department of Agriculture Food and Marine (DAFM) has taken over the leadership of the National Pesticides in Drinking Water Action Group. This group contains representatives of the DAFM, Irish Water, LAWCO, EPA, National Federation of Group Water Schemes, City and County Management Association, Health Service Executive, Teagasc, Irish Creamery Milk Suppliers Association, Irish Farmers' Association, Federation of Agrochemical Retail Merchants and Animal & Plant Health Association. The purpose of this group is to support the achievement of compliance with the Drinking Water Directive pesticide limit at the point of abstraction. The National Pesticides Strategy being prepared by Irish Water which is due in later in 2017 may inform plans to address this issue but the EPA suggests that specific action should be formulated within the programme of measures relating to agriculture to specifically address MCPA.

Lead

The issues with lead in drinking water are well known. The National Lead Strategy has been in place for more than a year and further action to assess public buildings for action and encourage increased replacement of private side lead could be referenced in the Plan to address exposure and improve lead

compliance. The Irish Water Lead in Drinking Water Mitigation Plan[10] has now been finalised. A key component of this Plan is the proposal to introduce ortho-phosphate dosing into supplies following site specific environmental assessments. As part of this process, Irish Water will identify water supplies where ortho-phosphate dosing will have minimal environmental impact. In the case of some supplies, the environmental assessment will identify where under current conditions there is likely to be an impact and that prior to dosing some mitigation measures may be necessary (e.g. introduction of Phosphorus removal at related wastewater plants). In some cases the risk assessment is likely to identify that even with mitigation measures there will be an environmental impact and this is likely to inform the Minister's decision on the environmental objective for these water bodies. The environmental assessments are being carried out at present so it is not possible at this time to determine how many will fall into the latter category. The EPA suggests that the Department's Lead Mitigation Advisory Group should make full consideration of the supply specific risk assessments and the proposed actions arising from them. It would be important to continue to promote the removal of private side lead and the EPA recommends that the decisions in relation to each Public supply would be made publicly available by Irish Water to ensure transparency for all stakeholders as to the decisions being made.

The Drinking Water Report for Public Supplies 2015 reported that quality of monitoring Public Water Supplies was good however it did identify that Trihalomethanes as another issue to address.

Urban Waste Water

Urban waste water is still one of the principal pressures on water quality in Ireland. Substantial and sustained investment is needed to provide, upgrade and manage the sewer networks and treatment facilities necessary to treat sewage and industrial water to the standard needed to protect human health, and water quality in our rivers, lakes and coastal areas.

Waste water discharge licences include a requirement to carry out infrastructural improvements within certain timeframes where they are needed to improve discharges and reduce environmental risks. Such improvements typically include upgrades to the waste water treatment plant and collection system and the cessation of certain discharges. Over 90 discharges have ceased since 2009 as a result of these requirements and some notable works were completed in 2015. Notwithstanding these achievements there has been considerable slippage in the planned dates for provision of treatment at many areas. Approximately 720 individual improvement works were due to be completed at 216 different urban areas by the end of 2015 with just 39% of these being reported as complete. The EPA's Urban Waste Water Treatment in 2015[11] highlighted significant delays in the elimination of many discharges of untreated waste water e.g. dates for 22 areas that were previously expected to receive treatment by 2017 have slipped by an average of 1¾ years. Since the publication of that report works to provide treatment at more than half of all areas discharging untreated waste water have been delayed on average by a further 1 year. It is important that there are no further delays in addressing key priorities and clearly enhanced levels of investment in infrastructure is needed to reverse this slippage.

The EPA is requiring those overdue works which will yield the greatest environmental benefit to be prioritised. These priorities include ensuring that waste water from our urban areas is collected and treated to a satisfactory standard (as set out in the Urban Waste Water Treatment Directive), eliminating discharges of untreated waste water to our rivers, estuaries and coastal waters, preventing

[10] https://www.water.ie/projects-plans/lead-mitigation-plan/Lead-in-Drinking-Water-Mitigation-Plan.pdf
[11] https://www.epa.ie/pubs/reports/water/wastewater/2015%20urban%20waste%20water%20report_Web%20Version.pdf

pollution of rivers and bathing waters by inadequately treated waste water and restore affected waters to good quality and protect freshwater pearl mussels and shellfish at risk from urban waste water. In summary, the key priorities from an EPA perspective are:

- 45 areas discharging untreated waste water;
- 41 areas linked, with a high degree of probability, to river pollution;
- 29 areas where waste water was not treated to the required standards;
- 16 areas where improvements are needed to protect freshwater pearl mussels;
- 4 areas where discharges contributed to poor quality bathing waters;
- 3 areas where improvements are required to protect shellfish waters;
- 13 areas where collection systems do not meet the mandatory requirements; and
- 6 areas with other significant environmental risks.

Efficiencies in delivering infrastructural projects should also be targeted so that where investment is available it is directed at resolving environmental priorities in as timely a manner as possible. Moreover, consistency and better practice in the operation and management of waste water assets are needed to optimise performance and drive improvements in effluent quality. It must be stressed that while those above should be prioritised all infrastructure improvements specified in EPA licences or required under other EPA authorisations must be completed.

In advising the Minister on the draft Plan, the EPA has undertaken a substantial assessment of the impact of pressures on the water environment at waterbody, sub catchment and catchment scales in conjunction with other stakeholders. This assessment is identifying additional priority agglomerations, some of which are smaller plants, that are causing significant pressure on the water environment. While it is recognised the cycles of capital investment will take time to incorporate this new information, EPA recommends that future investment programmes and amendments to the current one should take account of this information and address these newly identified priority agglomerations.

Domestic Waste Water

The assessment of the impact of human activities on the water environment being undertaken by the EPA as part of its responsibilities under the WFD has highlighted specific water bodies where domestic wastewater treatment is a significant pressure. The National Inspection Plan is currently being revised and will cover the period 2018-2020. An Engagement Strategy has been prepared and is being implemented to raise awareness of the key issues with the aim of improving the management and operation of domestic wastewater treatment systems. National Inspection Plan for Domestic Waste Water Treatment Systems, 4th Implementation Report recommended that additional inspections may be carried out where local water quality issues indicate that these systems are causing a problem. Consequently, it is expected that the revised inspection plan will take significant account of the newly developed WFD risk assessment outcomes. This will impact on the focus of inspections between now and 2020 and supplementary inspections may be required in certain water bodies.

EEA Report No. 32/2016 covering 'EU water related legislation to protect public health' considered the aims of the Bathing Water Directive, the Drinking Water Directive and the Urban Waste Water Treatment Directive in the context of the Water Framework Directive. It concluded that rather than aiming to meet a particular objective in isolation, consideration of the synergies between each of the

water directives and the WFD can lead to benefits. The WFD in combination with river basin management plans provides a powerful framework for achieving integrated water management and stakeholder dialogue across all relevant sectors.

Recommendation 17: Complete all Drinking Water Safety Plans currently in progress.
Recommendation 18: Address as a priority supplies on the Remedial Action List.
Recommendation 19: Share Irish Water Source Protection Risk Assessments publicly.
Recommendation 20: Formulate actions to address poor quality Private Water Supplies via WFD implementation structures.
Recommendation 21: Formulate specific actions to specifically address MCPA within the Programme of Measures relating to agriculture.
Recommendation 22: Continue to promote the removal of lead from the drinking water infrastructure and make supply specific risk assessments publicly available to ensure transparency for all stakeholders.
Recommendation 23: Provide increased financial resources to upgrade sewer networks and treatment facilities to treat wastewater to the standard needed to protect human health and water quality.
Recommendation 24: Take account of newly identified agglomerations that are significant pressures to waters in the development of future waste water investment programmes and amendments to the current one.

Other Threats

The spread of aquatic invasive species and of terrestrial ones with an impact on the water environment was identified in the Significant Water Management Issues (SWMI) Report and actions to address it are contained within the draft Plan. The recent outbreak of freshwater crayfish plague highlights the importance of good biosecurity. The EPA suggests that an additional action within the programme of measures would be to develop training and protocols to address acute issues like the freshwater crayfish plague and to promote better control of other invasive alien species nationally.

While the draft Plan addresses the issues raised in the SWMI Report, it will be important that the Plan provides for flexibility to address other challenges that are emerging for the water and wider environment. EEA Report No 32/2016: "European water policies and human health, Combining reported environmental information" concluded that emerging issues for water quality, which represent potential but as yet poorly understood risks, include newly identified micropollutants, microplastics and antimicrobial resistance (AMR). The emergence of antimicrobial resistant pathogens is an issue where water is a key vector for the spread of these organisms. EPA has included within its Research Call for 2017 projects to assess the relative contribution of various sectors to the impact and persistence of AMR in the environment and development of sector-specific solutions and is also looking

for projects to address the detection, monitoring and risk assessment for contaminants of emerging concern in Irish receiving waters. The EPA notes that the development of Ireland's AMR national action plan is ongoing and recommends that the RBMP should be a conduit for supporting relevant actions in that plan. Clearly more complex waste water treatment or source based measures are likely to be needed to minimise the discharge of antimicrobial resistant bacteria to the environment via waste water outfalls. Improving the understanding of these topics, particularly the risk they might present to public health and water quality, presents new challenges. The recently published Commission Roadmap for a Strategic Approach to pharmaceuticals in the environment suggests further EU action on this topic. While these risks remain unclear the Plan should provide for a watching brief on these issues so that should action become necessary, there are mechanisms within the Plan to support such action.

The EPA sees that progressing sustainable landscape management practices in line with the National Landscape Strategy should be helpful and that designing future urban environments to reduce impacts with green areas and wild spaces for wildlife and people, while also meeting the needs of society can have a positive impact on water quality.

The EPA looks forward to working with Departmental and other stakeholders to enhance the quality of our water environment for all, as an asset for the people of Ireland.

Recommendation 25: Develop and roll out nationally training and protocols to address acute Invasive Species issues like the recent freshwater crayfish plague.

Recommendation 26: Include a mechanism to monitor other threats including newly identified micropollutants, microplastics and antimicrobial resistance.

END

Appendix 1: Comments on the SEA Environmental Report

General comments on the SEA Environmental Report

- All recommendations from the SEA and AA, including mitigation and monitoring measures, should be included in the Plan. *Section 8.1.1 Integration of SEA and AA with the Plan* of the SEA ER should be expanded to include a summary of the key findings and recommendations of the SEA and AA and highlighting where these have been integrated into the Plan.
- A section on '*Integration of the SEA and AA findings into the RBMP'* should also be included in the final Plan. This could also include a description of the links between the SEA/AA and the RBMP, and a summary of how the SEA and AA have influenced the preparation of the Plan.
- Both the Plan and SEA Environmental Report should clearly set out the relationship and links between the RBMP and the proposed Regional Integrated Catchment Management Programmes and associated assessment, implementation and monitoring. The linkages between the SEA and AA processes at the national and regional levels, and compliance with environmental obligations, should be described in the Plan and SEA Environmental Report.
- The Regional Integrated Catchment Management Programmes should be considered against the requirements of the SEA and Habitats Directives to determine applicability. Regional level assessments should follow the same assessment methodology as the RBMP.
- The Plan's international / transboundary components should to be clarified in the final Plan and associated environmental assessments.
- The final Plan should clarify whether, once adopted, it will automatically replace the existing seven RBMPs.
- Information should be provided on the prioritisation process and the selection criteria being used to decide what measures will be applied and where at the regional and local level. Documenting the prioritisation approach will be important to ensure consistency of approach across the regions.
- While putting in place the appropriate structures to implement the RBMP/ Regional Integrated Catchment Management Programmes at a regional level, provisions also need to be included for consultation with the relevant stakeholders. These regional fora should consider and address more sectoral and spatially specific issues and challenges encountered during the implementation phase.
- The sections of the SEA Environmental Report describing the environmental baseline, key pressures and threats and objectives/targets/indicators could be strengthened by focusing more on RBMP relevant aspects and strengthening the link to the RBMP.
- Some of the proposed mitigation measures appear to be more recommendations in terms of governance, knowledge transfer, resources and procedures/assessments.
- Greater detail and stronger commitments should be included in relation to environmental monitoring and associated reporting. This should be informed by the monitoring proposals in the SEA Environmental Report and NIS.

- There should be consistency in the terminology used and the terms used should reflect those in the Directive and transposing legislation. For example, the term '*supplementary measures*' should be used instead of *'supporting measures'* or *'supporting actions'*.

Modifications to the Plan

Where changes to the Draft Plan are made prior to finalisation, or where modifications to the Plan are proposed following its adoption, these should be screened for likely significant effects in accordance with the criteria as set out in Schedule 1 of the SEA Regulations (SI 435 of 2004) and should be subject to the same method of assessment applied in the environmental assessment of the Draft Plan.

SEA Statement – "Information on the Decision"

Following adoption of the Plan, an SEA Statement should be prepared summarising:

- How environmental considerations have been integrated into the Plan;
- How the Environmental Report, submissions, observations and consultations have been taken into account during the preparation of the Plan;
- The reasons for choosing the Plan adopted in the light of other reasonable alternatives dealt with; and,
- The measures decided upon to monitor the significant environmental effects of implementation of the Plan.

A copy of the SEA Statement with the above information should be sent to any environmental authority consulted during the SEA process.

EPA's SEA Scoping Submission Statement

The EPA's made a submission (dated 10th October 2016) at SEA Scoping stage. Relevant aspects of this submission should be taken into account in finalising the Plan.

Specific Comments on the SEA Environmental Report

Non-Technical Summary (NTS)

- The outline of the Plan provided on pg. 1 should be updated to reflect the section headings used in the draft RBMP.
- *Table 8: Summary of Assessment* (rural diffuse and point source pollution) should align with the most recently available information on Water Quality and the State of Environment Report (SOER) *Ireland's Environment – An Assessment 2016*. This should capture the decline in the number of high status sites.

- *Harvesting of peatlands* – Further detail should be included in relation to the oversight of peat harvesting at larger and smaller scales.

Section 3 SEA Methodology

- Section *3.3.5 Difficulties encountered* includes a short summary of the difficulties and data gaps encountered. Where existing baseline data is unavailable, the Strategic Environmental Assessment Environmental Report should clarify what alternative/proxy data sources have been used.

Relationship with other plans/programmes

- In section *4.3.5 Forestry* of the Strategic Environmental Assessment Environmental Report and in section *7.2.1 Supporting Measures for Rural Diffuse and Point Source Pollution* of the RBMP, there is merit in referring to the commitments in the Plan for Forestry and Freshwater Pearl Mussel in Ireland (DAFM) for protecting freshwater pearl mussels occurring outside (as well as inside) the priority catchment areas.

Section 5 Relevant Aspects of the Current State of the Environment (Baseline)

- The Strategic Environmental Assessment Environmental Report provides a high level summary of the baseline environment at a national level. The baseline data in the Strategic Environmental Assessment Environmental Report could be presented in a way that would better inform or influence the RBMP. While recognising the national nature of the RBMP, the baseline information could include a summary of relevant significant regional variations, where appropriate.
- Section *5.2 Summary of Key Trends in Water Quality in Ireland* relies on 2010-2012 water quality data. EPA envisages that this will be updated in the final Plan to reflect the most recent monitoring data (for 2013-2015). (Note also the recent Bathing Water Report for 2016 (EPA, 2017) was published in April 2017.)
- The information in *section 5.3 Summary of Key Pressures on Water in Ireland* could be enhanced by including a graphic that highlights the relative magnitude of the various pressures in different water bodies (lakes, rivers, groundwater etc.). EPA expects to be able to provide information to inform this graphic based on the work undertaken on characterisation.
- Sections *5.6 Evolution of the Baseline in the Absence of the RBMP* and *7.3.1 Scenario_1 Business As Usual* both state that, independently of the RBMP, the implementation of the 11 existing directives outlined under Article 11 of the WFD and the planned Irish Water Investment Programme (upgrades to 105 waste water treatment plants up to 2021), are predicted to have negligible improvements to lake water quality and a significant deterioration in river water quality and little change in transitional and coastal waters or groundwater. This would result in a further net decline in water quality across all water bodies, and a failure to meet the objectives of the WFD.

The Strategic Environmental Assessment Environmental Report states that the preferred scenario, *Scenario_2 Prioritised and strategically targeted approach involving additional resourcing within budgetary constraints*, is likely to result in "*a net improvement across all water bodies nationally by 2021 and steady progress toward meeting the objectives of the WFD in the medium to long-term*". Evidence to support the predicted outcomes of the preferred scenario should be provided in the final Plan based on the work currently being undertaken by the EPA Catchments Science and Management Unit.

- Sections *5.6 Evolution of the Baseline in the Absence of the RBMP* could include more information relating to water abstraction pressures and pressure on existing infrastructure (linked to future population trends) in the absence of the Plan. The proposed register of abstractions has the potential to provide this information.
- *5.4.5 Air Quality and Climatic Factors*: this section should focus on aspects relevant to water management activities / the RBMP process. Aspects relating to climate change such as flooding, drought, erosion etc. which have potentially significant implications for water management activities should be considered.
- *5.4.6 Material Assets*: the relevance to the RBMP process of the non-water related material assets included in this section (road and rail infrastructure; landfills, mines and quarries) should be clarified.

Section 6 Environmental Protection Objectives and SEA Framework

Table 6.1 SEA Objectives, Targets and Indicators

- The objectives, targets and indicators selected, should reflect and be representative of the key aspects of the environmental baseline as described in Section 5. The targets and indicators proposed should be measurable in order that trends in the environmental baseline can be identified.
- It would be useful to include an additional column showing the key linkages between the SEA Objectives, Targets and Indicators and the RBMP measures.
- Objective 1 (Biodiversity, Flora and Fauna) includes the target "*To achieve at least good status for all surface and groundwater bodies which support water dependent ecosystems*". It should be clarified whether this target is intended to refer to all surface water bodies or to only designated water dependent sites / species. If the former, the implications of derogations, deferred objectives etc. will need to be taken into account.

  The Indicator is listed as the NPWS Article 17 report, which is more accurately the data source. The indicator could focus on "*The proportion of protected areas achieving compliance with the water related elements of objectives and standards under which they have been established*".

  The water quality status indicator could reflect "*The proportion of surface and groundwater bodies supporting water dependent ecosystems to achieve at least good status*".
- Objective 2 Population and Human Health and/or Objective 4 Water – consider including as a target '*to achieve compliance with the requirements of the* UWWTD'. Possible indicators could be taken from EPA UWW report: number of large urban areas complying with applicable

effluent quality standards in the UWWTD; percentage of the national waste water load (by population equivalent) complying with the basic quality standards and percentage of the national waste water load discharging into nutrient sensitive areas complying with the additional nutrient quality standards. In relation to data sources, the annual EPA Drinking Water and Urban Waste Water Treatment reports could be included.

- Objective 2 Population and Human Health – Consider including 'water quality status' indicators for each of the targets identified: proportion of bathing waters achieving the bathing water quality standards; proportion of shellfish waters achieving the required water quality standards; number of drinking water restriction notices; number of drinking water supplies on the Remedial Action List, Urban Waste Water Treatment report etc.
- Objective 3 Soils – The targets proposed are focused on achieving reductions in nutrient losses associated with agriculture. In relation to the indicator proposed, consider amending 'number of farmers utilising the Teagasc on-line nutrient management planning (NMP) system' to 'proportion of farmers…'. 'Proportion of farmers partaking in agri-environmental schemes', and 'The status of implementation of mitigations measures included under FoodWise 2025 and the Rural Development Programme'. (Note: The CSO may have useful information that can be used for this purpose).

  As well as agriculture, other land use activities such as forestry and peat harvesting are also relevant to Soils, as highlighted in the baseline section 5.4.3, due to their potential to impact on water quality through inputs of particulate matter, nutrients, pesticides etc.

  The targets and indicators proposed could be amended to better reflect the environmental baseline relating to forestry, peat harvesting and other relevant land use activities. For example, the status of implementation of mitigating measures included in the relevant sectoral plans/programmes such as the Forestry Programme, National Peatlands Strategy etc.
- Objective 4 Water – in addition to the proposed target "*to prevent any deterioration in status of surface water and groundwater*", a target should be included "*to achieve measurable improvements for all water bodies targeted in the current RBMP cycle*". This is in order to align with the stated objective "*Ensure that the status of water bodies is protected, maintained and improved in line with the requirements of the WFD and MSFD*". The reference in the target to EPA 2007-2009 water quality baseline should be updated to 2013-2015 baseline, i.e. the most recent data used in the current characterisation process.
- Objective 7 Material Assets – the targets and indicators in Table 9.1 should be aligned with the baseline description categories in section 5.4.6.

Section 7 Alternatives

- Section *7. Alternatives* of the Strategic Environmental Assessment Environmental Report merits further consideration. The relevant aspects of the EPA Guidance document 'D*eveloping and Assessing Alternatives in SEA' (EPA, 2016)* should be taken into account.
- The inclusion of the 'Business at Usual' scenario as a reasonable alternative should be reconsidered in light of the cyclical nature of the river basin management planning process and the related obligations as set out in the WFD

- The 'Business at Usual' scenario should take account of the most recent status of water bodies, the outputs of the risk characterisation process and the lessons learned from the implementation of the first RBMP cycle.
- The extent to which Scenario 3, which ignores budgetary constraints or capacity of public authorities to deliver, reflects a reasonable alternative should be further examined.
- Alternatives relating to the prioritisation and phasing of delivery of the measures, might present more reasonable alternative approaches to be considered, for example.
- Additional information should be provided to support the predictions made in relation to improvements in water quality under Scenario_2: "*in the event of the maximum achievable targets being reached in all cases, there would be a steady net improvement in the overall status of waterbodies in Ireland*".
- In addition, to deliver on "*The approach proposed is focussed on achieving the environmental objectives as required under the WFD*", prioritisation will be needed. This would be informed by a combination of scientific characterisation, public consultation processes and a broad consideration of resources and resource constraints.
- The development of the Regional Integrated Catchment Management Programmes will provide an opportunity for development and assessment of alternatives at a catchment and sub-catchment level and potentially at a sub water body level. The prioritisation process and selection criteria used should be standardised and documented to ensure a consistent and transparent approach is adopted.

Section 8 Assessment of Preferred Scenario

- The coding of measures (R1, R2, UWW1 etc.,) used in the SEA Environmental Report is useful and this approach could also be reflected in the RBMP, for ease of cross-referencing and future tracking/reporting.
- The inclusion of R8 '*Monitoring sectoral changes and modelling water quality impacts*' as a measure is noted. The extent to which Monitoring is considered to be a measure should be further clarified.
- "*Rural Diffuse and Point Source Pollution Measures*" – given the significance of Agriculture as a pressure (affecting 64% of rivers and lakes), it may merit having a separate heading.

Section 9 Mitigation and Monitoring

Mitigation

- Some of the proposed mitigation measures appear to be more recommendations in terms of governance, knowledge transfer, resources and procedures/assessments. The merits of including these as mitigation measures should be clarified.
- Each of the mitigation measures proposed in Table 9.2 of the SEA Environmental Report should be assigned an individual code, for ease of reference and for tracking and reporting purposes.

- Information on the likely post-mitigation residual impacts should also be provided.
- Clarity is needed in Table 9.2 as to which of the mitigation measures proposed have been incorporated into the draft RBMP. An additional column in Table 9.2 indicating this would be helpful.
- The wording of many of the proposed mitigation measures should be strengthened for the sake of clarity and in the context of providing stronger commitments. For example, for R1-R3 could be amended as follows: "***Provide (or support the provision of)*** *additional manpower and personnel to implement the requirements of the Nitrates Regulations,* ***and drive improved compliance***". The EPA would welcome the provision of enhanced farm advisory services as a key action to address agricultural pressures and we recommend that this be included in the RBMP.
- For R1-R3 (second mitigation measure): "*The implementation of the draft RBMP should investigate ways to maximise resources by utilising the characterisation process outcomes, or the prioritisation of inspections at a national level using both DAFM and Local Authority resources*" could be strengthened to read "***Utilise the outcomes of the characterisation process to prioritise inspections at a national level using both DAFM and Local Authority resources***".
- R1-R3 (third mitigation measure): this could be strengthened by re-wording "*Improve education/knowledge transfer in relation to the requirements of the Nitrate Regulations*".
- UWW2-UWW6 – the mitigation measures listed include assessing the assimilative capacity and sensitivities of the receiving environment when siting discharge points, which are already done as part of the EPA licensing process. The merits of including assessment processes already in place as mitigation measures should be clarified.
- UWW2-UWW6: EPA would welcome the development of siting criteria for new infrastructure development or the upgrade of existing infrastructure by Irish Water.
- It would be useful to describe the enforcement measures already in place and being implemented, where agriculture activities are impacting on water quality.
- Adequate support/training should be provided to Farm Advisors in relation to how to implement the relevant RBMP measures. Annual/certified DAFM training to farm advisors could provide a valuable mechanism to deliver on this.
- Clear commitments by relevant stakeholders (including enforcement actions/sanctions where necessary) to advance water quality protection and further promote responsible land management should be made.

Monitoring

- In relation to data sources listed in Table 9.2, the annual EPA Drinking Water and Waste Water reports and Remedial Action Lists may be additional useful resources. In relation to shellfish waters, the Sea Fisheries Protection Authority is the responsible authority for the monitoring of these waters.

Appendix 2: Sample List of Water Related Research Projects relevant to the Plan

University College Dublin, Florence Renou-Wilson: BOGLAND: Sustainable Management of Peatlands in Ireland-Final Report

University College Dublin, Eva Mockler: An integrated national pollution model for catchment characterisation and evaluation of programme of measures

University College Dublin, Mary Kelly-Quinn: Assessment of the impacts of forest operations on the ecological quality of water (HYDROFOR)

Teagasc, Daire Ó hUallacháin: Cattle Exclusion from Watercourses: Environmental and socioeconomic implications (Acroynm CONTROL)

IRD Duhallow, Fran Igoe: Delivering Integrated Water Management through the bottom-up approach: A critical analysis

Dundalk Institute of Technology, Alec Rolston: Towards Integrated Water Management (TIMe)

University of Dublin, Trinity College: Ian Donohue Development of an ecohydrology framework for setting environmental flow standards for Irish rivers

University of Dublin, Trinity College, James Wilson: Biological Quality Element validation for Tidal Freshwater Transitional Waters in Ireland

Dublin Institute of Technology, Ahmed Nasr: Analysis and Modelling of the Hydrological Behaviour of Small Irish Catchments

University College Dublin, Michael Bruen: Measurement of sediment and silt flux in rivers, benefits of enhancement measures and policy implications (SILTFLUX)

Queen's University Belfast, Raymond Flynn: Assessing, modelling and managing water and contaminant movement along pathways (underground and over-ground) from the land surface to aquatic receptors, including the roles of contaminant transport and attenuation. (PATHWAYS)

Appendix 3: Specific Comments on the RBMP text

Page	Comment
12	Please note that there are now 142 identified bathing waters (as of 2017)
17	Please note that the situation in relation to bathing water failures changes from year to year and it would be necessary to be specific in relation to the bathing waters expected to achieve compliance during the implementation phase as some are related not only to urban waste water pressures. EPA would be happy to provide advice on same.
21	Further coverage on the liaison with WFD authorities in Northern Ireland is needed as the new national River Basin District will intersect with the River Basin Districts in Northern Ireland.
32	Reference should be to the National Inspection Plan 2015-2017 as that replaced the 2013 one.
34	Please note that the original WFD monitoring program has undergone review in the intervening years for a variety of reasons including H&S considerations. It would be appropriate to refer to these amendments.
35	The text states that "*In the case of rivers that have improved, lower phosphorus concentration appears to be a factor. However, as these results have only recently become available further in-depth assessment is needed to understand the changes in status more fully.*" Trend analysis undertaken by EPA based on 2006 -2016 data suggest that very little improvement in Phosphorus concentrations has taken place with 75% of all monitored river stations showing no obvious trend.
36	The text states that "*As expected, polyaromatic hydrocarbons (PAHs) and mercury did show widespread exceedances of the EQS at monitoring sites …… Therefore, non-compliant results do not infer specific issues local to a water body or indeed river basin district.*" While this is certainly true the principal reason for this is that the EQS for some PAHs is so low that compliance cannot be demonstrated with confidence. A more robust assessment of chemical status undertaken in 2017 using a Risk based approach clearly showed that the extent of any PAH failures is not as wide as originally reported.
36	The text states that … "*Substances that have exceeded standards include naturally occurring metals (cadmium, lead and nickel), two pesticides (atrazine and simazine) and the plasticiser Di(2ethylhexyl)-phthalate (DEHP).*" The EPA wishes to confirm while detected that none of the pesticides monitored exceeded EQS criteria including atrazine and simazine and that the final plan should confirm same. It should be noted that herbicides for which no current EQS exists such as MCPA are far more abundant. The text also refers to Di(2ethylhexyl)-phthalate – a plasticizer that is very difficult to monitor for with accuracy. EPA data consists largely of analysis undertaken in 2010 /2011 in the former EPA Cork lab. The best this test method could achieve is to indicate the likelihood of DEHP being detectable at concentrations above the EQS. In all cases no detected values were reported. Data in 2013 -2015 period came from a very limited number of WWTP discharge analyses where the Limit of Quantification was insufficient to demonstrate compliance. It is recommended that reference to possible exceedences of DEHP be removed.
36	This data refers to bathing water quality for the period 2010-2015 and should be updated to included 2016 data (available from EPA 2016 Bathing Water Report) http://www.epa.ie/pubs/reports/water/bathing/bathingwaterqualityinireland2016.html

	The footnote (8) refers to changes in the way in which bathing water assessments were carried out by reference to SI 351 of 2011 however this legislation only provides for assessment using 16 samples. To imply this changed the manner of assessment is technically incorrect. It is suggested that this footnote be reviewed to refer to full implementation of SI 79 of 2008 rather than SI 351 of 2011.
51	It would be appropriate to include reference to actions taken to address Domestic Waste Water Treatment Plants including the engagement strategy that incorporates awareness and therefore may influence compliance. By the end of 2015, a total of 2656 inspections were carried out. Reference to possible supporting measures for homeowners to comply with regulations or incentives (e.g. home renovations scheme) to assist in proper operation and management of DWWTS should be considered.
52 &53	Research should be added as supporting measure as in bullet points in section 7.2.2. An additional section indicating the role of research in supporting measures is also desirable.
54 & 56	In 'Addressing pressures from urban waste water and urban run off' references to "EPA discharge licence Emission Limit Values" should more correctly be to "EPA Discharge Authorisations" as there are conditions attached to the licences which require various measures to be carried out to ensure compliance with the relevant legislation.
56	In clarification references to research should be re-worded to include EPA research. The EPA is the lead funder on the STRIVE and Water JPI research projects with Irish Water supporting the projects and participating on Steering Committees.
57 & 60	Include reference to EPA research – projects such SILTFLUX, HYDROFOR both part of EPA Call Reference Research to be carried out and existing research such as UCD, BOGLAND-Sustainable Management of Peatlands in Ireland
82	Further details on the assessment of the cost effectiveness of measures is desirable.
98 & 100	Reference to improving bathing water performance needs to adequately take account of the changeability of the Bathing Water assessment process. Focus also need to be given to improving those at-risk waters that are currently at Sufficient quality which are impacted by wastewater discharges and other pressures.