

**Consultation Submission**

**to**

**Department of Housing, Planning, Community  
& Local Government**

**on the**

**Draft River Basin Management Plan 2018-2021**

**August 2017**

## **THE CHALLENGES FOR IRELAND**

Ireland needs to achieve the most progressive implementation of the UN Sustainable Development Goals in relation land use and river basin management, as well as meeting the legal obligations of the EU Water Framework Directive (WFD).

Aquatic degradation in Ireland has not been addressed in policy and investment over recent decades, with continued decline of percentage of high ecological status river sites, new impacts and threats from agricultural and aquaculture intensification, under investment in urban water treatment, and poor management of forestry, peatlands and drainage.

### **Embracing UN Sustainable Development Goals (SDG's)**

River Basin management is relevant to a number the UN SDG's and in particular 6.6 which states as an objective: "By 2020 to protect and restore water related eco systems, including mountains, forests, wetlands, rivers, aquifers and lakes"

The concept of "*eco system services*" which is specifically recognised by the SDG's provides an effective focus for public engagement on river basis management, communicating the multiple functions of river basins in land drainage , as ecological corridors, in flood curtailment, water supply, maintaining fish stocks, and providing recreation.

### **Legal Obligations under the Water Framework Directive**

Article 4 of the Water Framework Directive sets out timetables and targets to achieve Good Environmental Status (GES) by 2021. There is provision for exemptions to 2027, but these have to be justified under strict criteria in each River Basin Management Plan, on the basis of lack of technical feasibility or disproportionate cost.

### **The Current Data**

A day in advance of the August 31 consultation deadline, the EPA released an updated national assessment of water quality in Ireland covering the six-year period between 2010 and 2015. This is the first full six-year assessment and formal reporting of water status required under the provisions Water Framework Directive. It concludes that there has been little overall change in water quality in the six years up to the end of 2015.

This represents a massive policy failure to meet the planned national target of 13 per cent improvement in water status for the six-year period 2010 to 2105, and means that the WFD targets for 2021 is now more challenging.

The updated data has shown little change in water bodies in an unhealthy state, with a small improvement of 43% from 45% for Irish rivers, the 54% figure for lakes unchanged, and estuaries relatively falling marginally from 70% to 69%.

The EPA report shows that failure to prevent deterioration of water status at hundreds of water bodies around the country, cancels out the improvements in water status at a similar number of water bodies in other parts of the country.

While there has been progress relating to a continued reduction in the level of seriously polluted waters - only six river water bodies were categorised as “Bad” in 2010–2015 compared to 19 in 2007–2009; at the same time there has been a continued decline in the number of pristine rivers – “ *only 21 sites achieved the highest quality rating from 2013-2015 compared to over 500 sites in the late 1980s.*”

The report cited that “*There has been an increase in the number of reported fish kills, with 97 reported between 2013 and 2015, an increase of 27 on the number reported between 2007 and 2009*” and that “. *The reason for this increase is unclear, but it may be a result of extended dry spells and/or flooding events, rather than a return to an increase in the number of serious pollution spills that would have been the main cause of fish kills in the past.*”

It should be noted that the EPA report relates only to the period running to the end of 2015. Since then milk quotas have been dropped and there has been a significant increase in the dairy herd. The most recent data presented at the EPA National Water Forum in Galway in June 2017 revealed that thousands of farms are failing to comply with the Nitrates Directive, which limits the pollution impact on surface and ground water.

### **Addressing Climate Change impact**

There are mounting new impacts to be faced with Climate Change, potentially affecting seasonal river flows with lower water levels, as well as flood risk. While overall annual rainfall levels may not change significantly, more variable rainfall patterns could lead to prolonged drier period affecting river flows, and exposing greater risk of fire impact to forestry and peatlands. At other periods, higher concentrated rainfall is projected to increase flood risk and peat displacement such as occurred on the Inishowen peninsula in Co Donegal in August 2017.

### **Brexit**

The effect of Brexit on transboundary implementation of the WFD relating to rivers catchments and habitats needs to be addressed, and an appropriate agreement put in place to ensure that EU Directive obligations are not compromised by lack of effective cooperative transboundary action.

## **CRITIQUE OF THE DRAFT RIVER BASIN MANAGEMENT PLAN 2018-2021**

**We set out a critique under the main considerations and sectors, with recommendations for enhanced action where required to meet Water Framework Directive targets. These issues are covered in particular detail in the Sustainable Water Network (SWAN) submission made on the consultation. An Taisce is one of the 27 environmental NGOs forming the SWAN umbrella network.**

**The particular focus of this submission by An Taisce is the adoption of effective governance to achieving WFD targets, and integration with climate mitigation and adaptation, biodiversity enhancement and land and water body use management.**

### **LACK OF AMBITION**

The Draft RBMP plan does not meet the requirements of the Water Framework Directive for 2021.

The Draft RBMP proposes that only 12% of currently unhealthy waterbodies will be restored under the lifetime of the plan, when current updated data establishes that 43% of Irish rivers, 54% of lakes and 69% of estuaries are in an unhealthy state. This means that the WFD targets and deadlines will not be met. Furthermore no justification is set out for the low target proposed and the level of deviation resulting.

The Draft is seriously deficient in that it does not make provision for the “*supplementary measures*” provided for in the Directive, or address the failure to provide such measures.

### **RECOMMENDATIONS**

**Make a clear commitment to meet the WMF target to achieve good status for all water bodies by 2021 seeking exemptions only in limited cases and on the basis of adequate justification.**

**Provision and resourcing of the “supplementary measures” provided in the schedule of what RBMPs are to include, as provided in Article V11 of the WFD Directive**

### **EFFECTIVENESS OF IMPLEMENTATION STRUCTURES**

Current implementation standards are not achieving the progress and action required in catchment management and achieving Good Environmental Status.

The Draft plan refers to what has been a welcome progress on the establishment of the EPA Catchment Science and Management Unit, the Local Authority Community and Waters Office (LAWCO), governance measures including regional committees and the establishment of the National Coordination and Management Committee. However these structures are inadequate if lacking in the overarching leadership needed at State level, pressure identification and action measures based on progressive Integrated Catchment Management (ICM) principles, back up investment and implementation.

The Draft RBMP does not demonstrate the level of action required as it is:

\*Working on the basis of inadequate improvement targets

\*Lacking in the legal, institutional and other support needed.

\*Undermined by conflicting policies for intensification of agriculture and aquaculture.

The Draft is vague and aspirational in achieving its stated objective “*that all stakeholders are working together with a clear focus on positive outcomes*”. This has no effect without adequate legal and implementation measures for delivery and compliance. It is also futile to claim stakeholder engagement when inadequate targets are being applied in the first instance, or where other Government policy supported objectives including agricultural intensification are in conflict.

The Draft fails to provide the necessary reform in current legal and institutional structures at Government agency level, both to give priority to, and resourcing of implementation of WFD river basin targets.

The provisions of the Arterial Drainage Acts are no longer fit for purpose, being based on the objectives in the mid-20<sup>th</sup>. Century to increase stocking capacity and crop yields in riverine areas, by dredging and lowering river beds to increase river flows. The most recent impact of arterial drainage has been seen to damaging ecological effect in the dredging and reconfiguration of the Bandon River during the summer of 2017, with at the same time no action takes on slowing the up river flow from the wider catchment.

The Office of Public Works is operating to what amounts to an independent legal jurisdiction for flood evaluation and response measures, lacking in integrated management of river basin catchments and favouring heavy engineering interventions in urban areas. This has been shown by the controversial proposal for the historic quay walls in Cork city centre, while at the same time no measures are proposed to slow down the up river flow from the Lee catchment.

## ***RECOMMENDATIONS***

**Adopt international best practice based on the principles of Integrated Catchment Management (ICM), with a two stage process of:**

**1. Evidence based strategic overview of all of the waterbodies in the State, identification of the pressures, and the best actions and measure needed to address the pressures. This should not be constrained by policy and resource reconsiderations, or deference to sectoral interests.**

**2. The resourcing and implementation of timetabled and target based implementation measures to meet WFD requirements.**

**Reconstitution of the legal remit of the Department of Agriculture, Food and the Marine and all agencies under its control, the Office of Public Works as well as other relevant Government Departments agencies or bodies including Bord na Mona and Coillte to incorporate the UN Sustainable Development Goals to protect and restore water related eco systems, including mountains, forests, wetlands, rivers, aquifers and lakes and meet the Water Framework Directive targets.**

**Integrate all policy and fiscal support measures for agriculture, forestry and aquaculture with meeting WFD targets and objectives.**

## AGRICULTURE

The Draft Plan is entirely deficient in addressing the issues relating to agriculture. The plan references the EPA data showing that agriculture is identified as a significant pressure in 67% of “*at risk*” water bodies in contrast to individual domestic wastewater systems at 13%.

Parallel to this “*Hydromorphology*” namely the physical modification or damage to habitat or natural river and lake processes and functions caused by channelization, land drainage, dams, weirs, barriers and locks, overgrazing embankment sand culverts is a significant pressure in 220 or 19% of water basins at risk. Many of these impacts relate to agricultural activity.

The Draft RBMP bundles agriculture in Section 7.1 under “*Addressing pressures from rural diffuse and point source pollution*”, and does not give agricultural impacts the level of evaluation, consideration and mitigation action required.

The impact of agriculture is being amplified by the deliberate adoption of an output expansion policy “*Food Wise 2025*”, seeking to increase the value of food exports by 85% by that date, without properly mitigating the climate, biodiversity and river basin catchment impact.

Section 7.1 of the Draft Plan makes an entirely unjustified claim in stating “*Overall the Food Wise 2025 scenario projects an increase in milk production, stable beef production and a relatively stable cattle population.*”.

Department of Agriculture data establishes that since the removal of milk quotas in 2015, the number of dairy cows has increased by 300,000, with the dairy herd projected to rise by 6% in 2017 and 6% again in 2018, with average herd sizes projected to increase from 60 to 100. This is also reflected in the current level of planning applications for increased cattle housing. At the same time the opening of new beef markets such as Japan and Nigeria is being actively promoted as well as dairy exports.

This Government supported agricultural intensification through *Food Wise 2025* is creating renewed water quality pressures in meeting the Nitrates Directive, with the overlapping impact of slurry and fertilizer run off affecting water quality.

Ireland has a high level of water-intensive industries including food production and agriculture, meaning the links between farming and clean waters are critically important.

Climate change modelling projects increasing flood risk to agricultural land. At the same time the impact of more prolonged lower rainfall periods, and consequent lower river levels and flows if followed by high summer temperatures, would magnify nitrate pollution impact.

Current levels of adverse impact from agriculture need to be radically reduced. The Draft plan not just fails to address this but fails to acknowledge the increase impact of *Food Wise 2025* intensification, and climate impact.

No evidence is presented to establish the level of impact the “supporting measures” set out in Section 7.1.2 of the Draft plan, and Section 7.1.3 sets out “*Principal Actions*”

Action No 1 refers to existing “*high level measures*” including “*nitrates regulations*”. The data is showing that existing measures are not working. The most recent figures presented at the EPA National Water Forum in Galway in June 2017 revealed that thousands of farms are failing to

comply with the Nitrates Directive, which limits the pollution impact on surface and ground water.

Of 7,000 farms with derogations under the Directive, allowing them a higher fertilizer application limit, some 12% failed to comply. Of the remaining 130,000 without a derogation, the failure rate stands at 30%.

The, senior inspector with the Department of Agriculture Jack Nolan told the Forum that: *"Compliance levels haven't improved. We are inspecting and penalising, we're taking money back from farmers but it's not proving effective. We have a strong inspection regime but it's not working," ..... "In 2007, we had 4,500 farmers with a derogation, this year we have 7,000. It's likely these numbers will increase."*

Action No 2 states that *"The integrated Governmental approach to enforcement of the nitrates regulations will be maintained and strengthened, and the interagency/inter departmental Water Quality and Agricultural working groups will ensure that increased targeting of inspections by Local Authorities based on water quality results and the output s of the characterisation process"*. However EPA data published in 2016 has revealed a decline total in Nitrates Action Programme inspections from 5,661 in 2012 to 5,152 in 2015.

Action No 4 relates to the uses of the funding in the Rural Development Programme (RDP). Previous poorly monitored and inadequately result based REPS and other environmental schemes failed to deliver the level of measurable area based benefits in biodiversity and water quality, on which the scheme was based. There is no evidence that voluntary participation in GLAS , TAMS and other Rural Development Programme "environmental" schemes will be any different in impact or be more effective in reducing nitrate, phosphate, pesticide and other impacts in the highest risk catchments. Furthermore the plan does not refer to any enhanced measures for buffering of riparian zones, reducing wetland drainage, control of animal access to water courses, or control of burning, or effective enhanced training for farm advisors.

Action No 5 relates to the promotion of *"knowledge transfer* "by the *"National Dairy Sustainability Forum"*. (NDSF) The Forum has been established under the Irish Dairy Industry Association (IDIA). This an industry led initiative which is pursuing intensification objectives and does not have any statutory basis. There is a lack of any clear statement of what are the water quality objectives of the NDSF, if any, and no actions or specific outcomes are identified.

The use of *"farm pilot projects,"* and *"wider promotion programmes for nutrient management"* in promoting best practice is stated to be *"part of the evolution of the existing Origin Green scheme"* Origin Green has not established environmental credibility, the certification of mushrooms produced from unlicensed peat extraction sites being a prime example.

The remaining objectives are vague in identified impacts including the Agricultural Catchment Programme (ACP) which works with only 320 farmers and is based on objective *"of transferring learning from the ACP to all farms."*

The Draft plan is entirely lacking in any new and tangible measures to address the increasing impacts from agriculture on water quality and catchment management. Too many of the

provisions relate to studies, pilot projects, information transfer and promotions such as on line portals, which is not a substitute for effective monitoring, and on farm advice and enforcement.

The Draft plan fails entirely to model the projected climate change impact of more rainfall variability patterns with more contrasting periods of concentrated high rainfall, and other periods with low rainfall resulting in lower river flows with, and the impacts affecting nitrate and phosphate run off.

### **RECOMMENDATIONS.**

**Integrate Common Agricultural Policy, Rural Development funding and the range of other direct and indirect subsidies available, for effective river basin management, biodiversity action. This requires provision for flood plain restoration, increasing of riparian buffer zones, support of High Nature Value farming, historic native woodland restoration, carbon soil management, and recreational amenity.**

**Specific and targeted integration of all farm support funding to ensure meeting of WFD and nitrates targets.**

**Resourcing of appropriately qualified agricultural advisors to ensure on the ground implementation.**

**Review of continued agricultural expansion targets under Food Wise 2025.**

**Effective measures to control upland burning, unregulated drainage and other damaging activities.**

### **INDIVIDUAL RURAL WASTE WATER SYSTEMS.**

Individual domestic wastewater systems are identified as a significant pressure in 13% of “*at risk*” water bodies.

The level of individual waste water treatment systems, poses an increasing risk as the number continue to increase. Combined with this, climate change projections model more variation in rainfall patterns, with more regularity of concentrated higher rainfall periods affecting performance of percolation areas and exposure to flood risk, including failure of pumping systems for raised percolation areas.

Ireland’s failure to register, regulate and monitor domestic wastewater systems has resulted in the threat of EU legal action.

The response has been a belated national registration system and for the EPA to put in place under the *National Inspection Plan for Domestic Wastewater Systems*, with the second for 2015-2017 now in force. However for the first planning period by the end of 2014 only 1,559 inspections were carried out. The 2018-2021 National Inspection Plan is now in preparation with no data available as yet on number of inspections.

The current plan regime admits the limited range of inspections proposed, with the focus being on a “*risk based*” area targeting. However this limited inspection is only the start of the process

required which requires an effective national maintenance regime, de sludging where required, and the capacity to manage and properly treat sludge in local catchments. There are continued complaint relating to unauthorised and non-compliant sludge treatment location, continued spillage or discharge into water courses, such as a case in Co Kilkenny in July 2017, and continued complaint on pollution and odour impact of land spreading of treated sludge.

It is unclear what action is taken when systems have been inspected and failed, and in particular where it is established that the ground condition are unsuitable for a septic tanks, even though planning permission was granted.

There is a particular problem in the case of holiday homes which would be heavily concentrated in western coastal counties, and often in locations with rushey vegetation and waterlogged soils, where the response by planners to the poor ground conditions is a requirement for biological treatment systems. These systems are completely unsuited to houses inhabited on an irregular basis. Their design depends on regular use to ensure the continuous process of bacteriological breakdown as the system fails if it is subject to irregular use. Intermittent occupation results in “shock loading” and system failure when a house is re-occupied after a period of vacancy.

### ***RECOMMENDATIONS***

**The current management of dispersed rural waste water systems needs to demonstrate that current significant pressure in 13% of “at risk” water bodies, will be resolved by 2021.**

### **URBAN WASTE WATER AND RUN OFF**

Urban waste water and urban run-off accounts for around 22% and 10% of significant pressures to “*at risk*” river and lake water bodies.

The EPA “*Urban Waste Water Treatment in 2015*” report outlined that:

\*44 urban waste water discharges are linked with a high degree of probability to river pollution

\*Raw sewage is still being discharged into the water environment of 44 municipal areas.

The EPA is unacceptably licensing untreated wastewater discharges, and using an operating system where the assimilative capacity of a receiving water is not factoring other discharge loading.

Only half of the national urban wastewater load “*complied with the basic quality standards*” required by the Urban Waste Water Treatment (UWWT) Directive. Only 25 of the total wastewater discharge load “*discharged into nutrient sensitive areas complied with the additional nutrient quality standards*”

In 2016 the European Commission initiated legal action against Ireland for breach of the UWWT Directive, citing 38 urban agglomerations.

The Irish Water 2015 Business Plan states that “*over two thirds of the sewer network used to transport the country’s wastewater was considered to be in major need of repair*” and “*156 wastewater treatment plants are currently under sized* “

Section 7.2.3 of the Draft RBMP sets out 9 principle actions “*to address pollution from urban waste water and run off*”. This entirely relies on Irish Water commencing development of their Wastewater Compliance Strategy in 2017. However this is not being published in tandem with the Draft RBMP, and there is no evidence that the Irish Water projected investment budget will be adequate to meet WFD targets.

## **RECOMMENDATIONS**

**The level of investment capacity for Irish Water to achieve WFD targets needs to be identified and resourced. This requires targeting and resourcing the optimum amelioration impact that can be achieved by 2021, and identifying and justifying all derogations to 2017 on a catchment by catchment basis.**

**Adequate resourcing in priority investment should be given to:**

- \*Ensuring the ceasing the discharge of all untreated sewage in the next two years.**
- \* The 22% of river and lake bodies where urban wastewater discharge is deemed to be a risk.**
- \*The 45 waste water discharges linked with high probability to river pollution.**
- \*The sites where urban waste water discharge is a significant pressure.**
- \*The 16 areas identified in 2015, requiring improvement to waste water discharge to protect fresh water pearl mussels.**

## **FORESTRY**

Forestry is the 4<sup>th</sup> most significant pressure on “at risk” river and lake bodies in Ireland, in 183 or 16% of the “at risk” water bodies, with particular impact in upper river catchments.

Pressures associated with forestry are increased acidification from plantations in acid sensitive catchments, pesticides and herbicide use, sedimentation during afforestation, road construction and clear-felling and erosion on steep catchments and eutrophication from fertilisation on steep catchments and forest harvesting on peat soils.

It is likely that forestry will continue to grow in areas of the country where forestry has traditionally been a significant and growing land use such as the North Western, Western and South Western River Basin Districts as well as upland areas in other parts of the country. The current water quality issues associated with forestry will be exacerbated as forestry expands nationally. This will be a challenge to Ireland meeting targets under the WFD unless changes in practice are adopted.

The 2016 EPA HYDROFOR “*Assessment of the Impacts of Forest Operations and the Ecological Quality of Water Study*” was a 7-year study of the Impacts of forestry operations on the ecological quality of water in Ireland. This evaluated the continued impact of eutrophication, acidification and sedimentation impacts of commercial forestry during the closed canopy, harvesting and planting phases on rivers and lakes in Ireland. The study again highlighted the established negative impacts of forestry operations on surface water quality and freshwater ecology. The report recommended that some impacts could be reduced by careful onsite management.

However on peaty soils the impact on hydrochemistry and aquatic macroinvertebrates was shown in catchments with both low and high forest cover, relating to elevated DOC concentrations and lower pH. These research findings, in combination with the potential for sediment and nutrient losses during harvesting and preparation for replanting and biodiversity concerns, support a recommendation for the cessation of conifer afforestation on peat soils (especially blanket and raised peat bogs) in acid-sensitive (< 15 mg CaCO<sub>3</sub>/L) headwater catchments. In relation to reforestation of sites in such catchments, there are serious concerns with respect to the aforementioned impacts. These recommendations have yet to be implemented.

One of the most perturbing pressures of Irish forestry on water quality is the widespread use of Cypermethrin. Cypermethrin a Priority Substance pesticide which is highly toxic to aquatic invertebrates is widely used by semi-state forestry company Coillte. Of the 6,352ha planted by Coillte in 2016 69% has been treated with Cypermethrin (Coillte, 2016). Cypermethrin is very toxic even at low concentrations (Marigoudar, et al., 2009). Under various lab experiments Cypermethrin has been demonstrated to be acutely toxic to an array of freshwater invertebrates and some species of fish (Stephenson, 1982). Cypermethrin is acutely toxic to crustaceans and reduces the abundance of abundance of rotifers, protozoans and bacteria and the chlorophyll-a concentration of planktonic and periphytic algae (Friberg-Jensen, et al., 2003). The reduction in predatory crustaceans is likely to lead to fundamental changes in the species composition of lower trophic levels (Friberg-Jensen, et al., 2003). At high doses cypermethrin is lethal to finfish (Marigoudar, et al., 2009). For the references on this see An Taisce submission: <http://www.antaisce.org/articles/an-taisce-submission-mid-term-review-forestry-programme-for-2014-2020>

The Environmental Requirements for Afforestation (2016) made significant progress in improving the afforestation guidelines in relation to the protection of water quality. Increased setback for example were established for peat soil types and High Status water bodies under the WFD.

Unfortunately An Taisce which monitors Forestry consent applications are not satisfied that these new guidelines are being implemented. A recurring issue we observe with afforestation approvals is that the conditions for approval do not stipulate what setback are required as a condition to approval nor do they give the level of site specific detail which would be necessary to properly implement the guidelines and avoid water quality impacts. In the case of approvals which simply state ‘all guidelines to apply’ it is impossible for An Taisce as statutory consultees to know if our concerns or the environmental guidelines are being adhered to unless the conditions for approval are clear. Stating that the water element of the Environmental Guidelines will apply is meaningless when the guidelines themselves vary depending on the soil type, slope and proximity to High Status Sites and Natura 2000 sites. It is necessary that the approval is clearly linked to site specific conditions.

It is unclear to us whether the recommendations of Forestry Inspectors are being double checked or if ecological assessments are being carried out. There is a recurring issue where peat soils are being defined as mineral peat and a minimal mineral soil setback is being implemented rather than the required peat soil setback. This is occurring in areas where Teagasc have identified the soil type as being peat for example. In order for all relevant guidelines to be implemented An Taisce submits that future conditions to approval reflect the site specific nature of the Forestry Service Water Quality Guidelines and the updated Environmental Requirements for Afforestation (2016). It is on the basis of these guidelines that we make plot level recommendations. This is the level of detail required by the governing environmental legislation.

A welcome new “Woodlands for Water” initiative is proposed. However to be effective this needs to be targeted at sites at risk from nutrient enrichment and sediment loading.

Surprisingly the Draft plan fails to address the positive benefits of ecologically appropriate native woodland restoration, through restoration of wet woodlands in riparian zones capable of absorbing flood waters, and the contribution of woodland to slow down rainwater flow.

There is no evidence that the “*Programme of Measures*” to address pressures from Forestry in Section 7.3.1 in forestry regulation, Land type evaluation, and Forest Service Environmental Requirements for Afforestation, will achieve the measures require in casing adverse impacts on river catchments.

## ***RECOMMENDATIONS***

**The Forest Service should apply the same definition of peat soils as that agreed with the Commission for the Nitrates Regulations 2006 and incorporate this into all licencing consideration for afforestation and for felling.**

**Reform of the forestry licence regime to ensure:**

**\*Appropriate conditions reflecting the sensitivity of each site, such as setback distances for plantations**

**\*Targeting of measures for the 183 water bodies at risk from forestry**

**\*Cessation of licensing for afforestation of peat soils in acid sensitive headwater catchments**

**Banning of Cypermethtin to follow practice in other EU Countries.**

**Effective monitoring and control of herbicides and pesticides generally.**

**Incentivisation of ecologically appropriate native woodland restoration in locations creating parallel benefit in flood attenuation and mitigation, including wet woodlands.**

## PEATLANDS

The Draft RBMP identifies peat extraction as causing a significant risk to the ecological status of 112 or 10% of “at risk” water bodies water bodies, with ammonia as a particular pollutant impact from drained peatland.

Disappointingly the consideration of Peatlands in the Draft RBMP is limited to existing and continuing peat extraction, and does not address the wider issues arising from peatland management. No reference is given to the major synthesis report and Action Plan by the EPA “*BOGLAND : Sustainable Management of Peatlands in Ireland* “ 2011. This identified covered the 20% land area of the country with peat soils. Apart from water management, recommendations included the restoration of protected peatlands to stop carbon loss, and the management of non-designated peatlands and a review of the horticultural peat sector. The EPA found Government policies “*at odds with ... international and national government policies and conventions, specifically those addressing climate change, biodiversity protection and environmental sustainability*”.

Section 5.3.3 of the Action Plan under “*Management of Peatlands for Water*” set out four targets:

*“To preserve and restore the hydrological status of protected peatland in a catchment*

*To restore water levels and flow regimes as close to the natural conditions as possible in all protected sites*

*To avoid unnecessary drainage in forested peatlands and other peatland activities*

*To maximise the use of cutaway peatland for water regulation”.*

While a ” *National Peatlands Strategy*” has been adopted in 2016 it is not linked to any effective timetables of requirements to reflect Action Plan for peatlands set out by the EPA in 2011.

While the continuation and expansion of larger scale peat extraction is required to be subject to EIA and IPCC licensing, there has been a systemic failure to enforce an EIA consent regime, and only the Bord Na Mona extraction area has been subject to IPCC. There is an unquantified level of large scale horticultural extraction by a number of commercial operations mainly in the midland counties. The cumulative impact of this extraction for example in run off impact into water courses is clearly significant, for which is there is no coherent monitoring and mitigation regime.

Of particular concern is the chemical reaction between the use chlorine to disinfect water with high levels of organic material including peat run off from draining of bogs, in creating 'Trihalomethanes' (THMs).

There is no immediate remedy proposed to the continuation of large scale unregulated peat extraction. The principle actions set out in Section 7.4.2 of the Draft RBMP refer to the current proposal by the Department of Housing, Planning, Community and Local Government to introduce a new regulatory regime for EPA licencing of peat extraction over 30ha,. It is proposed that for sites over 30ha would be subject to new EIA licencing consent regime

integrated with IPPC licencing. This separates large scale peat extraction from the planning regime and other extractive activities including mining and quarrying.

It is not clear how extraction areas individually under 30ha in a multiplicity of different ownerships or operators, but supplying a single peat processor will be addressed. Furthermore the adoption of an area only threshold, does not address the variety of peat depths and therefore extraction tonnages and consequent environmental impacts from individual sites. The regulatory regime for any single area of activity should be uniform. Having separate regulatory regimes for peat extraction above and below an arbitrary 30ha threshold is inappropriate in principle. A site under 30ha may have a greater peat depth and greater range of impacts and considerations such as drainage impact and run off and ecology than one over 30ha. The multiplicity of smaller extraction “turbary” sites for domestic cutting have a direct impact on the area of peatland affected as well as cumulative carbon loss, and need to be fully regulated as an extractive activity as much as “larger” scale extraction for power or horticulture.

The proposed Draft Regulations appear to be designed to facilitate ongoing extraction of peat, rather than what should be the primary objective to manage peatlands for ecology, water and carbon management, are not fit for purpose in the form proposed, undesirable separate peat extraction into to categories of below and above 30ha and fail to integrate peat extraction with the planning regime form other extractive activities

### ***RECOMMENDATIONS***

**Adopt the recommendations of the EPA Bogland (2011) report as the basis for management of peatland areas with an amended National Peatland Strategy supported by the resources and timetables actions.**

**Ensure effective enforcement and regulation of all peat cutting with measure to obviate water pollution risk.**

**Maintain and enforce a unitary and effective planning control, Environmental Impact Assessment and Natura Impact Assessment regime to regulate all continuing peat extraction, along with other extractive activity.**

**Implement targeted measures for the particular water bodies at risk for peat extraction.**

### **FLOOD MANAGEMENT PLANS, LAND AND ARTERIAL DRAINAGE**

The Draft RBMP identifies Hydromorphology” namely the physical modification or damage to habitat or natural river and lake processes and functions caused by a range of impacts channellization, land drainage, dams, weirs , barriers and locks, overgrazing embankment sand culverts is a significant pressure in 220 or 19% of water basis at risk.

Climate change pressures are likely to in increase demand for and planning flood management intervention. Section 7.8.2 of the Draft RBMP sets out considerations on “*the assessment and management of flood risks*”

However the draft in effect defers all action on flood assessment and management to the Office of Public Works (OPW) through the national catchment based Flood Risk Assessment and Management (CFRAM) Programme and preparation of Flood Risk Management Plans.

European Commission Guidance (Towards Better Environmental Options for Flood Risk Management) 2011, states: “*when managing rivers, lakes and coastal areas, the best environmental options need to be identified, especially when new flood defence structures are considered that could lead to a degradation of water resources*” Proper justification is required in intervention where the exemption provision under Article 4 of the WFD are to be sought.

Flood management needs be considered as part of the overall management of river catchments and not just the short term intervention on flood risk urban areas. The OPW response to date in protecting urban areas has been based on heavy engineering such as that proposed for Cork city centre.

The provisions of the Arterial Drainage Acts are no longer fit for purpose. The continued use of the Arterial Drainage Acts is resulting in physical interventions which are not protecting water bodies from damaging physical modification. The principal rationale for Arterial Drainage for to increase crop yield and animal stocking along rivers. However this also has the affecting of accelerating river flow and increasing downstream flood impact. The most recent impact of arterial drainage has been seen to damaging ecological effect on the dredging and reconfiguration Bandon River during the summer of 2017, with at the same time no action takes on slowing the up river flow from the wider catchment.

Following European Court Judgment against Ireland under Case C 66-06 on the incremental and cumulative impact of land use change including hedgerow removal and drainage new regulatory provisions were introduced for drainage of wetlands, with consent require cover 0.1ha ha and EIA for over 10ha. A continuing difficulty is arising in the enforcement of then measures in establishing the definition of wetland, and establish when new drainage works, can be distinguished from any previous activity The effectiveness of Local Authorities in monitoring and enforcing these provisions remains undetermined.

The use of the part 8 Consent Process by which local authorities are both applicants and decision makes, continues to be anomalous and is not facilitating decision making based on the proper consideration of WFD targets.

Flood mitigation needs to be part of overall catchment management, including historic flood plain restoration. A 2017 published study, commissioned by Friends of the Earth, Ireland “*Natural Flood Management: Adopting ecosystem approaches to managing flood risk*” found that natural land management techniques can significantly reduce flood risk but are being ignored by Irish policy-makers, despite evidence of their contribution to flood management around Europe.

<https://www.foe.ie/documents/natural-flood-management-adopting-ecosystem-approachesto-managing-flood-risk>

Natural Flood Management is a comprehensive approach to managing soil, wetlands, woodlands and floodplains along a river to retain and slow water at times of flood risk, reducing

the speed and the peak of floodwaters compared to approaches that rely only on dredging and walls. The report's author, ecologist and broadcaster, Anja Murray stated at the launch "*Natural flood management has gained recognition in many countries as a viable and cost effective approach to flood risk management, with extensive projects across Europe and further afield that have restored peat bogs, planted riparian woodlands, restored and created new wetlands, re-profiled rivers and their floodplains to hold back floodwaters.*"

## **RECOMMENDATIONS**

**Integrated the current planning regime to ensure comprehensive assessments for all flood management and drainage interventions, with the objective that developments do not affect the WFD status of the relevant waterbody.**

**Moratorium of Arterial Drainage.**

**Specific WFD assessment of flood management works to ensure obviation of conflict with WFD objectives on status of water bodies.**

**Promotion of Natural Flood management on a catchment basis.**

**Effective control, of wetland and riparian area drainage.**

## **AQUACULTURE**

### **5. AQUACULTURE**

The sustainability of all categories of continued aquaculture needs update and review, addressing feed sources, sea floor impact, and in the case of salmon farming lice infestation and interaction with wild species. The continuation of Pacific Oyster cultivation needs to be reviewed because of invasive impact on native species and marine habitats

## **RECOMMENDATIONS**

**Aquaculture be identified as a significant pressure, requiring monitoring, impact evaluation, where required intervention when to meet WFD status and targets**

**Mandate a new institutional and oversight regime for the licencing, monitoring and general regulation of aquaculture regulate water body impacts as defined by the WFD**

**Licence applications and renewals need to properly address cumulative impact on water bodies, and lacunas relating to activities with impact on water quality, be subject to appropriate regulation.**

## **WATER ABSTRACTION**

Water abstraction represents a significant pressure on some of Ireland's inland surface waters and groundwater. The WFD identifies abstraction as a "*significant anthropogenic pressure*" requiring under Article 11 "*a register of water abstractions and a requirement for prior authorisation of abstraction*"

Ireland is facing impending action from the European Commission for failing to properly register and regulate water abstraction.

EPA data identifies 90 river (3%) and 73 lake (9%) of water bodies identified as potentially at risk of over abstraction.

Section 7.7 of the Draft RBMP seeks unjustifiably to downplay the impact of water abstraction referring to *“the relatively low level of abstraction and abundance of rainfall in Ireland”* This is an unwarranted justification for prevarication and eventual introduction of light touch regulation since it goes on to proposes without any timeframe that a *“proportionate regime for the regulation of relevant abstractions can be developed without imposing an unnecessary regularity burden”*.

All of the measures actions proposed in 7.7.3 of the Draft RBMP evade introduction of any regulation. Under Action I the EPA is merely stated to be *“currently reviewing”* monitoring. Under 2 the EPA *“will undertake further monitoring of the 4% of water bodies identified as potentially at risk from over abstraction”* Under 3 the Department of Housing Planning Community and Local Government *“will in 2017 progress legislative proposal to establish a comprehensive and maintained register for water abstraction greater than 25 cubic metre per day, “ and on 4 that the Department will “consult on a proportionate and risk based framework” with a view to progressing the necessary legal and administrative regulation.”*

No consideration is given to future climate change impact, and the potential for longer periods of lower rainfall becoming more prevalent affecting, river flows and lake levels.

## **RECOMMENDATIONS**

**An effective water abstraction registration and regulation regime, as required by the Water Framework Directive, to be in place within a two year period.**

### **THE COASTAL AND TRANSITIONAL ZONE.**

In addition to aquaculture there are a range of impact affecting estuary and coastal waters which have overlapping impacts under the Water Framework Directive and Marine Strategy Framework Directive (MSFD).

These include inshore fishing practices such as bottom trawling, and activities such as dredging for seed mussel and clams, shipping, marine litter and new types of tidal or ocean energy projects.

Seaweed and marine plant harvesting is a major new impact which need to be addressed following the mounting concern at the manner in which harvesting of kelp in Bantry Bay was approved

Consideration of these issues is not part of the Draft RBMP. Review is needed to assess the impact of these pressures, to ensure that WFD targets are not being compromised.

Integrated Coastal Zone Management ICZM provides the framework for establish the monitoring and implementation structures needed to address the range of impacts affecting coastal and transitional zones, which will require designation of a lead statutory authority.

## **RECOMMENDATIONS**

**Designation of a lead statutory body to co-ordinate integrated Water Framework Directive and Marine Strategy Framework Directive monitoring and good environmental status implementation in estuarine and coastal locations.**

**The designation of inshore waters within an appropriate limit as a Marine Protected Area under the MSFD, in order to allow effective control of damaging activities, particularly affecting sea bed integrity, with effective regulation of seaweed and kelp harvesting and other activities.**

## **FACTORING CLIMATE CHANGE IMPACTS**

EPA climate research on climate change impacts shows increased risk to Ireland from:

- \*sea level rise,
- \*more intense storms and rainfall events,
- \*increased likelihood and magnitude of river and coastal flooding and
- \*water shortages in summer in the east
- \*adverse impacts on water quality
- \*changes in distribution of plant and animal species
- \*effects on fisheries sensitive to changes in temperature

<http://www.epa.ie/climate/communicatingclimatescience/whatisclimatechange/whatimpactwillclimatechangehaveforireland>

River basin management needs to factor the future increased risk of concentrated periods of high rainfall with more extreme weather, as well as more prolonged lower rainfall periods . This is set out in research published in the international journal *Climate Risk Management*, in 2016. Using more than 150 years of collected data and sophisticated modelling to map and project extreme seasonal conditions on the island of Ireland, the research reveals that previously anomalous periods of extreme weather have become significantly more regular since the mid-19th century. The publication of this paper is an output from the ongoing project, *‘Irish Climate Futures: Downscaling for Decision Making,’* led by Dr Conor Murphy of Maynooth University’s Department of Geography and working collaboratively with international colleagues.

<https://www.maynoothuniversity.ie/news-events/extreme-weather-be-new-normalfuture>

The significantly lower than average rainfall levels in April and May 2107, increased both the impact of forest fires, including the major plantation loss at Cloosh Co Galway, and land burning such as Gougane Barra Co Cork. The impact of fires of this level creates significant pollution run off from burnt matter and exposure of soil cover causing subsequent peat erosion into water courses.

In contrast increase in events of concentrated high rainfall such as occurred in Inishowen peninsula Co Donegal in August 2017 will result in increase in “bog bursts “and peat displacement, with downstream siltation of watercourses.

***RECOMMENDATIONS.***

**Full integration of river basin management with the National Climate Adaptation and Mitigation Plans provide under the Climate Action and Low Carbon Development Act 2015.**

**Effective factoring of future climate variability models into planning by all sectors affecting water management and river basins, including agriculture, forestry, peatland management and flood relief measures.**