

Newsletter



An Fóram Uisce – looking after Ireland’s water resources

Issue 03 / Spring 2021



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Peatlands Research Report

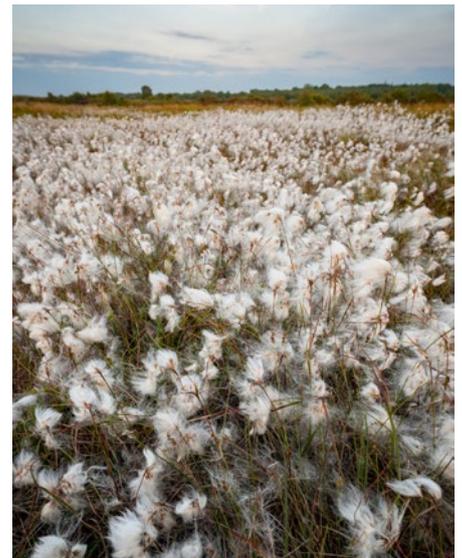
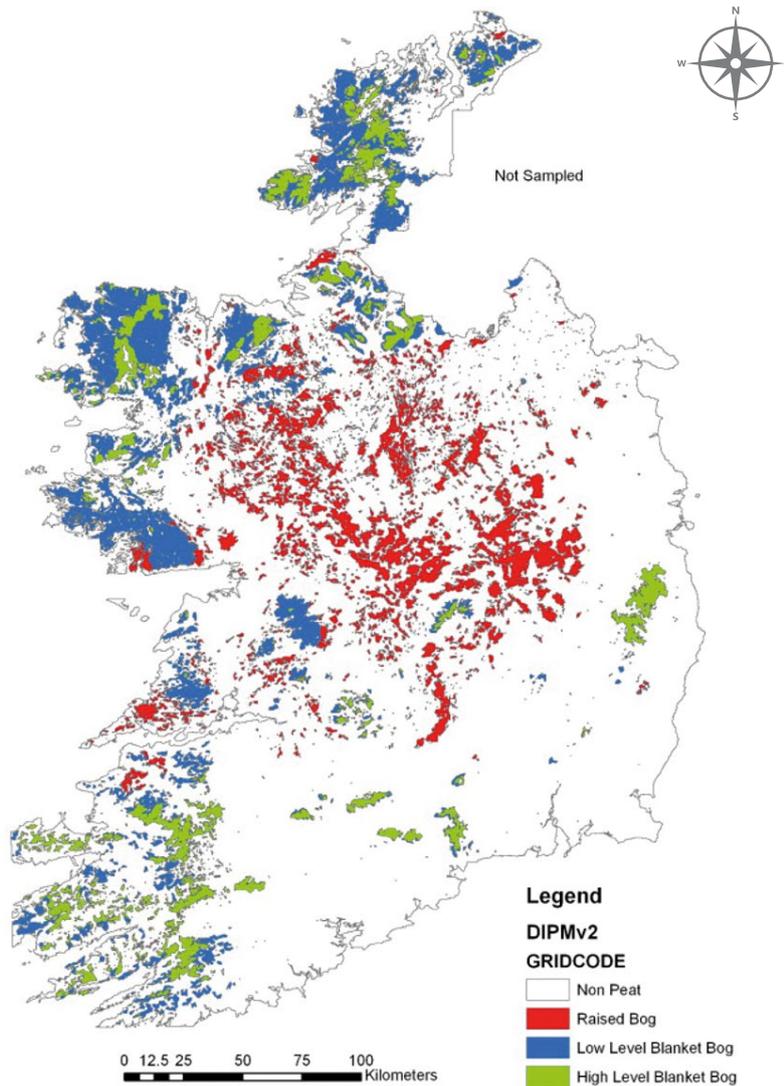
In late 2020, An Fóram Uisce commissioned research on how peatlands can be managed to optimize water quality returns whilst also delivering benefits for climate and biodiversity. The research was carried out by a team, lead by Dr Florence Renou-Wilson of University College Dublin, and included Catharine Pschenyckj, Emily Riondato, David Wilson, Kate Flood and Connie O’Driscoll.

Optimising Water Quality Returns from Peatland Management while Delivering Co-benefits for Climate and Biodiversity

Ireland’s peatlands are of national and international importance. Half of the blanket bogs considered to be of conservation importance in the European Atlantic Biogeographic Regional are found in Ireland (Figure 1)

along with some of the last remaining Oceanic raised bogs.

- 18% of our 1.4 million hectares of peatlands (one fifth of Ireland’s land area) are ‘near-natural’ or ‘healthy’.



change; they support unique flora and fauna; and provide multiple cultural services to society.

Ireland’s land area is comprised of 20% peatland, but only 18% of all peatlands are in a ‘near natural’ or ‘healthy’ state. Consequently, 82% of peatlands are considered ‘degraded’. Peatlands consist of 95% water, and degraded peatlands are drained to varying degrees for peat extraction, domestic peat cutting, agriculture or forestry.

Drainage of peatlands and removal of surface vegetation releases nutrients (phosphorus, nitrogen, ammonia), dissolved carbon and sediment, which gives rivers and lakes a dark colour, and reduces water quality. This is a particular issue in drinking water source areas. Drained peatlands have reduced capacity to store carbon as they are not growing, they release CO₂ contributing to climate change and can no longer support plant and animal biodiversity. They are also at greater risk of fire.

Better management through rewetting and restoration of peatlands can reverse these trends and restore the natural peatland functions. Rewetting is not flooding. But blocking drains can restore the water balance within the peatland so that plants can grow and re-establish to provide and improve animal habitats

Figure 1: There is approximately twice as much blanket bog as raised bog in Ireland

- 82% of original peatlands have been drained for peat extraction, agriculture or forestry resulting in disruption to the hydrological balance, biodiversity and ecosystem services Table 1.

(Table 1) Area of peatland in Ireland under different land use classifications

Peatland use	% of peatland
Near-natural	18%
Domestic cutover	17%
Industrial cutaway	6%
Afforested	31%
Agriculture	28%

It is estimated that 2 billion tons of carbon is stored in Ireland’s peatlands, in blanket bogs along the west coast and in the raised bogs of the midlands. Approximately a quarter of peatlands are in state ownership under the management of Coillte and Bord na Móna.

Unique Environments

Peatlands are unique environments that provide a wide range of beneficial services and functions to humans and the environment. In their natural state, they provide filtration processes to clean water and slow-the-flow by reducing the quantity of water entering rivers and lakes; they help regulate the global climate and mitigate climate

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in the bog and downstream rivers. Industrial cutaway bogs will need longer term measures and more intensive restoration programmes to recover.

Changing the function of the bogs and peatlands from their economic use associated with peat harvesting, afforestation and agriculture to use for recreation, tourism and heritage values is best achieved through local community engagement. Communities need to be given the

opportunity to lead the change in peatland transformation from being sites of labour and employment to sites of restoration, recreation and conservation. These shifts in values need to occur, in order, to support the development of sustainable peatlands that support ecosystem services for water, biodiversity and climate, and for local communities.

Dr Tom Collins, Chair of An Fóram Uisce adds; *“Generations of Irish children have written loving essays entitled A Day in The Bog. Now we are*

trying to ensure that future generations of our children can write the same essay with the same innocent trust that some things never change.”

An Fóram Uisce – The Water Forum is hosting a webinar to present and debate these research findings. Taking place online on 21st May, registration is [free](#) and the webinar programme is available [here](#) with further details on page 5.

Report: Optimising Water Quality Returns from Peatland Management while delivering co-benefits for climate and biodiversity.

Synthesis report: Optimising Water Quality Returns from Peatland Management while delivering co-benefits for climate and biodiversity.



An Fóram would like to specifically thank Dr Alec Rolston who managed this research project and we take this opportunity to wish Alec well in his new role ‘down under’ and to acknowledge his very significant contributions to the work of the Forum this past two years.

Water Services

Following a presentation from the EPA to the Water Services Standing Committee, the Forum has made a submission with initial views on the Review of the National Inspection Plan for Domestic Wastewater Treatment Systems (DWWTS) 2022 – 2026. The National Inspection Plan for DWWTS is crucial for protecting both human health and water quality in rural Ireland.

The Forum members recommended that the next National Inspection Plan should be more ambitious in order to

prevent further deterioration of our water bodies, recommending increased inspections with greater focus on areas that have been identified as being at risk from DWWTS. While members acknowledged the limited resources within Local Authorities, they felt this should not dictate the actions needed to try to reduce the pressures on our water bodies. An Fóram Uisce is in support of recommendations made in the 2020 EPA Report, ‘Focus on Local Authority Environmental Enforcement – Activity Report 2019’, highlighting the need

for local authorities to ensure enough resources are applied to enforcement action when non-compliances are found. If resources in Local Authorities cannot be increased to meet the higher number of inspections required to prevent further deterioration of water quality, the use of private companies, who have no conflict of interest, should be considered.

The submission is available at [Policy Submissions Archives – An Fóram Uisce \(thewaterforum.ie\)](#)

Catchment Management

In January, the CMSC received a presentation from the OPW on their **arterial drainage works** programme under the Arterial Drainage Act 1950 – 1995. Arterial drainage schemes were carried out to improve land for agriculture and to mitigate flooding by ensuring the 3-year flood was retained in bank. Rivers, lakes, weirs and bridges were modified to enhance conveyance and embankments were built to control the movement of flood water.

Schemes cover approximately 20% of the country and the OPW is responsible for keeping 11,500 km of channels including 800km of embankments in good condition. Works include channel and embankment maintenance, repair of structures and maintenance of pumped catchments. The current Arterial Drainage Maintenance plan 2018–2021 is nearing completion and a consultation on the new Plan 2022–2027 will begin towards the end of 2021.

In 2012, the OPW undertook a **National Catchment Flood Risk Assessment and Management Programme (CFRAM)** to get a comprehensive picture of flood risk and develop a plan to manage risk effectively and sustainably. In 2018, 29

river basin Flood Risk Management Plans were developed for each hydrometric area in the country. Key actions are to prevent, prepare and protect. Responsibility for implementing the full suite of measures, both structural and non-structural rests with a range of state bodies. The National Development Plan 2018–2027 commits almost €1 billion in funding for flood relief schemes with the OPW receiving capital funding for flood relief of €100m in 2021. Currently 90 flood relief schemes are at design planning and 10 are in construction. Further information is available at www.floodinfo.ie

Hydromorphology is the physical conditions of the river, how close is it to its natural state and is assessed using

the River Hydromorphological Assessment Technique (RHAT). RHAT findings suggests that 88% of arterial drainage waterbodies are at less than good hydromorphological status owing to flood plain disconnections, changes in riparian vegetation, river straightening, culverts or weirs. Currently, 135 rivers (4%) are identified as at heavily modified status (HMWB) but upwards on 750 waterbodies (22%) could potentially have a HMWB designation. To address these challenges, the OPW are continuing to make improvements in environmental management through updated procedures, national standards, and the training of staff and external consultants. Visit **RHAT** for further information.



Research



An Fóram Uisce is seeking proposals from the research community to explore how results-based schemes can be expanded from pilot projects towards a national scheme. The study will develop knowledge on targeted measures which have a range of co-benefits for water quality, climate change and biodiversity, in an integrated manner. The research will also address the governance issues associated with a large-scale results-based scheme. Closing date 13th May.

On 8th April, An Fóram Uisce issued a Request for Research tender on *A Framework for Improving Domestic Water Conservation in Ireland* with a deadline for submissions of the 10th May. See [latest news – An Foram Uisce \(thewaterforum.ie\)](https://www.thewaterforum.ie)

Early Career research projects have been submitted and will be presented to the Standing Committees at the upcoming meetings.

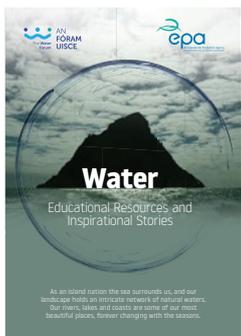
Education and Awareness

Framework for Integrated Land and Landscape Management

The **Framework for Integrated Land and Landscape Management** document has been redesigned and an infographic has been produced to illustrate the key points of the policy approach. Both are available to download from www.thewaterforum.ie

Water Matters at Home schools competition

The schools competition with the opportunity to win an iPad for the school is closing on 15th April with winners being announced on 23rd April, Earth Day. Details of the winners will be in the next newsletter.



Water education providers network

A resource detailing the water education provider networks in Ireland was prepared for the Spring edition of **Catchments.ie** newsletter and is available for **download** or from www.thewaterforum.ie as a printable pdf.

Upcoming Events

An Fóram Uisce Springtime webinar will discuss peatlands management for water quality. Click here for **further information** and here to **register**. Please do share the invitation with your networks.

LIVE WEBINAR – 21st MAY 2021 – 10:00-12:30

A discussion on: *Managing peatlands to improve water quality, climate change mitigation and biodiversity.*

The webinar will provide an opportunity to disseminate and discuss research commissioned by An Fóram Uisce on how peatlands need to be managed to improve water quality and the how community engagement is essential to realise positive environmental outcomes.

Time	Item
10:00	Welcome and introduction Prof. Tom Collins, Chair of An Fóram Uisce
10:05	Address – Guest Speaker (tbc)
Session 1: Managing peatlands to improve water quality, climate change mitigation and biodiversity	
10:15	<i>An introduction to peatlands; natural, degraded and rewetted</i> ; Dr Florence Renou-Wilson, UCD
10:30	<i>Carbon cycling in natural, drained, and rewetted peatlands</i> ; David Wilson, Earthy Matters
10:45	<i>Blanket bog management and Results-based Payment Schemes (RBPS)</i> ; Derek McLoughlin, Wild Atlantic Nature
11:00	LIFE IP Q&A
Session 2: Cultural ecosystems services and the social values of peatlands	
11:30	<i>Cultural ecosystems services and the social value of peatlands</i> ; Kate Flood, NUIG
11:45	<i>Community-led conservation at Abbeyleix bog, for the common good</i> ; Chris Uys, Abbeyleix Bog project
12:00	<i>Otherworldly wonders of the bog</i> ; Tina Claffey, Award winning Irish nature photographer
12:10	Q&A
12:30	Closing address; Prof. Tom Collins

Members Area

NFGWS

The National Federation of Group Water Schemes (NFGWS) has secured funding of €500,000 from the Department of Agriculture, Food and the Marine (DAFM) to implement targeted drinking water source protection actions in group water scheme catchments as part of the NFGWS source protection strategy. The funding will be focused on seven group water schemes catchments that fall within, or close to, current Priority Areas for Action defined within Ireland's 2nd River Basin Management Plan. These catchments are largely impacted by agricultural pressures and the funding will help implement targeted measures, such as the creation of smart buffer zones in targeted areas along water courses,

the promotion of alternatives to pesticide use, and the roll-out of educational initiatives highlighting the impacts of poor agricultural practices, etc.

The NFGWS has also recently launched the first ever GWS Excellence Awards which aim to recognise the efforts of group water schemes that have excelled in achieving high standards across a range of areas, including quality assurance, community engagement and more.

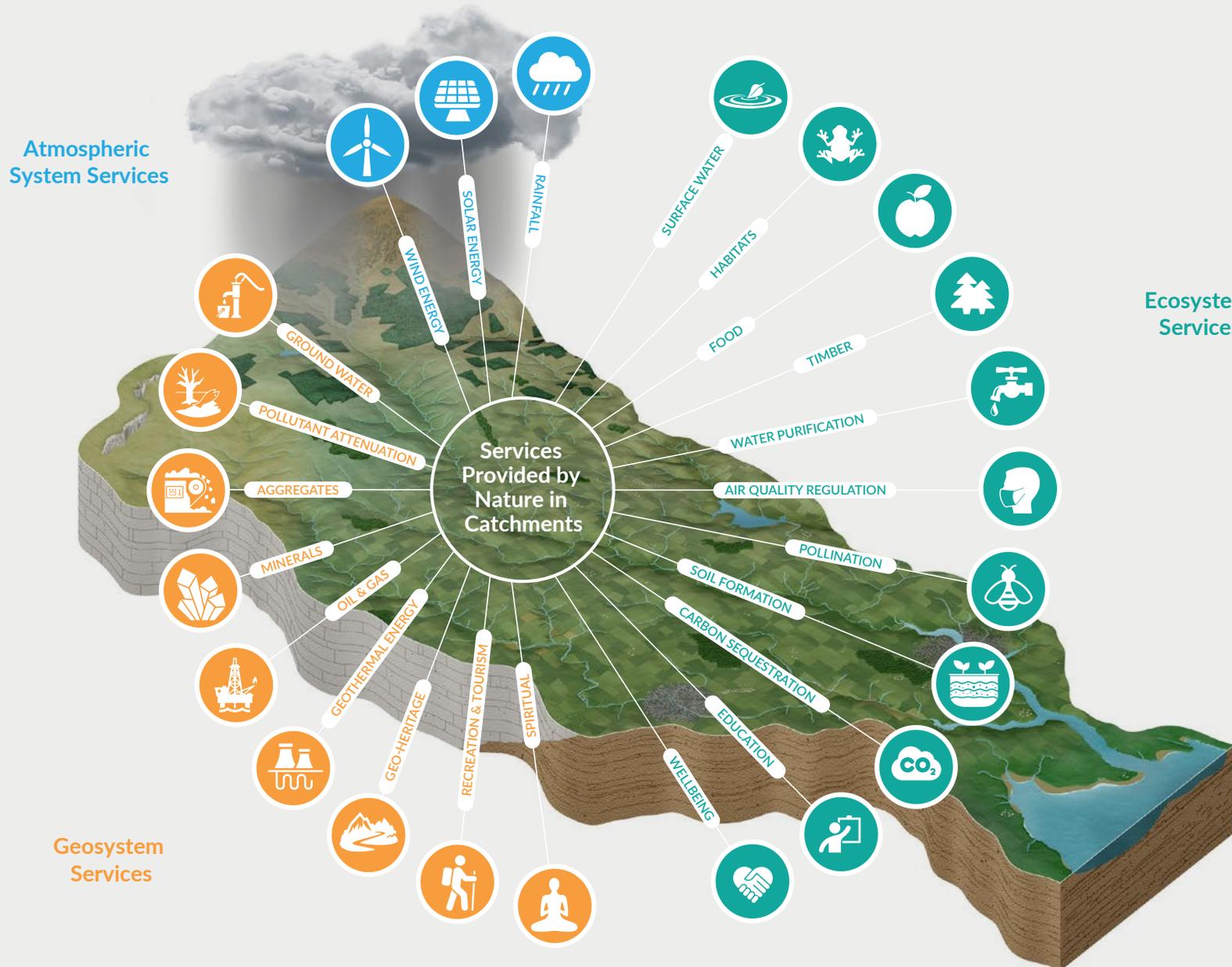
As part of its source protection pilot project in Roscommon, the NFGWS has recently completed two important surveys. Parents of primary school children were asked about pesticide

use at home, while agricultural contractors were surveyed to discover what slurry-spreading systems are being used by contractors in the county and the extent to which contractors are aware of land-spreading regulations and of what is required to protect water quality. Findings from both surveys are detailed in the spring edition of the Rural Water News magazine and will soon be available on the NFGWS website, www.nfgws.ie.

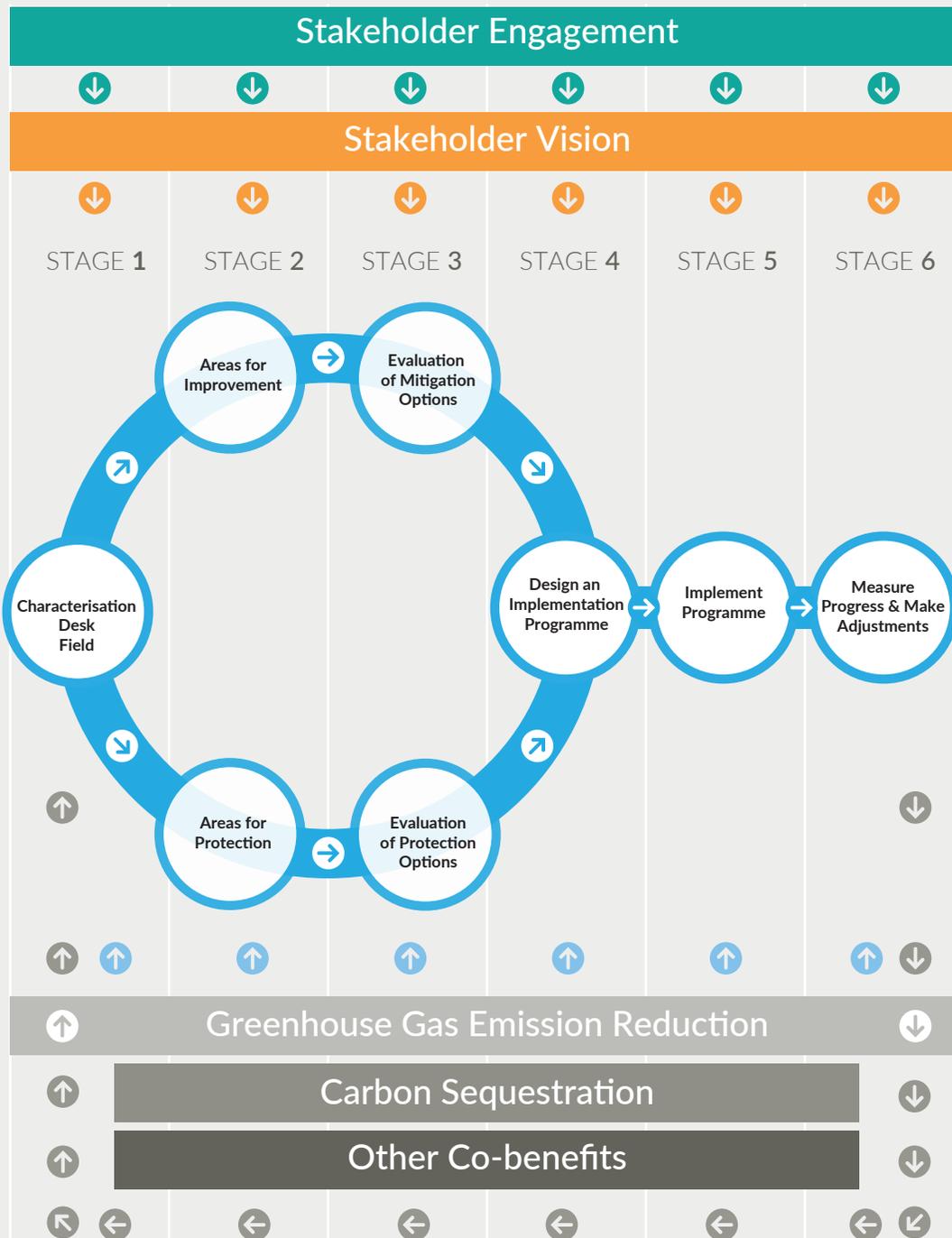
Check out our notifications on the news section of our website www.thewaterforum.ie

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A Framework for Integrated Land and Landscape Management (FILLM)



- ▶ A 'whole of environment' approach
- ▶ Catchment-based landscape management
- ▶ Requires multi-stakeholder engagement for strategic environmental outcomes
- ▶ Atmospheric system, geosystem and ecosystem services are interconnected and interdependent.
- ▶ They need to be managed in an integrated manner, with agencies working together to maximise actions.
- ▶ Catchment-based community involvement is key for social and economic wellbeing, and positive environmental outcomes.



Integrated Catchment Management (ICM) within the Framework for Integrated Land and Landscape Management (FILLM)

- ▶ Build partnerships with local communities and other stakeholders to identify issues of concern.
- ▶ Develop a community vision for water and ecosystems.
- ▶ Characterise the catchment based on existing information, catchment walks, targeted monitoring, identification of pressure sources, evaluating hydromorphological pressures, pollutant load reduction analysis and location of critical source areas (CSAs).
- ▶ Identify and evaluate management strategies for protection and for improvement; locate the areas for appropriate actions within CSAs.
- ▶ Design an implementation programme based on achieving the required environmental objectives, using the 'right measure in the right place' approach, economic analysis and setting milestones.
- ▶ Implement the programme using metrics to track progress.
- ▶ Measure progress, analyse trends and outcomes, and make adjustments if necessary.
- ▶ Consult with stakeholders at all stages.
- ▶ Identify and take account of co-benefits for biodiversity, carbon sequestration and GHG emission reductions at all stages.
- ▶ Use the FILLM approach for water and biodiversity protection, and the implementation of the Habitats and Water Framework Directives.