

# AN FÓRAM UISCE – THE WATER FORUM

## A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT

*Chartered Institute of Ecology and Environmental  
Management*

*NATURE BASED SOLUTIONS AND LANDSCAPE MANAGEMENT  
27 04 2021*

Dr Gretta McCarron



[www.thewaterforum.ie](http://www.thewaterforum.ie)



# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT

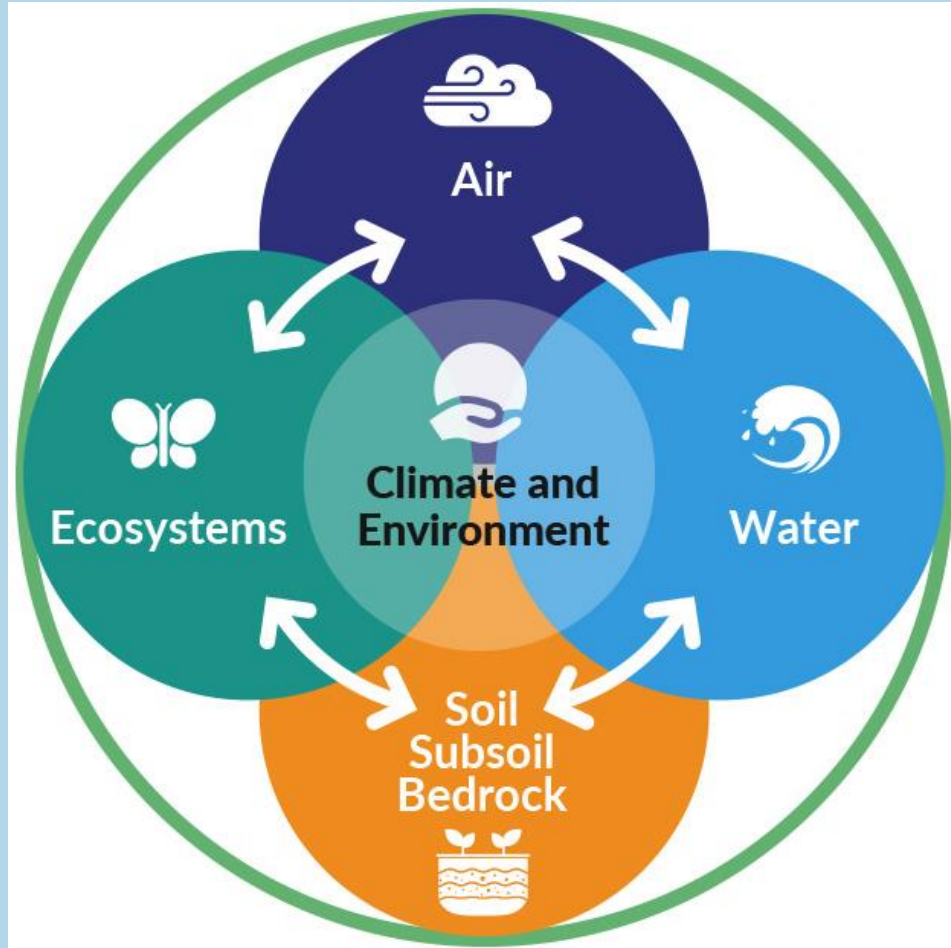
A new approach for landscape management in Ireland

A systems-based approach that takes account of all components of the natural environment

Can address the interlinkages and interdependence of environmental spheres

Takes account of societies needs today and into the future

Actions need to be cohesive, holistic and integrated.



## *Why is an integrated approach needed?*

Connects International and National policy objectives.

### INTERNATIONAL

UN Sustainability Goals (SDGs) for 2030,  
EU Green Deal, Farm to Fork,  
Future CAP Policy,  
WFD,  
EU Biodiversity Strategy,  
HABITATS Directive,  
DWD,  
UWWTD.

### NATIONAL

Dairy Sustainability Ireland Ag-climatise

Teagasc Functional Land Management approach

EPA 7 Key environmental actions

National Water Resources Plan

National Planning Framework

Climate mitigation and adaptation objectives

## Objectives of this session:

- Present a vision for a ‘whole of environment’ system-based approach
- To illustrate how catchments are the natural landscape unit for ecosystems management
- Demonstrate how the FILLM builds on Integrated Catchment Management to provide an integrated systems approach that includes not only water, but also ecosystems/biodiversity, soils and climate

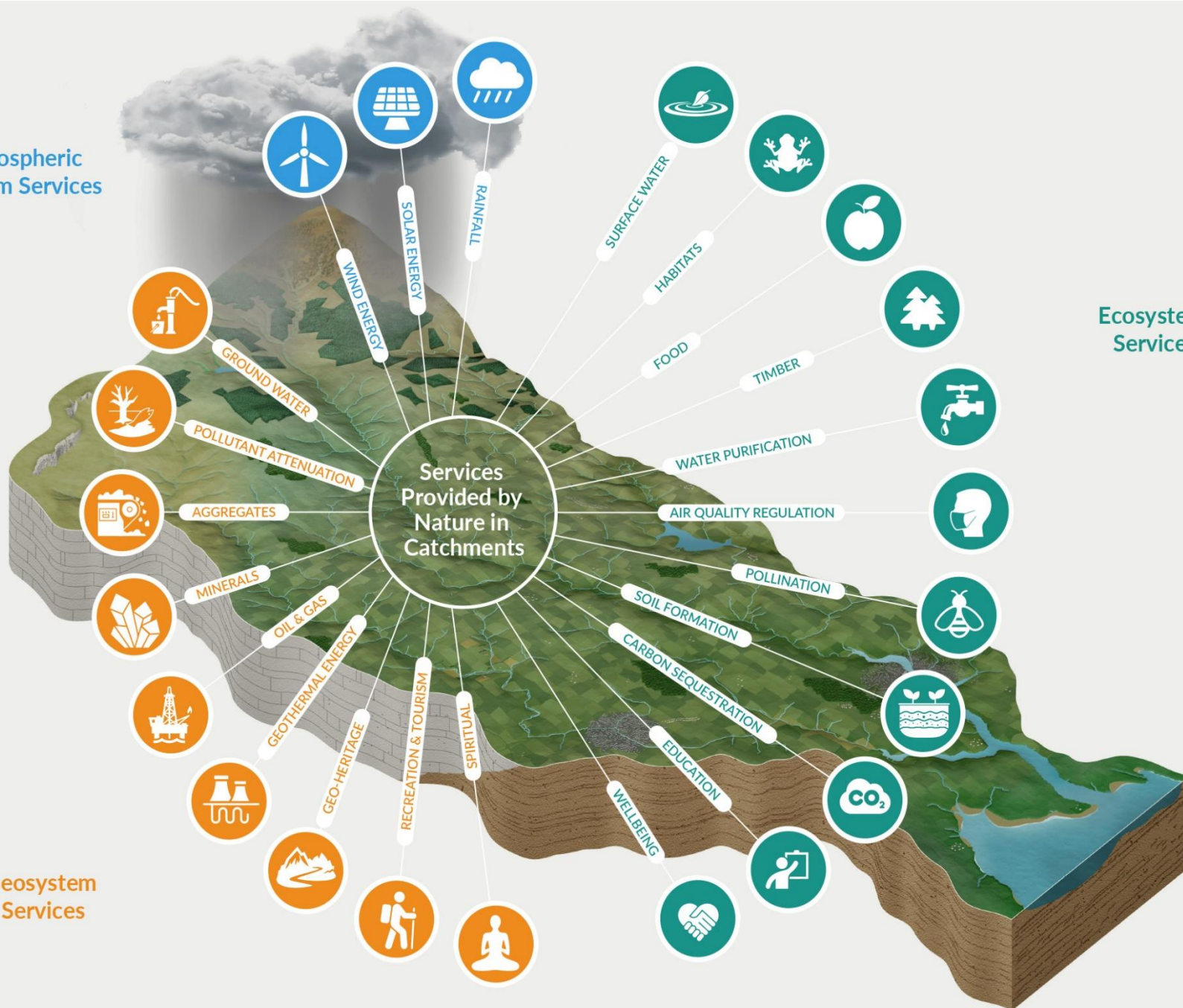




## Atmospheric System Services

## Ecosystem Services

## Geosystem Services



*The river catchment is an **appropriate land-based organising unit** for water and environmental management*

A catchment is:

*A multi-functional, topographically-based, dynamic, multiple-scale socio-biophysical system; defined by over ground and underground hydrology; connecting land, water, ecosystems and people; and used as the basis for environmental analysis, management and governance*



# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT



*CATCHMENT MANAGEMENT needs to deliver for:*

## ENVIRONMENTAL OUTCOMES

- Water quality
- Ecosystems
- Soils
- Climate

## COMMUNITY OUTCOMES

- Health and social wellbeing
- Economic activity
- Sustainable recreation



## *INTEGRATED CATCHMENT MANAGEMENT has considerable challenges*

- Organisational silos are common
- Specialist policies, departments, specialist knowledge or narrowly based objectives
- Can lead to narrow outcomes
- Potential for inefficiency and ineffectiveness.



*There is no structure, no framework, to overcome these challenges.*

*No system to:*

- To help ensure integration and successful **environmental protection & enhancement** of ALL the environmental spheres (air, water, soils, ecosystems) together.
- To help ensure **compliance** with the multitude of EU Directives and associated regulations.
- To help ensure that **trade offs** are considered.
- To link all of these together for optimum efficiency and effectiveness – **it is vital that this happens**.
- To help ensure **local community involvement**.
- To help ensure the **economic & social wellbeing** of local communities.

# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT

In August 2020, An Fóram Uisce proposed the Framework for Integrated Land and Landscape Management as an approach:

- to address the inter-connectedness of natural systems,
- to promote less siloed management and
- to achieve positive environmental outcomes in all realms.



AN  
FÓRAM  
UISCE

Looking after Ireland's  
water resources

## A Framework for Integrated Land and Landscape Management

Protecting and Enhancing  
Our Environment

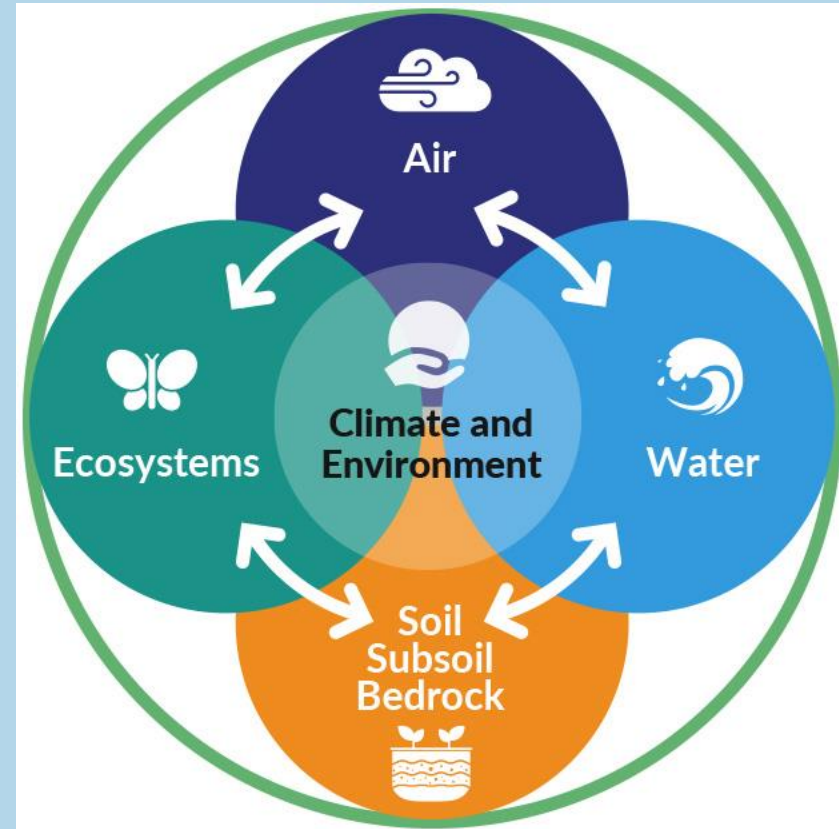


March 2021

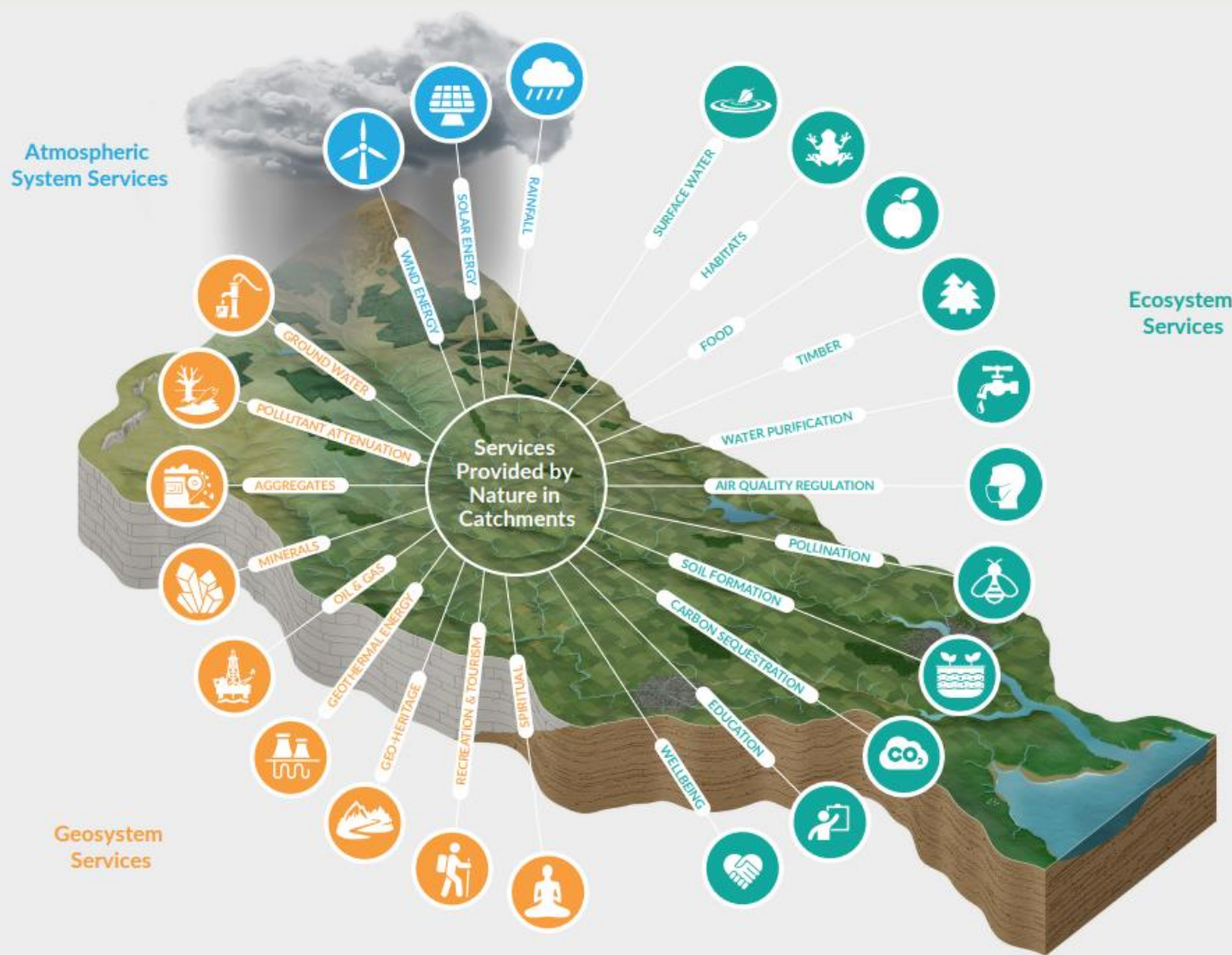
## The new vision

*A 'whole of environment' approach*

*A systems approach – that requires multidisciplinary, multi-objective and multi-stakeholder engagement to support a balanced evaluation of all relevant issues*

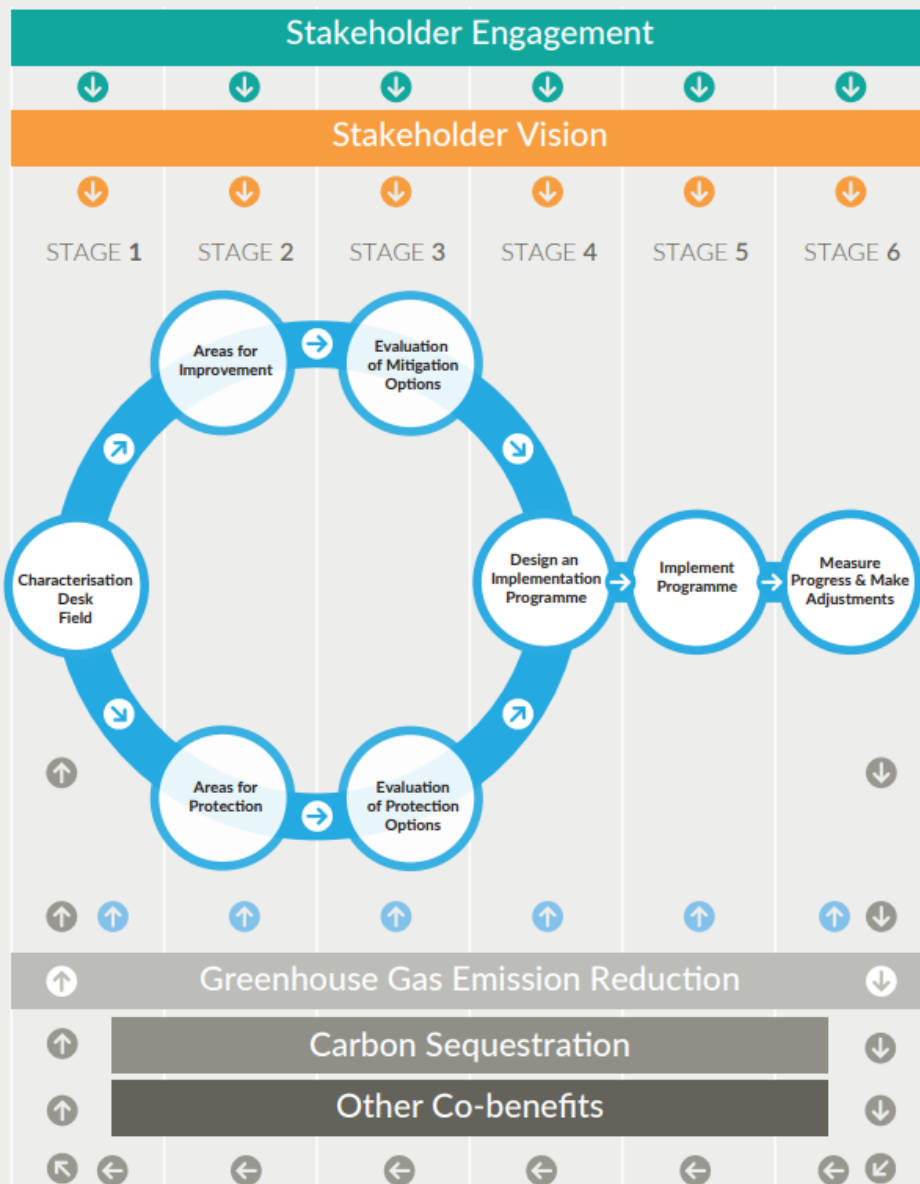


# A Framework for Integrated Land and Landscape Management (FILLM)



- ▶ 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.

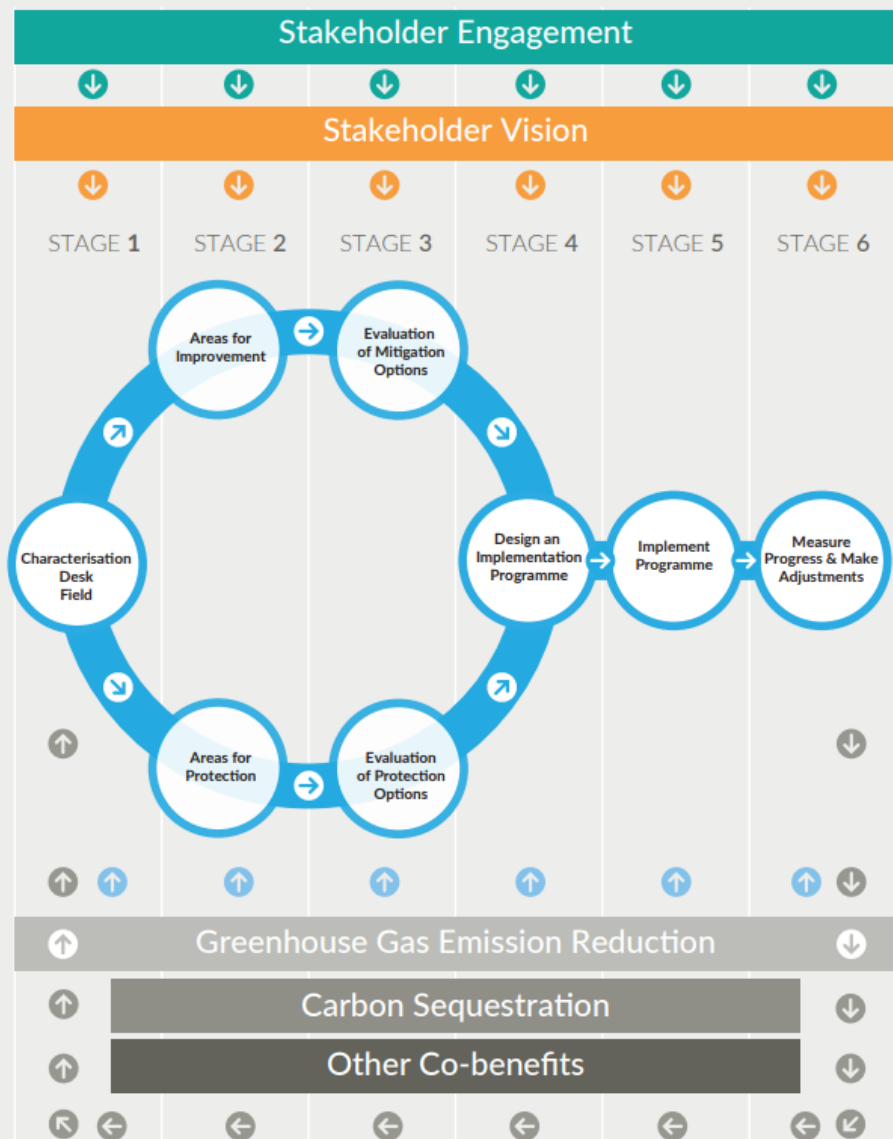




## Integrated Catchment Management (ICM) within the Framework for Integrated Land and Landscape Management (FILLM)

- ▶ 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.

# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT - OUTPUTS



## Integration and prioritisation of actions for water, biodiversity, climate and soils

Stage 1 – A *community vision & desk study*

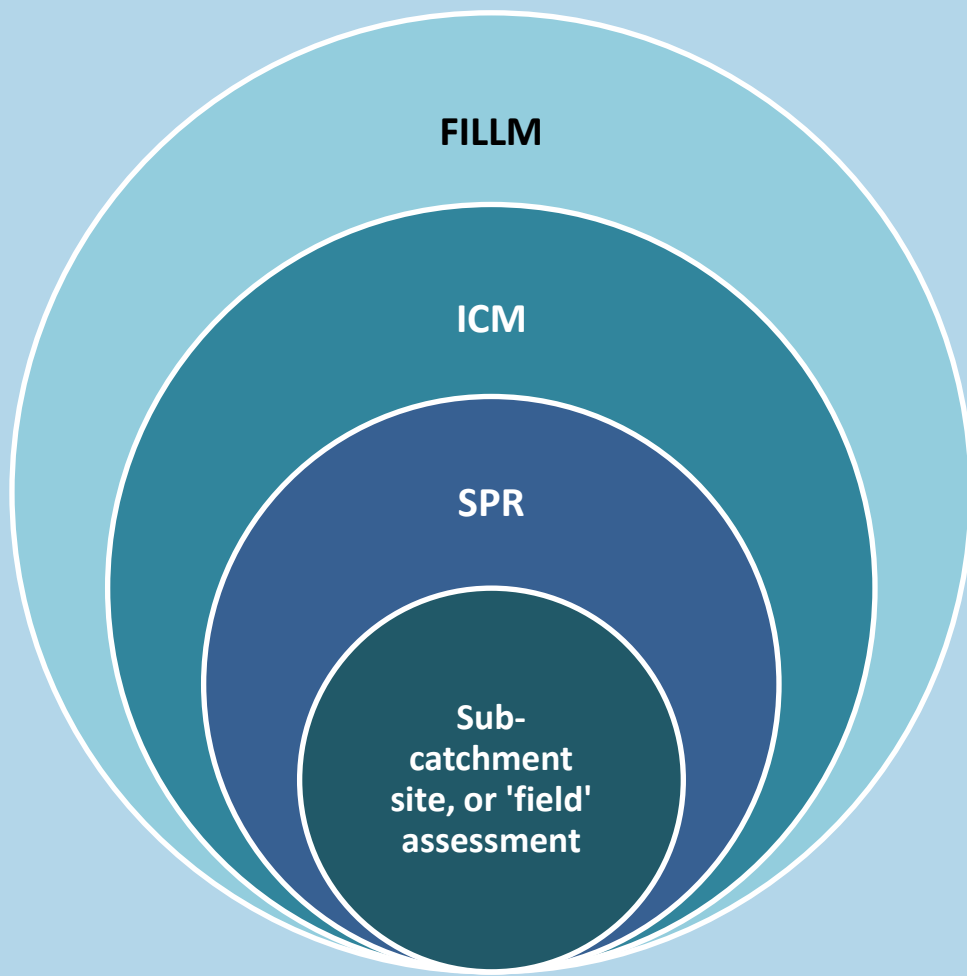
Stage 2 - Catchment characterisation, *critical source areas for improvement and actions for protection.*

Stage 3 - Actions are evaluated and prioritised for positive environmental outcomes – *right measure in the right place*

Stage 4 & 5 – *Design, implement and communicate* for all catchments

Stage 6 - Evaluation and measure progress and *adjust as necessary*

# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT – A HIERARCHY OF FRAMEWORKS



## Hierarchy of frameworks

- I. sub-catchment, waterbody, site/field assessments are embedded;
- II. Source Pathway Receptor model (SPR);
- III. within ICM approach;
- IV. which in turn is encompassed within the FILLM.

# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT – BENEFITS

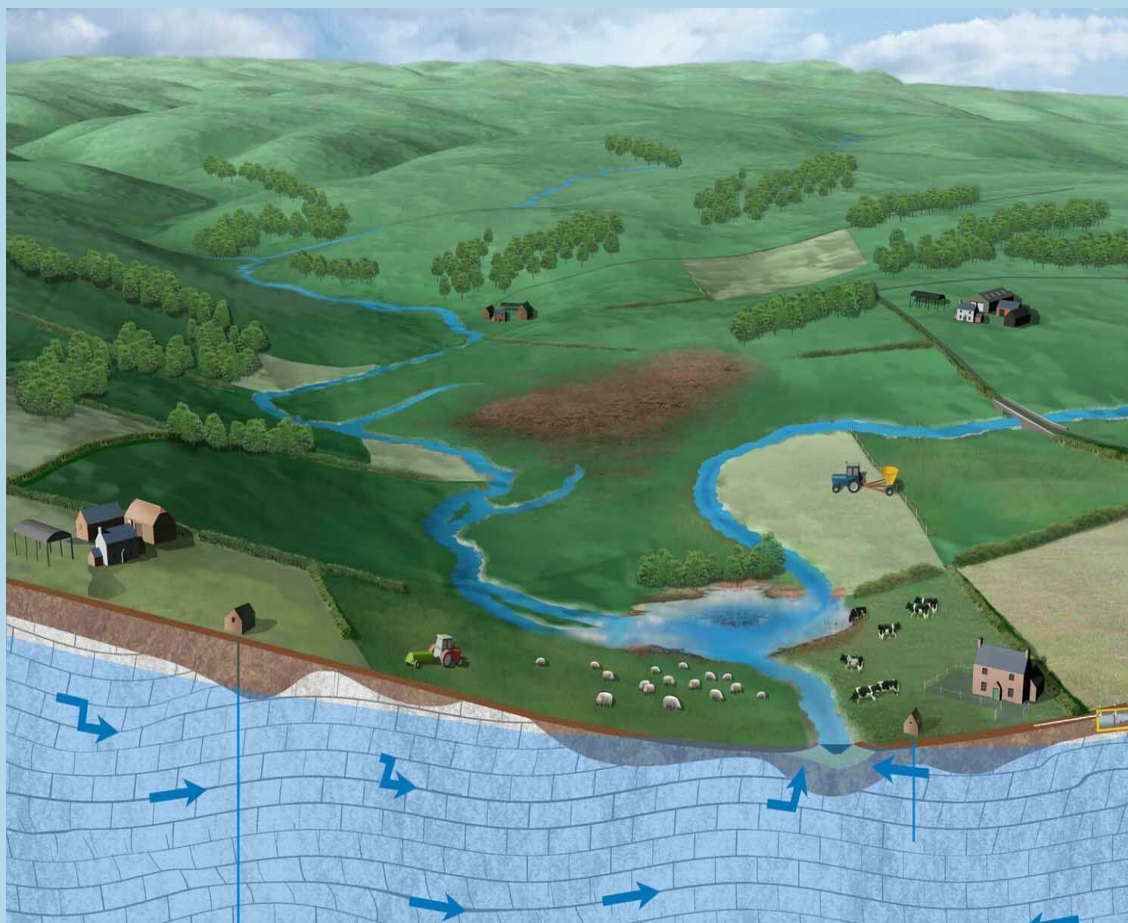
- ☐ ICM is the core approach and philosophy.
- ☐ FILLM reconfigures ICM for wider environmental protection & enhancement.
- ☐ Can be used for protection/management of habitats, e.g SACs.
- ☐ Stakeholder and community involvement throughout.
- ☐ Explicitly includes consideration of carbon sequestration and GHG emission reduction.
- ☐ Encourages environmental policy coherence and integration.
- ☐ Encourages inter-disciplinary and multi-organisational collaboration & discourages siloes.
- ☐ Provides the basis for a shared vision of land and landscape utilisation & management.
- ☐ Takes account of co-benefits and trade-offs.
- ☐ It is being promoted by An Fóram Uisce/The Water Forum.



# A FRAMEWORK FOR INTEGRATED LAND AND LANDSCAPE MANAGEMENT - SUMMARY

1. Protecting and enhancing our environmental inheritance is challenging
2. Siloed approaches *on their own* not adequate.
3. All env spheres (air, water, soils, ecosystems) are interrelated and interlinked. Managing these components, must be undertaken in a *cohesive, holistic, systematic and integrated manner*.
4. FILLM is proposed as the means of providing this holistic, overarching, systematic approach that facilitates community engagement.
4. FILLM builds on the ICM approach and reframes it to include all other environmental components.
5. *It is the appropriate and relevant measures/actions that are key;*
6. FILLM, if adopted and used, will enable consideration of co-benefits, synergies and trade-offs, and therefore help ensure optimum results for the efforts and resources used.

# ACKNOWLEDGEMENTS



*This presentation and the Framework for Integrated Land and Landscape Management, while supported and promoted by the Water Forum, is grounded in the learnings of the EPA Catchments Unit's implementation of Integrated Catchment Management and the work of Donal Daly.*

# THANK YOU

*A new coordinated,  
targeted and specific  
way of working, within  
a catchment  
framework,  
and involving local  
communities, is  
essential  
to ensure our  
environment (water,  
air, ecosystems, soils)  
is protected and  
enhanced*



FILLM link

<https://www.thewaterforum.ie/framework-for-integrated-land-and-landscape-management/>