



Co-funded by
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Public Meeting

Avonmore Demonstration Sub-Catchment

12/09/24

HOUSE KEEPING





Tom Drinan Project Senior Scientist



Ross O'Donoghue Engagement Officer



Mark Desmond Catchment Scientist

7:30pm	Project Overview
7:40pm	Consultation Summary
7:50pm	Catchment Management Overview
8:10pm	Question and Answers
8:30pm	Tea and Conversations
9:00pm	Out the gap

- Please keep your questions until the end.
- Some project elements are further down the road.
- You won't walk out of here with all the answers.
- We want to build with the community as we go.
- This is a pilot project. We are not the solution to every problem... but we want to play our part.

THE PROJECT



Co-funded by
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We are an EU LIFE integrated project (2022-2028).

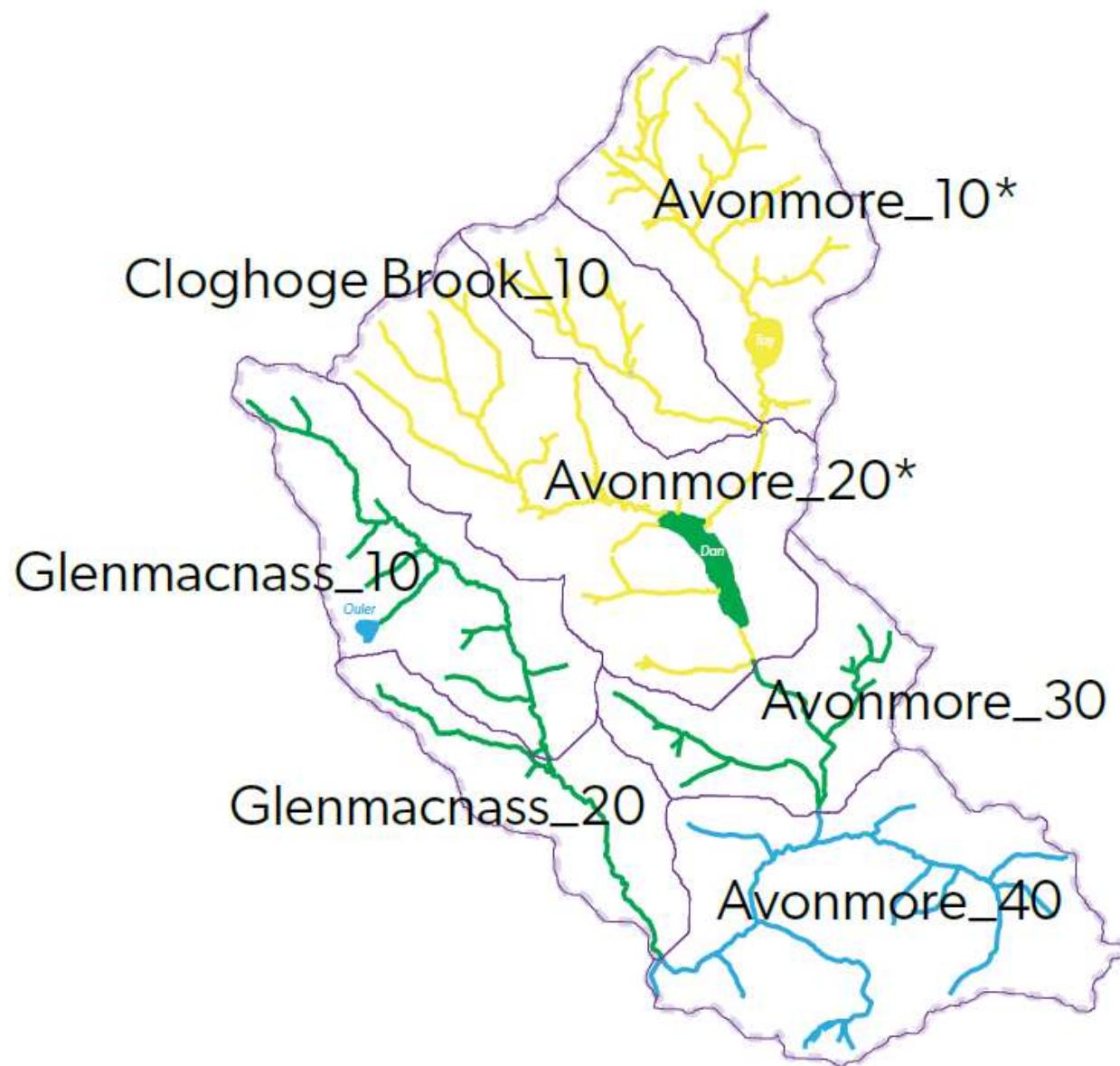
LIFE programmes are how the EU funds environment and climate action.

As an 'IP,' our work is directly connected to Ireland's River Basin Management Plan.

- We pilot water quality measures with landowners
- We test how effective the measures are
- We help communities understand water quality

Our work supports LAWPRO's Blue Dot Programme.

Blue dots are water bodies with high status or an objective to gain high status (about 10% of river water bodies)



Blue Dots

- Avonmore_10
- Avonmore_20
- Avonmore_40



** has a high
status objective*

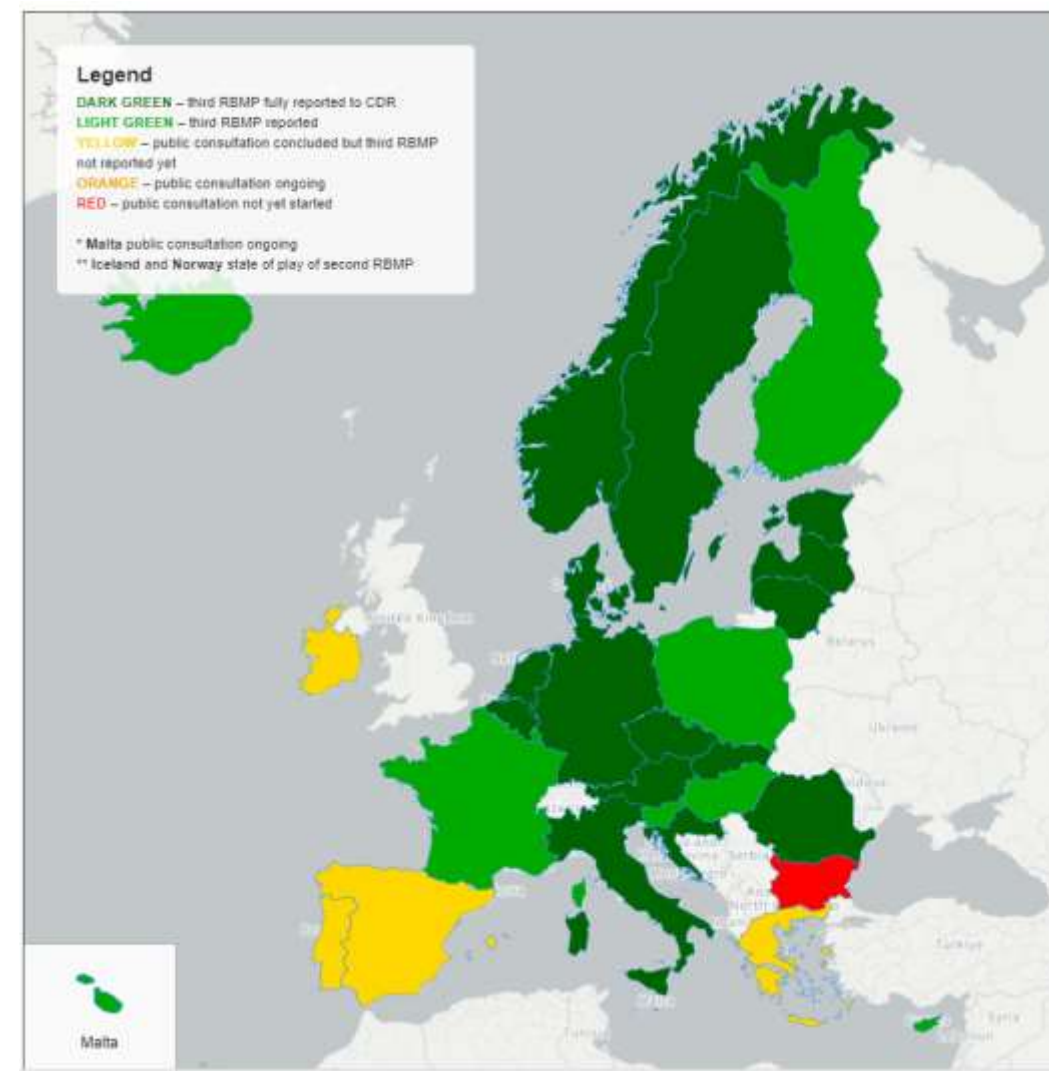
Demonstration Sub-Catchments

Avonmore	Wicklow
Graney	Clare / Galway
Islands	Roscommon / Galway
Awbeg	Cork
Shournagh	Cork
Sheen <small>(Control)</small>	Kerry



The Water Framework Directive
is a legal commitment to
protect and restore water
bodies across Europe.

The status of surface water
bodies must be ‘good’ or better
by 2027.



The River Basin Management Plan is Ireland's plan to meet our legal commitments under the Water Framework directive.

We must:

- Protect 'good' status water bodies and all 'high' status water bodies
- Restore all bad 'poor' and 'moderate' water quality to at least 'good'

What is Water Quality Status?

Ecological and chemical status tells us if the water is clean and the habitat is healthy. It is not the same as drinking water quality or bathing water quality.

European Union Water Framework Directive



River water quality in Ireland 2018 to 2021 (Source: EPA)



How do water bodies get their status?

The EPA gives status based on:

Biology:

What plants and animals can live in the water?

Water Quality:

How much nutrients and harmful chemicals are in the water?

Hydromorphology:

What is the form, flow and function of the water and channel?

Would you like to know more?

Come to a community science event

Experience:

Your local river's ecology

Link between ecology & water quality

How we test water quality

Say 'yes' on the attendance sheet.

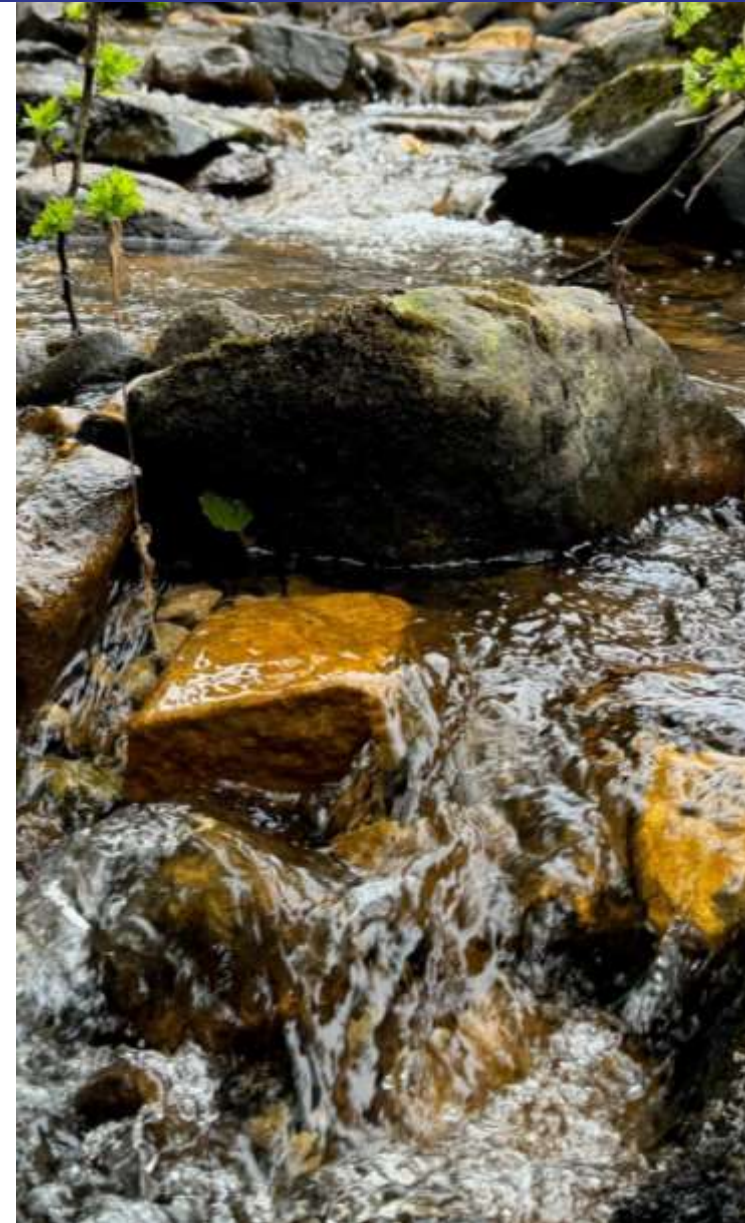


Sean Farrell



KICK SAMPLE AT SCARIFF SHOW – SEPT 1st 2024

- We need clean water to survive
 - High water quality needs less treatment to make it drinkable
- Ireland's natural environment is special
 - It needs healthy rivers to survive.
 - High status waters have a unique biodiversity .

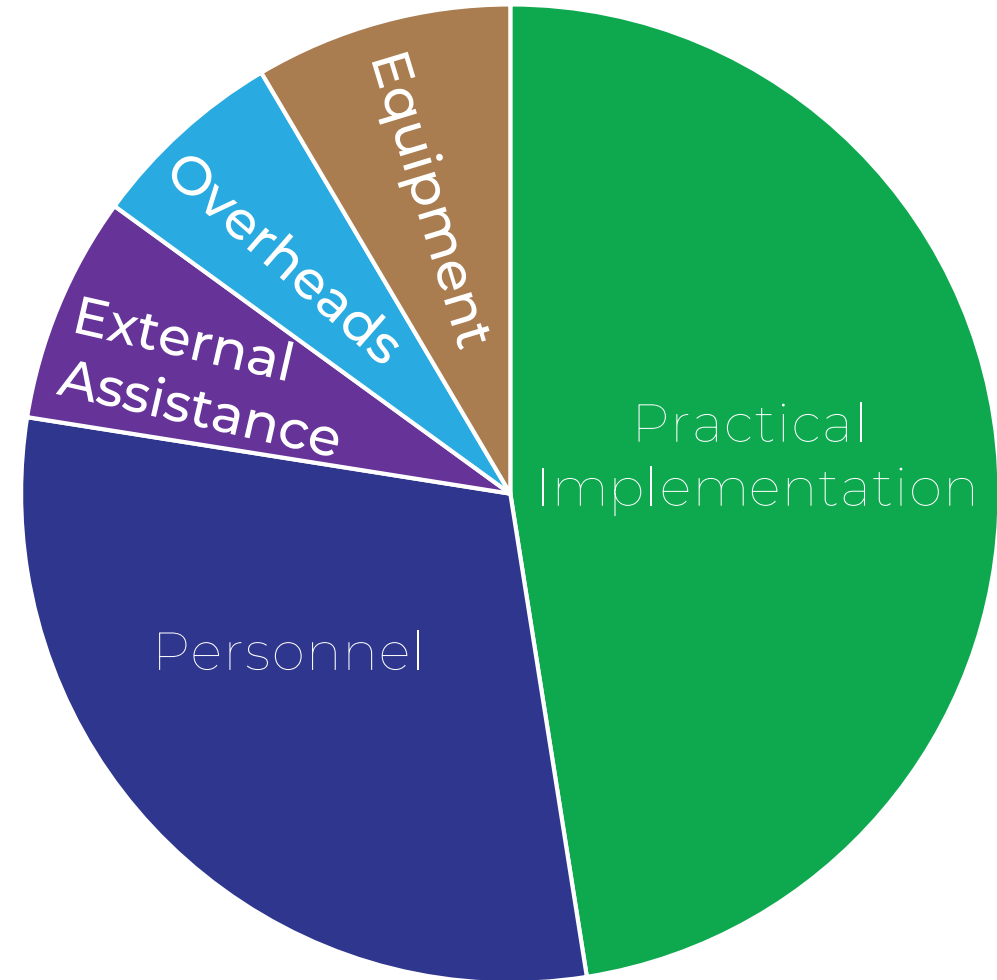


Media Headline:

Avonmore River in Wicklow selected for €20m scheme to protect pristine rivers

Actual Story:

- 20m is total funding for entire project
- Much of figure is contribution in kind
- About €9,000,000 ring fenced for practical works including the pilot agri-environment programme



ABOUT THE PROJECT: HOW WE ARE DIFFERENT

	Waters of LIFE	ACRES CP	Organics	Farming For Water EIP	Better Farming For Water
EU Funded	✓	✓	✓	✓	✗
CAP Funded	✗	✓	✓	✓	✗
Results Based	✓	✓	✗	✗	✗
Pilot Scheme	✓	✗	✗	✗	✗
Commonage	✗	✓	✗	✗	✗
Double payment	✗	✗	✗	✗	N/A
Voluntary	✓	✓	✓	✓	✓

Where land and facilities are publicly managed, we work directly with our project partners and other public bodies on relevant measures. Our national project partners:



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage



OPW

Oifig na
nOibreacht Poiblí
Office of Public Works



Forest Service



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture
Food and the Marine



AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY

For **landowners**, our project features an environmental programme to **support farmers and private foresters**.

This includes a **pilot results based payment programme** for water quality measures. The programme is entirely voluntary.

We also provide free advice and guidance to non-farming landowners.

For **communities**, we engage with:

- Public Meetings
- Open door policy
- Community Science Events
- Schools
- Working with local interest groups



September 12th 2022
Annamoe Community Centre
Attendance: 44

The **RESTORE Project** is a sister project to independently detect change and assess effectiveness of measures:

- Approach **customised** for Graney
- **More monitoring points** and more data
- Monitoring points installed to **assess specific measures**.



EUROPE: CAP Strategic Plan (August 2024)

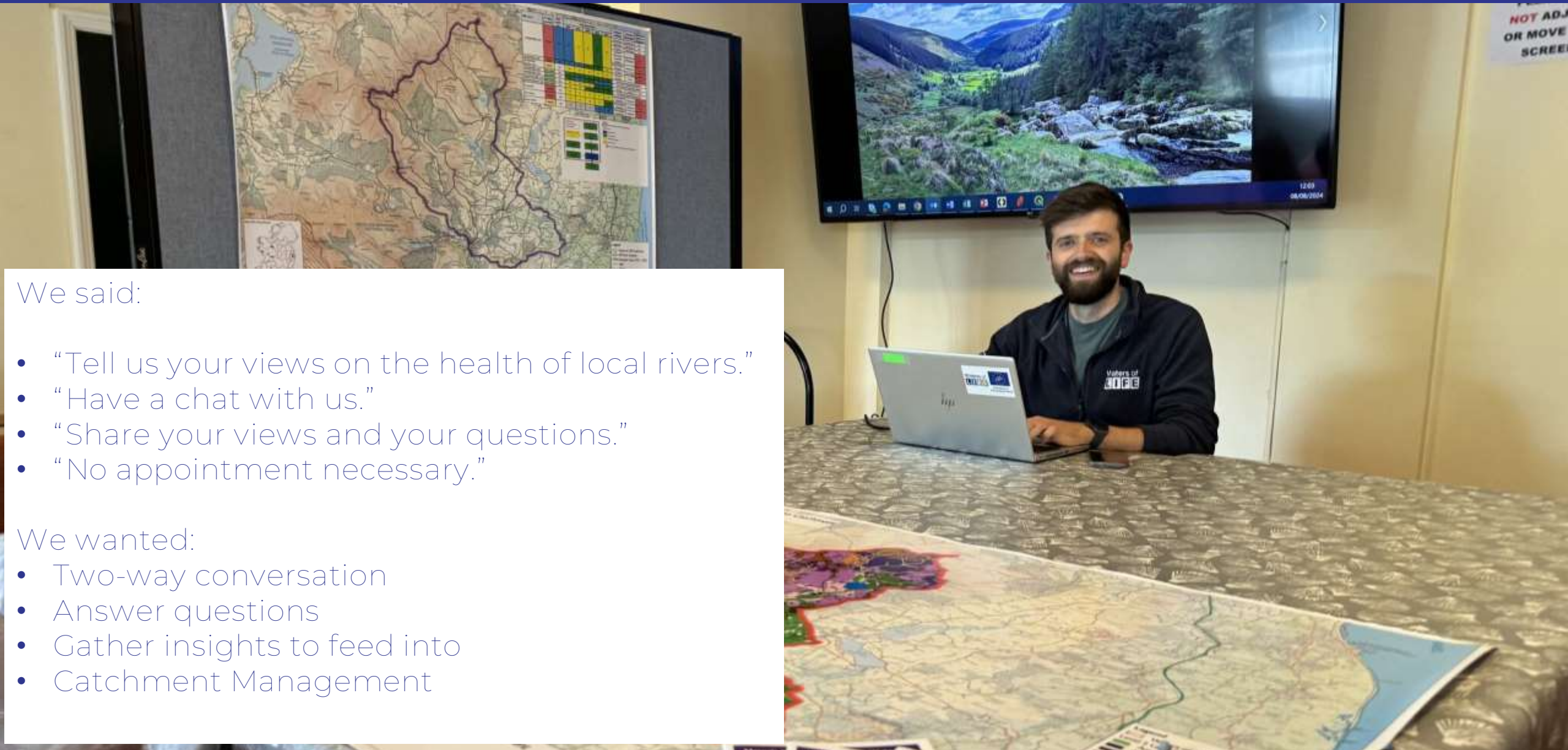
- “The quality of water bodies will be improved through multiple interventions”
 - We will feed into CAP 2028 by piloting work with landowners that can make a difference.

IRELAND: River Basin Management Plan

- Direct report to the Water Advisory Unit of DHLGH
- Project integrated into RBMP plan delivery

||| WHAT YOU TOLD US





We said:

- “Tell us your views on the health of local rivers.”
- “Have a chat with us.”
- “Share your views and your questions.”
- “No appointment necessary.”

We wanted:

- Two-way conversation
- Answer questions
- Gather insights to feed into
- Catchment Management

“The water comes off the mountain like tea.”

“If you could bring down the PH of the rivers down a bit, the trout might survive.”

“You could take sheep off the field and it doesn’t make a difference because the deer will come in and eat what you’re trying to grow.”

“All the water runs right off the land.”

“We were taught to swim below the bridge. It’s too silted up to swim there now.”

water comes off the mountain like tea

PH of the rivers

the deer

water runs right off the land

too silted

“The reality is Forestry is part and parcel of life in Wicklow.”

“Forestry isn’t an issue when it’s standing. It’s when they’re putting in the roads and harvesting it.

“I’ve seen catastrophic clearfell.”

Forestry

Forestry

clearfell



“The reality is forestry is part and parcel of life in Wicklow.”

“Forestry isn’t an issue when it’s standing. It’s when they’re putting in the roads and harvesting it”

“I’ve seen catastrophic clearfell.”

“Are you scaled enough to make a difference?”

We don't have scale but we can make a difference.

We are taking a targeted approach to addressing issues, rather than trying to cover large expanses throughout the catchment.

By taking this approach and dealing with observed issues via the Source-Pathway-Receptor model, we hope to make meaningful improvements on the ground.

We are a pilot, and an objective of the project is to find workable solutions that can be used in water bodies elsewhere throughout Ireland.

“You have Coillte, NPWS, the County Council... Are ye talking to each other?”

Yes. We are engaging with all these stakeholders.

There is ongoing communication.

We want to work together on the most relevant opportunities.

[Is there an example of how we communicate?]

“You’re only here until 2028. How can you change something in 3 years?”

Fair point. Nature doesn’t work like that. But people and practises can.

We need to identify the exact location of issues deal with them in place. Once we can do that, we’re confident we can make positive changes.

Some changes will happen within 3 years. Others will take longer, but will be on the right path.

“Is there any information we can get on grants for septic tank upgrades?”

Yes. All water bodies in this catchment are ‘priority action areas’ (PAAs).

Home owners in PAAs can use the Domestic Water Treatment Systems grant scheme to assist with costs to upgrades and repair.

The level of grant is 85% of approved cost of works up to a maximum of €12,000.

Come chat to us after or
email us.

We'll point you in the right
direction.



“Is the engagement with Coillte positive?”

Yes. Better again, it's constructive.

The Avonmore was chosen as a demonstration sub-catchment with Coillte and the Forest Service. Specifically because forestry is a known pressure acting on high status objective water bodies.

We have met them in the catchment and look forward to presenting the results of our risk-assessment desk study.

“There has been so much clearfelling recently. What is the impact?”

The greatest risk to water quality and stream health is during forestry operations, especially clearfelling.

Clearfelling can potentially have multiple effects due to runoff of pollutants and changing habitat conditions.

We'll be working closely with forestry owners in the catchment to find areas to trial mitigation measures.

“I don’t believe in climate change but I really think the rivers need cleaning up. What can be done about trees and other things overgrowing.”

We’ve seen some amazing work done to keep rivers clean.

Growth of riverside (bankside) vegetation and overhanging trees are another matter. When they’re not an invasive species or a threat to safety, they are actually really important for stream health. They make streams more resilient to weather events (droughts and floods).

Near-river (riparian) habitats are very important to protect rivers and streams, especially for Blue Dots.

“Improving the water quality improves everything. You’d like to think the next generation could play in the river the way we did.”

“Going to school, you could see all the way up the river from the bridge. It’s overgrown now and it would be lovely to see more. But you have to strike a balance.”



“You wouldn’t believe the amount of rubbish we’ve taken off the rivers.”

“Water quality is a huge privilege. I don’t think people have a concept of that.”



“The Glenmacnass has been used as a dumping ground. It’s not a landowner issue. It’s a community issue.”

“I don’t think these rivers are well-celebrated. There’s an absence of place based appreciation.”



We need to talk...





We need to talk...
About Deer.



About the issues.

About Forestry.





Place
Based
Appreciation



V

LOCAL CATCHMENT ASSESSMENT





LAWPRO's catchment scientists do fieldwork and carry out stream assessments to narrow down areas with poor water quality.

Techniques:

- Water samples for chemical analysis
- Examination of macroinvertebrates
- Assessment of river bed
- Assessment of aquatic plant life
- Walks along river bank
- Identify ways to fix causes of pollution

Step 1: Desk Study – Published 2023

- Look at objectives for water quality
- Assess monitoring data
- Assess pressures
- Analyse characteristics
- Find and interim 'story'

Step 2: Catchment Assessment

- Chemistry (13 sites)
 - August 2022
- Small Stream Impact Surveys (9 sites)
 - November 2022 to March 2023













FORESTRY CLEAR FELL (RED CIRCLE) AND LOCATION OF RIVER (BLUE ARROW)



Co-funded by
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3.8 Summary of Pressures Identified by LCA in Avonmore_SC_010

Table 5. Summary table of waterbodies and pressures identified by desk study and LCA.

	Desk study		LCA Outcomes				
	Potential sig. issue	Potential sig. pressure	Significant issues			Significant Pressure	Not confirmed sig. pressure
			Ortho-P	Sediment	pH		
AVONMORE_010	Ortho-P	DWWTS	✓		✓	DWWTS	Peat. Degraded peat leading to low pH
AVONMORE_020	Sediment	Forestry		✓	✓	Forestry	Peat. Degraded peat leading to low pH
CLOGHOGE BROOK_010	pH	Peat			✓	Peat	
AVONMORE_030	No pressure impacts available						
AVONMORE_040	No pressure impacts available						
GLENMACNASS_010	Sediment	Forestry					Forestry suspected pressure in past leading to sedimentation. Not active pressure now but could be again during future forestry operations
GLENMACNASS_020	No pressure impacts available						

STATUS 2016-2021	EPA STATUS OBJECTIVE AND RISK		
Water Body	Ecological Status of Water Quality	Water Quality Objective	Is it at risk of not meeting its objective?
Avonmore_10	Moderate	Restore to high	At risk
Avonmore_20 (including Inchavore river)	Moderate	Restore to high	At risk
Cloghoge Brook_10	Moderate	Restore to good	More assessment needed
Avonmore_30	Good	Protect	Not at risk
Avonmore_40	High	Protect	Not at risk
Glenmacnass_10	Good	Protect	Not at risk
Glenmacnass_20	Good	Protect	Not at risk

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Avonmore_10	Too much nutrients (phosphorous)	<p>Nutrients like phosphorous can cause too much algae and other places to grow in rivers. This is known as eutrophication.</p> <p>Too many plants rob water of oxygen and smother the river bed, making it hard for fish and other animals to survivee.</p>

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Avonmore_20	Too much fine sediment	<p>Fine sediment occurs in nature, but too much of it in the wrong place can suffocate a river.</p> <p>It clogs up stony riverbeds and stops fish and other animals from feeding and reproducing.</p> <p>Fine sediment can also carry nutrients that cause eutrophication.</p>

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Avonmore_10	Too much acidity	When a water body gets too acidic, it is harmful to most animals depending on it.
Avonmore_10		
Cloghoge Brook_10		

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING PRESSURES

Where?	What?	How?
Avonmore_20	Forestry	Forestry works like planting or felling can increase soil erosion and the amount of fine sediment and nutrients in water.
Avonmore_40		
Glenmacnass_10		Water channels running directly from commercially forested areas can carry fine sediment and nutrients into rivers.
Glenmacnass_20		Water channels from peaty areas can also cause higher acidity levels.

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING PRESSURES

Where?	What?	How?
Avonmore_10	Peat	Peat that is degraded from drainage, overgrazing, cutting or burning can increase both fine sediment and acidity in water.
Avonmore_20		
Cloghoge Brook_10		

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING PRESSURES

Where?	What?	How?
Avonmore_10	Domestic waste water treatment systems	<p>Poorly treated human waste in rivers adds nutrients and organic matter.</p> <p>They can cause a reduction in oxygen levels, making it hard for fish or other animals to survive.</p>

VI

CATCHMENT MANAGEMENT APPROACH



Source Pathway Receptor Model

Source

Sediment loss from soil

Nutrients loss from
fertiliser or soil

Pesticides or other

Pollutants

Water quantity due to
drainage (flow) or
abstraction



Pathway

Drains

Overland flow

Well drained land

(vertical **pathways**)



Receptor

Rivers

Streams

Lakes

Graounwater



SOURCE PATHWAY RECEPTOR APPROACH

RECEPTOR:

Which drain / stream /
River is our focus?

SOURCE:

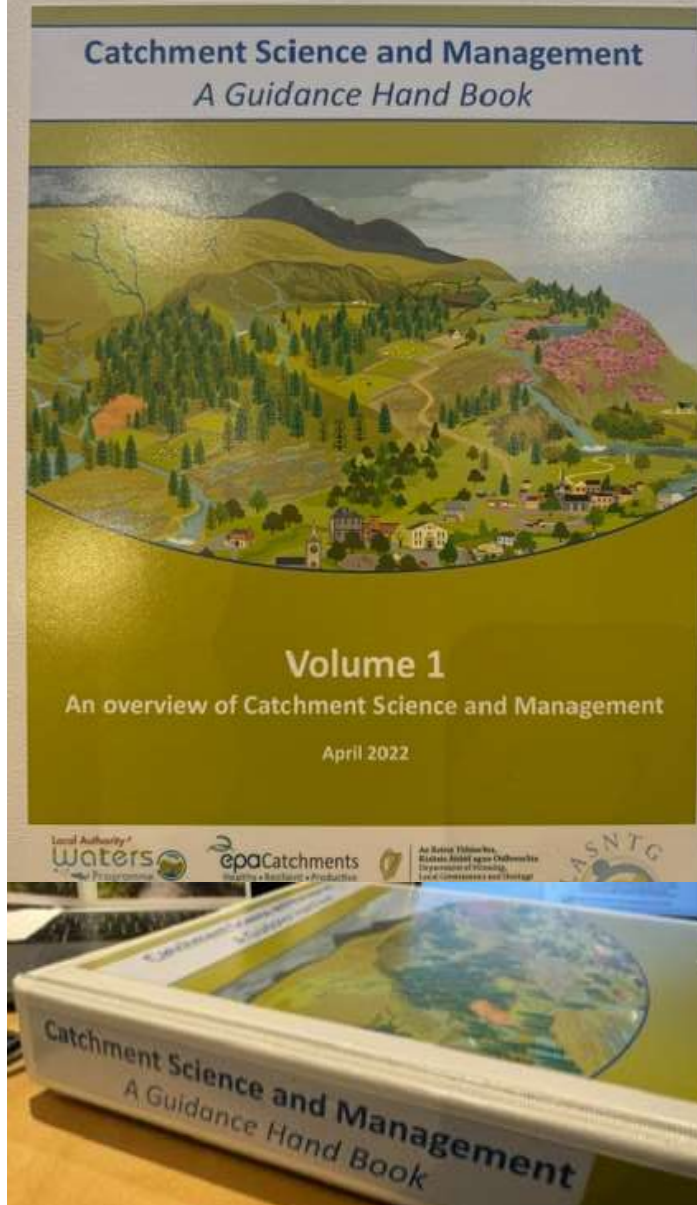
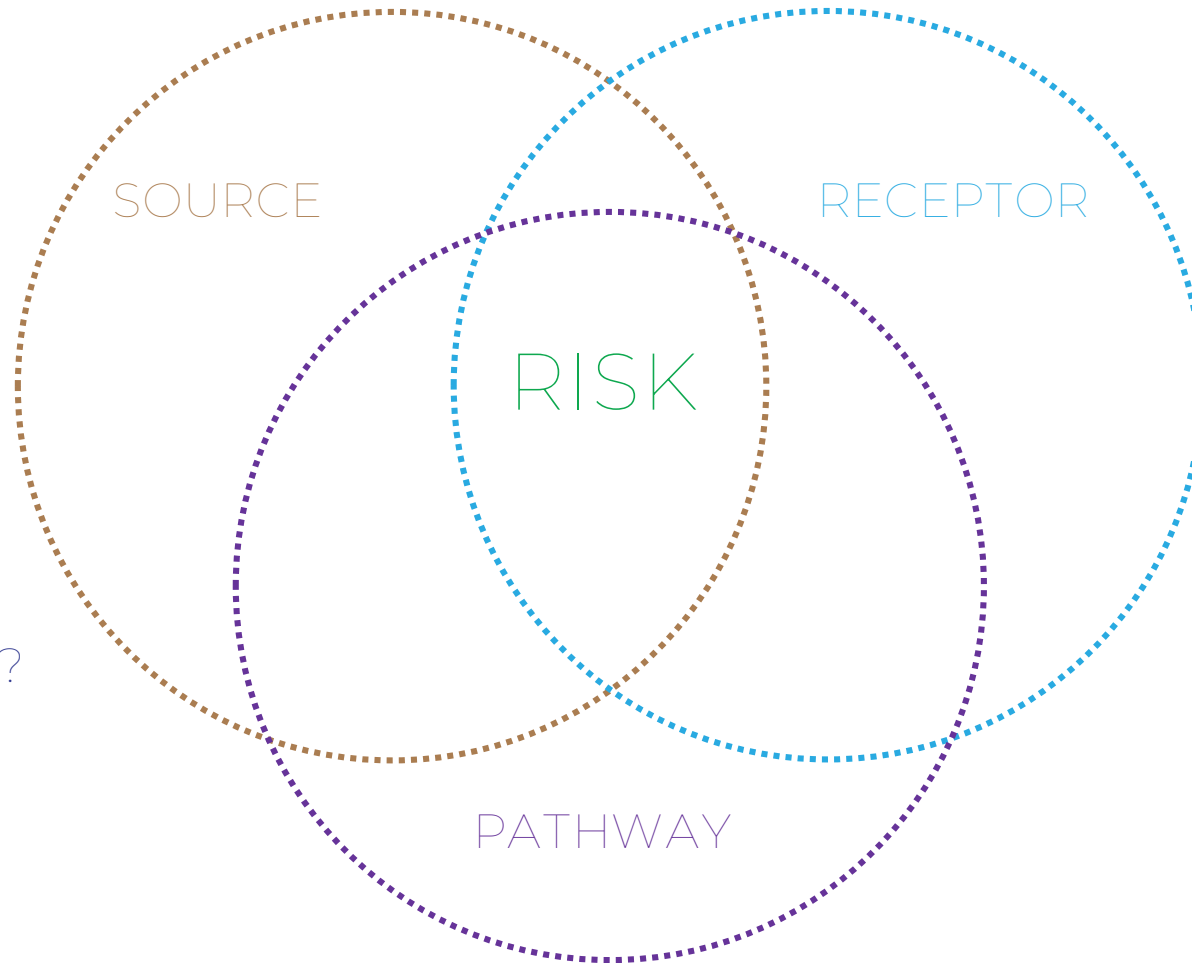
What is the source of
the pressure?

PATHWAY:

How is the source
Reaching the receptor?

RISK:

What is the risk?



SOURCE

Forestry



PATHWAY

Surface
Runoff



RECEPTOR

River





VII | SOLUTIONS

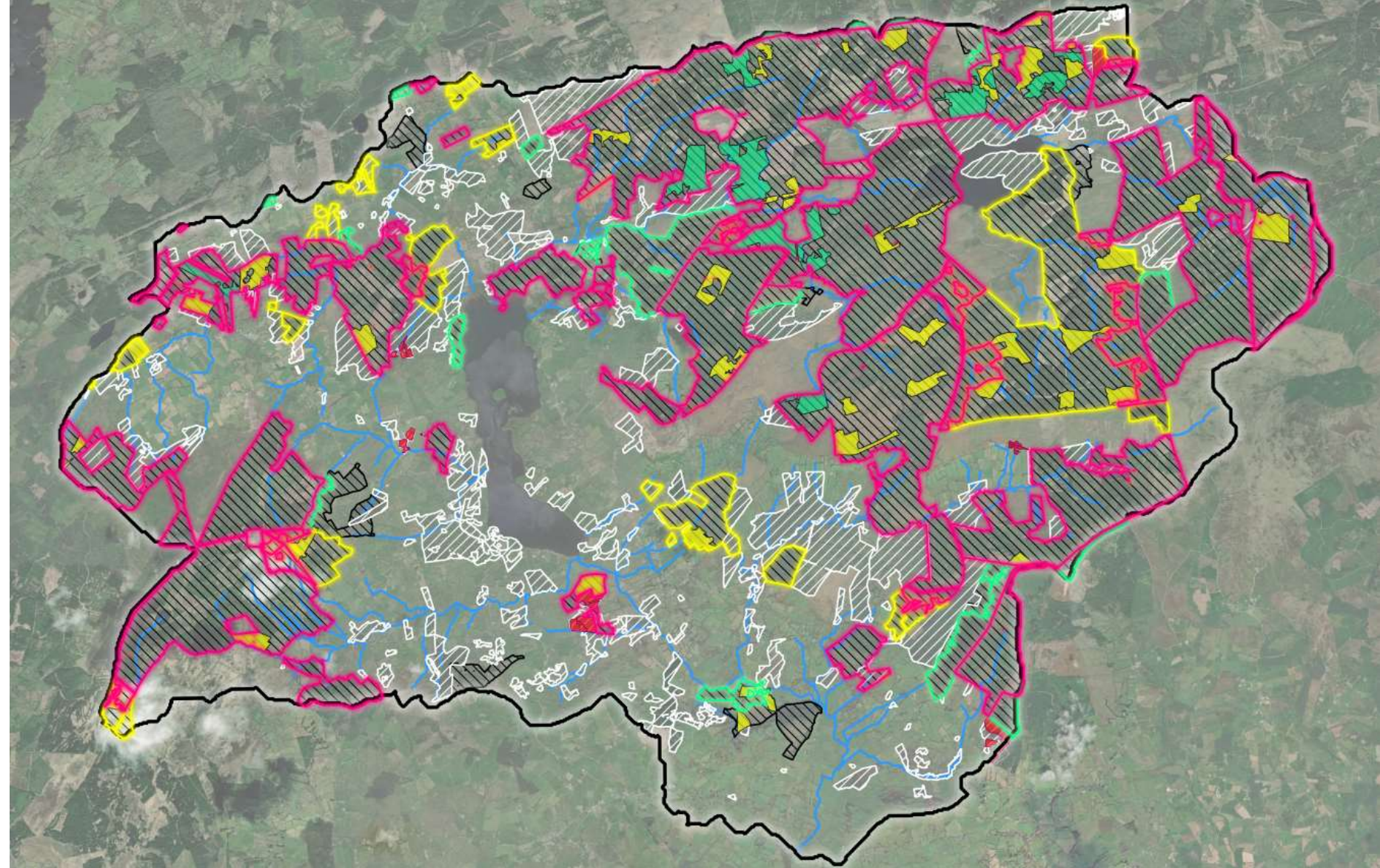





Forestry is the biggest pressure so it's our biggest focus.

- A desk study assigns risk to each water body
- We 'ground truth' the risk
- We look at opportunities to put in measures
- We work with public and private forestry owners to put measures in place


Graney forest inventory (cont.)

- **Coillte:** 7,305 ha
(41.8% of catchment)
- **Private:** 1,942 ha
(11.2% of catchment)



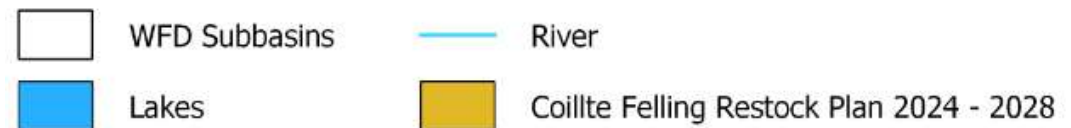
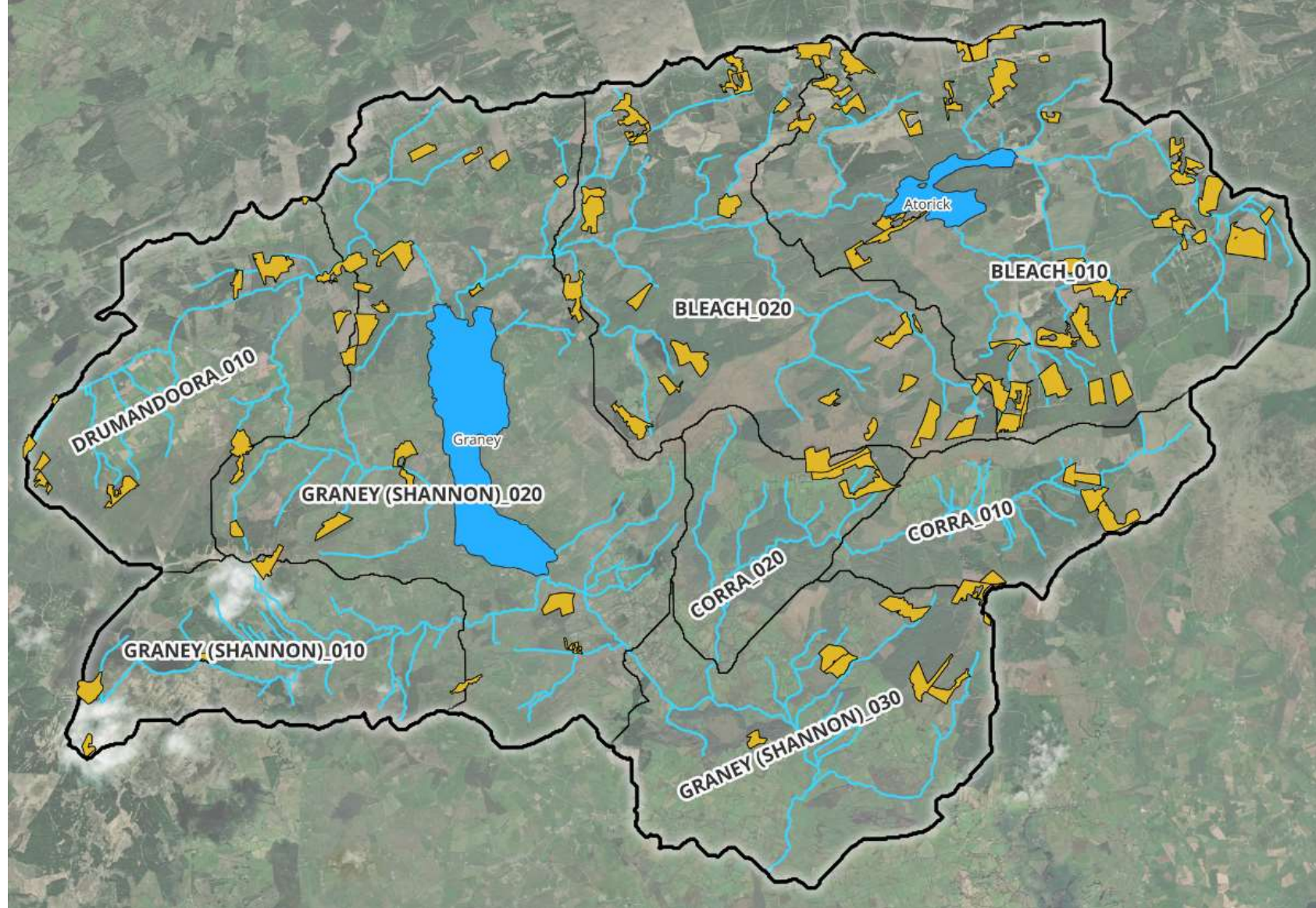
-  Properties in which thinning and clearfell operations may happen in 2021-2025
-  Properties in which only thinning operations may happen in 2021-2025
-  Properties in which only clearfell operations may happen in 2021-2025

-  Licenses of Coillte thinning 2021
-  License of Coillte clearfell 2021
-  Private Forestry

-  Coillte Forestry
-  License of Private Felling 2021

Coillte fell and restock plan in Graney (2024–28)

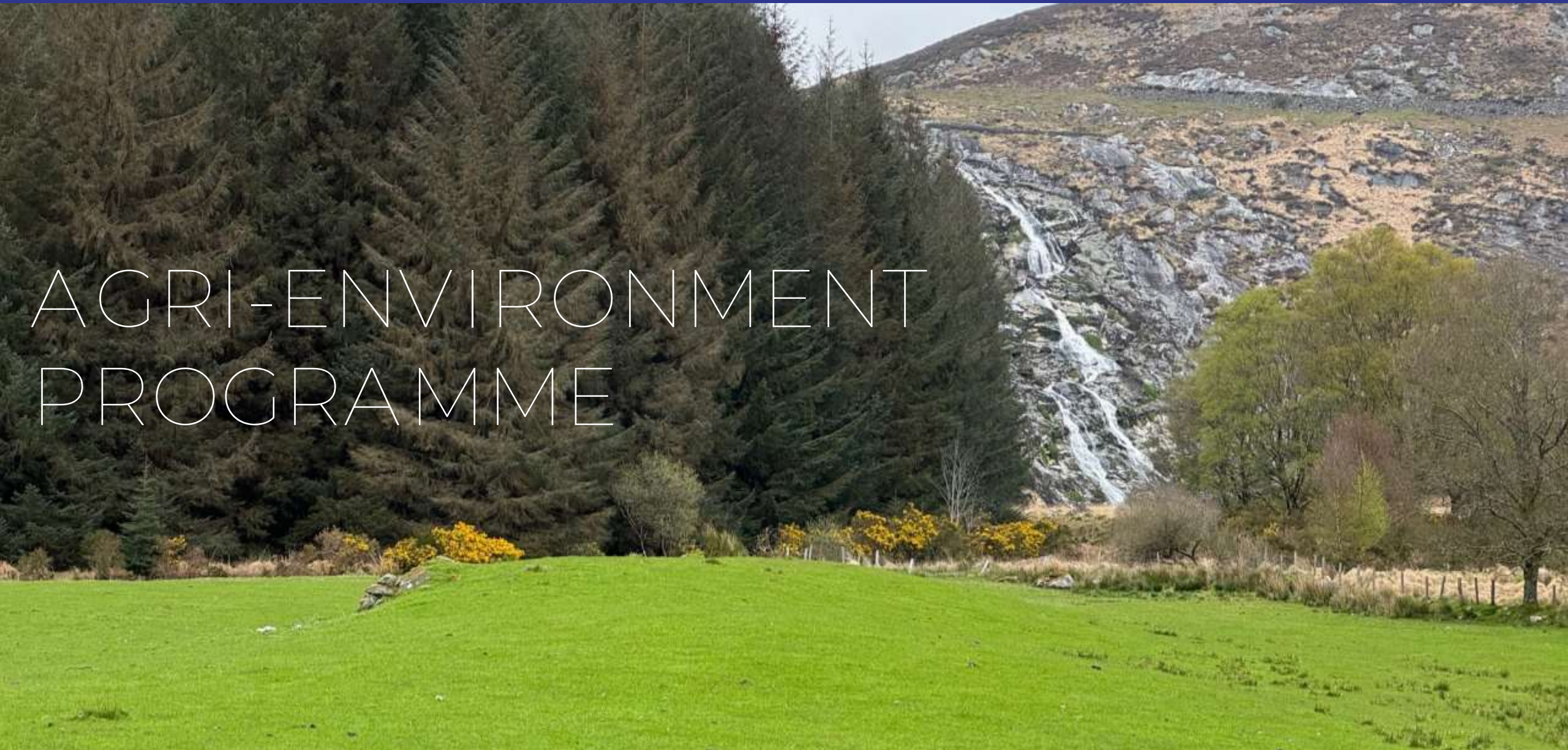
- Felling throughout but a high proportion in the Bleach_010.
- Areas of concern = Bleach_010 and Bleach_020. Graney (Shannon)_030 has a number of areas also.
- Felling area = 849 ha (11.6% of Coillte area within the catchment, and 4.9% of total catchment area).



Proposed approach to prioritising areas of forestry for detailed risk assessment & interventions

- Proposing a two-step process:
 1. Desk-based forestry risk assessment to target areas for integrated (field-based) risk assessments (in step 2 below);
 2. Integrated (field-based) risk assessment using the Source-Pathway-Receptor (S-P-R) model.
- These proposed methods are based on work done by KerryLIFE (demonstration project in the Caragh and Blackwater catchment areas to support the local communities to restore populations of freshwater pearl mussel).





AGRI-ENVIRONMENT PROGRAMME

Results Based Payment Scheme:

- Results based payments (Scoring Habitats)
- General Actions
- Non productive investments
- Landscape measures



General Actions:

- Run off risk assessment
- Nutrient Management Measures
- Mob Grazing (trial plots)



1: Riverside Habitat on Improved
Grassland

2: Riverside Habitat on Tillage

- Applies to a 20m strip adjacent to rivers
- Only applies where there is no other semi-natural habitat
- Payment only on scores of 4/10 or higher
- 10/10 is €2000/ha



Semi-Natural Grassland

Low input grassland on peat

Peatland

Woodland and scrub

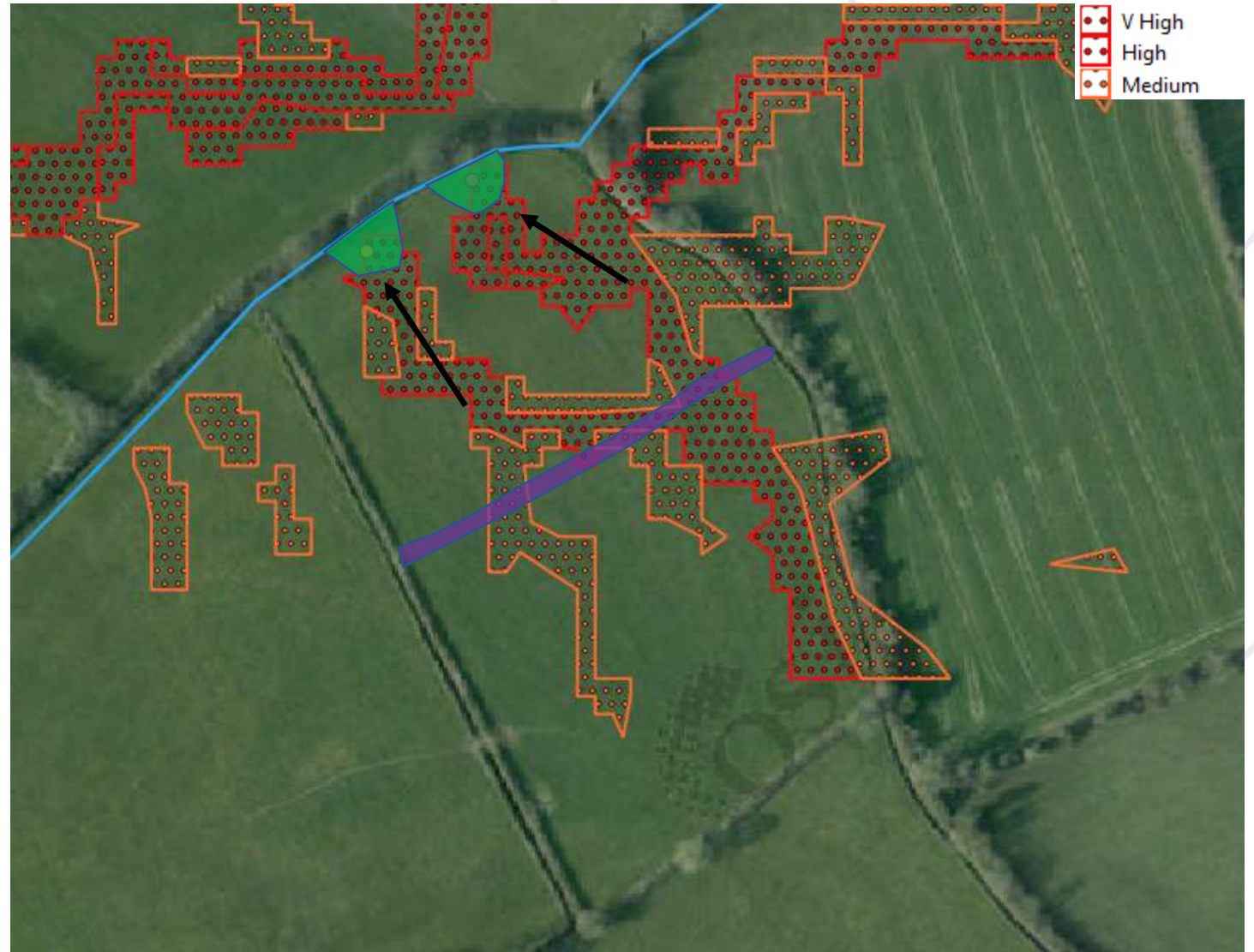
- 10/10 score is €400/ha (same as ACRES CP)
- Payment structures incentivises 8/10 or higher to ensure a significant contribution to water quality
- Riverside bonus / flood plain payment to bring up €/ha where it has the most impact

Runoff Risk Assessment:

- Mandatory for all scheme participants
- Advisor does desk study (advisor paid by project)
- Farm walk with advisor and farmer to identify and confirm flow paths and delivery points.
- Farmer is paid for his cooperation
- Advisor recommends non-productive investments from framework of measures
- NPI proposal submitted to project

Runoff Risk Assessment – example measures

- Candidate for **interception-type measure(s)** – e.g., spatially targeted riparian buffer, hedgerow establishment with earthen bund
- Poorly draining soil type, flow paths and flow delivery points indicated = **higher runoff risk** of pollutants



Mob Grazing:

- Project staff suggest plots suitable to trial pilot measure
- High density grazing for short duration > long rest period
- River sides plots
- Old permanent grass-dominated pastures
- Farmer paid per hectare per year



1.



Set Stocking – no recovery period

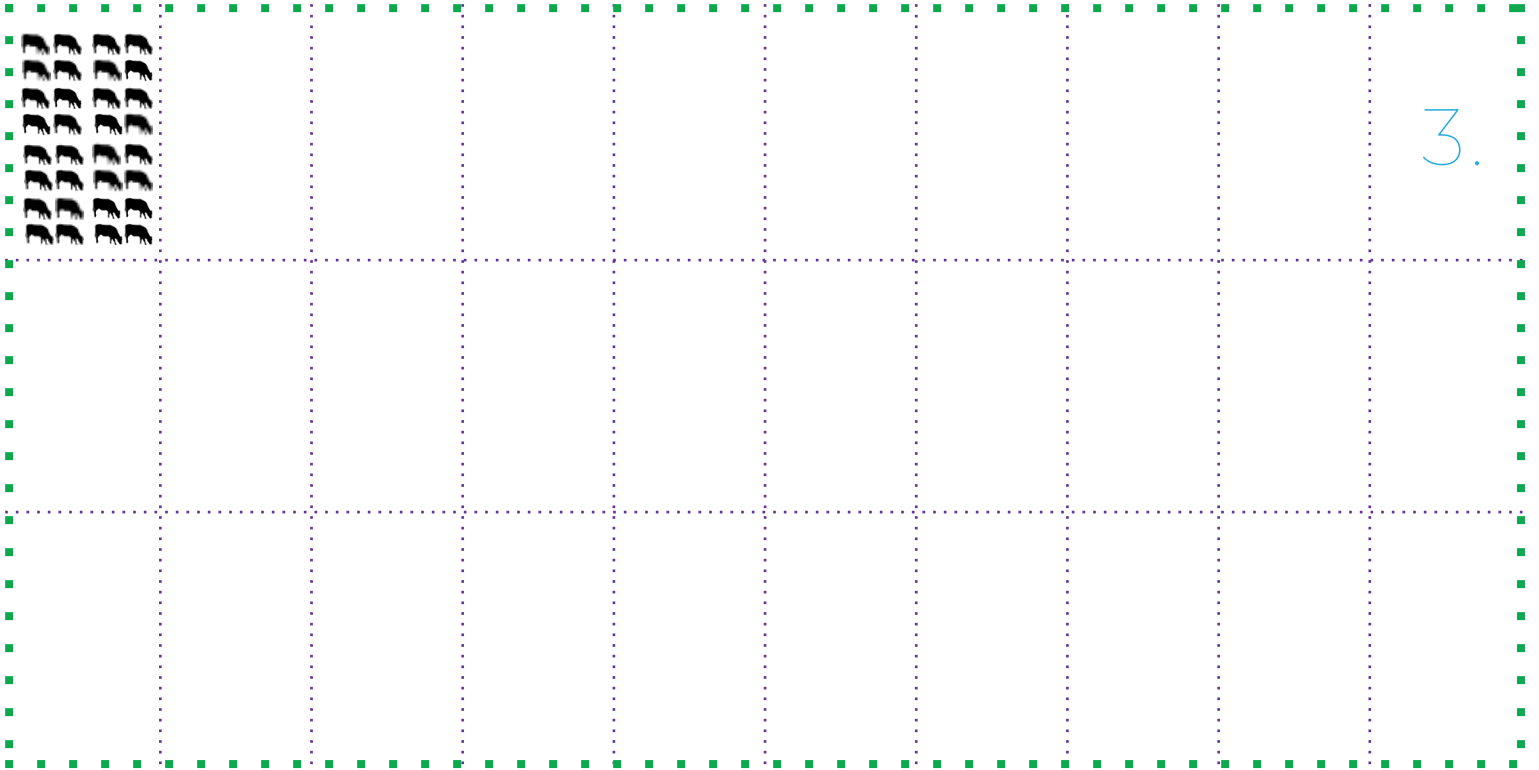
2.



24-day rotation – 18 days recovery

Equal field size, three different scenarios

3.



Mob Grazing – 54 days' recovery

NON-PRODUCTIVE INVESTMENTS



- Bank stabilisation - Soft engineering. Design by project team in consultation with IFI
- Bespoke Measures
- Boundary remediation on flowpaths, hedge rows etc
- Bunded Drain
- Check (leaky) dams
- Contractor Mobilisation Fee - Excavator
- Control of Invasive Species
- Cross drain
- Culverts
- Earth bund
- Fencing for livestock exclusion and delineate riparian zones.
- Gateway Remediation (closing of gap/relocation, water crossing retro fit)
- Hedgerow Establishment (Cross Slope) without earthen mound
- Hedgerow Establishment (Cross Slope) on Low Earthen Mound
- Hydraulic ram pump
- In ditch wetland
- Livestock footbridge (natural watercourse)
- Pasture Pumps
- Peat / plastic dams
- Rainwater Catchers Bespoke
- River crossing relocation Bespoke
- Roadway Sediment Traps
- Sediment trap
- Small Scale Wetland Pond
- Solar Powered Electric Fencer
- Solar Pumps
- Spatially Targeted Buffers
- Swale
- Targeted Field Margin linner (Cross Slope)
- Tree Planting non riverside
- Tree planting riverside
- Water Bars
- Water trough
- Watercourse Crossing/Bridges
- Willow Beds



TALK
TO
US

A scenic landscape photograph of a mountain valley. In the foreground, there's a grassy slope with some dry, brownish vegetation. A stream flows through the middle ground, surrounded by large, mossy rocks. The background shows rolling hills and mountains under a cloudy sky. The text "THANK YOU" is overlaid in a large, white, sans-serif font on the right side of the image.

THANK YOU

A photograph of a stone bridge over a stream, surrounded by lush green vegetation. The bridge is made of large, rough-hewn stones. The stream flows under the bridge, and the surrounding area is filled with tall grasses and other plants. The sky is overcast.

QUESTIONS

1. When does it run? Early 2025 to March 2028.
2. Do you need an active herd number? Yes.
3. How do I sign up? Fill out an Expression of Interest form. We'll be in touch.
4. Do Coillte get money from the programme? No.
5. What about private foresters? We'll look to help them through the forestry programme. We're also open to trialling solutions in specific areas where the forestry programme may not apply.

6. I'm in another scheme (e.g. ACRES or Organics). Can I still apply?

Yes.

There are no double payments but we can top up payments based on results for water quality.

Our riverside bonus on semi-natural habitats is over and above.

e.g. if you have a plot scored as semi-natural habitat under ACRES, we can still apply a bonus payment per metre where it bounds a river

7. How much money can I expect to get?

The total pot for practical practical works including the pilot agri-environmental programme is about €9,000,0000 across all five catchments.

There is no set budget for each catchment. It is dependent on interest. You might only know what you might expect to receive after your land is scored.

8. Is there a minimum payment?

Farmers would be paid for the time in training. They would also receive payment for certain mandatory elements e.g. run-off risk assessment.

After that, there is no minimum or maximum payment.

9. Do I have to fence off 20m of my land along by the river?

No. Your land will be scored on those 20m.

After that, if it's agreed that fencing is the right measure, a farmer can fence off as little or as much as they like and get paid per hectare.

E.g. if you fence off 10m, you'll be paid on that.

If you fence off 20m and there's already a mandatory requirement for 1.5m, you'll be paid on the the 18.5m.

10. Do I have to take up the scheme?

Participation in the scheme is completely voluntary.

It is also fully private and confidential.

And the Waters of LIFE project have no enforcement authority.