



# Waters of **LIFE**

 Co-funded by  
the European Union

Public Meeting  
Awbeg Demonstration Sub-Catchment

26/09/24



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

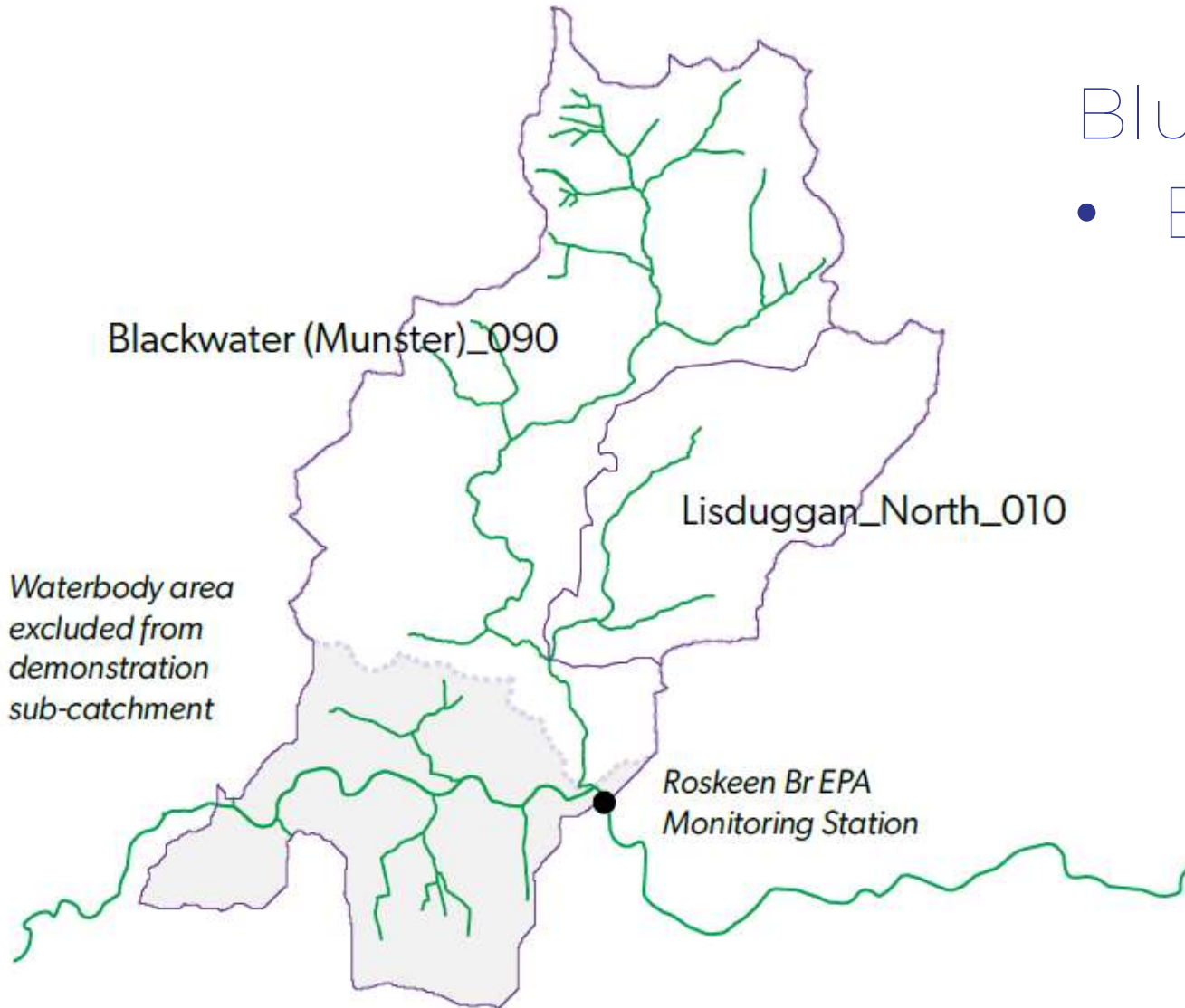
LIFE programmes are how the EU funds environment and climate action.

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 Dot:

- Blackwater (Munster)\_90



## Demonstration Sub-Catchments

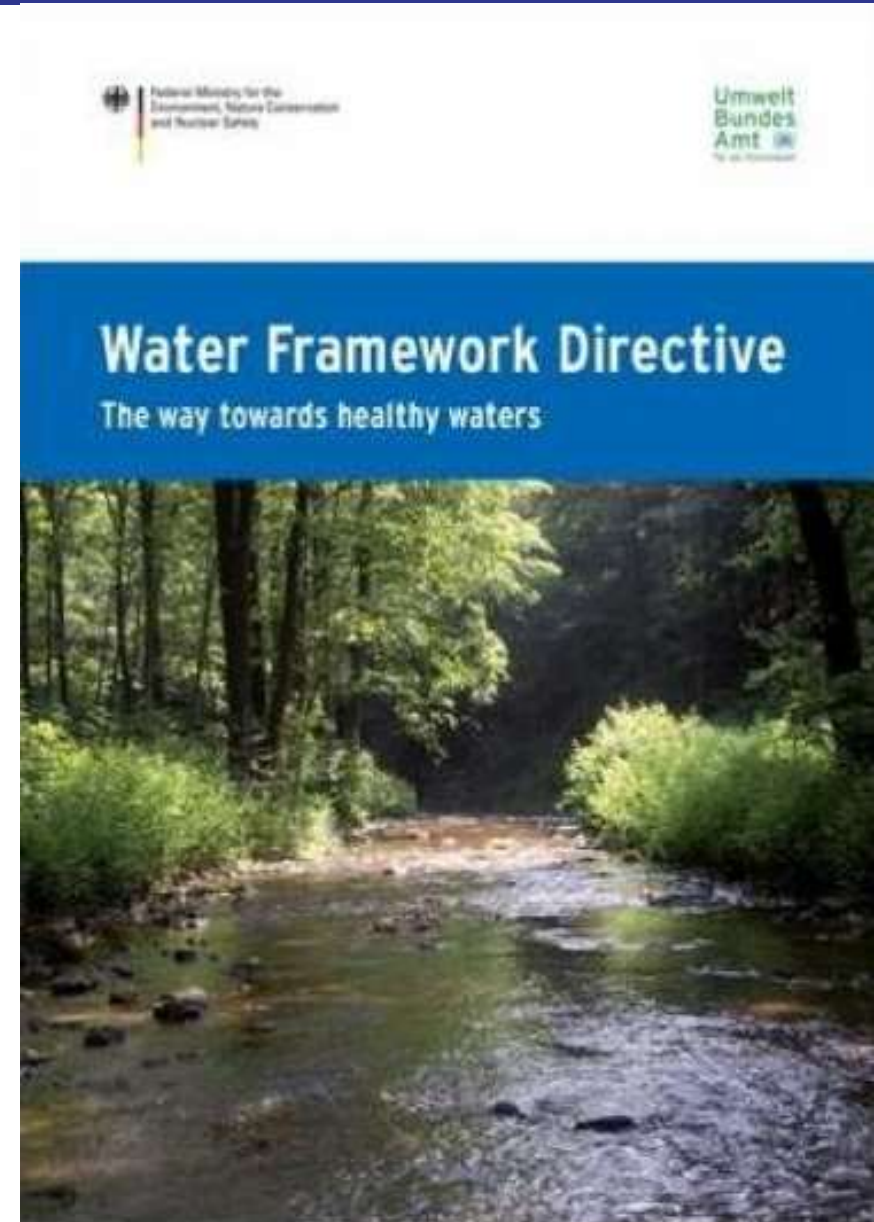
Avonmore	Wicklow
Graney	Clare / Galway
Islands	Roscommon / Galway
Awbeg	Cork
Shournagh	Cork
Sheen (Control)	Kerry



## 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

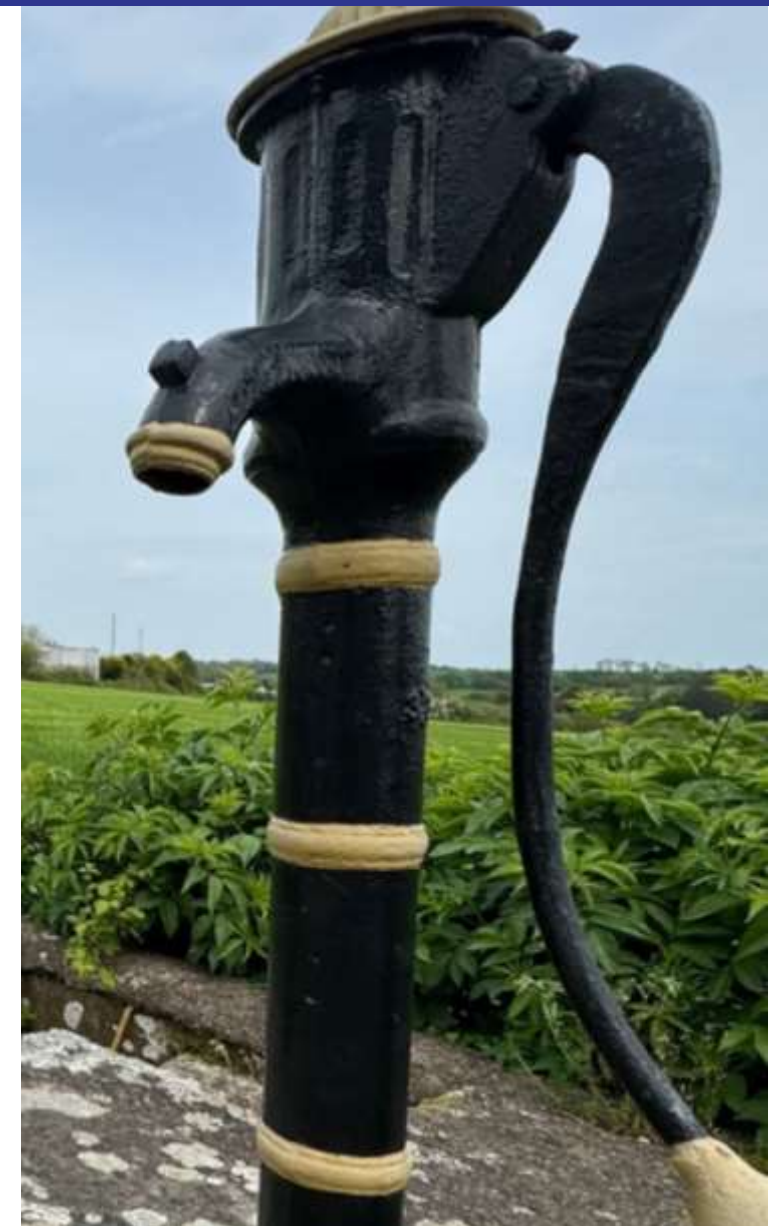
Link between ecology & water quality

How we test water quality

Say 'yes' on the attendance sheet.



- 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 .



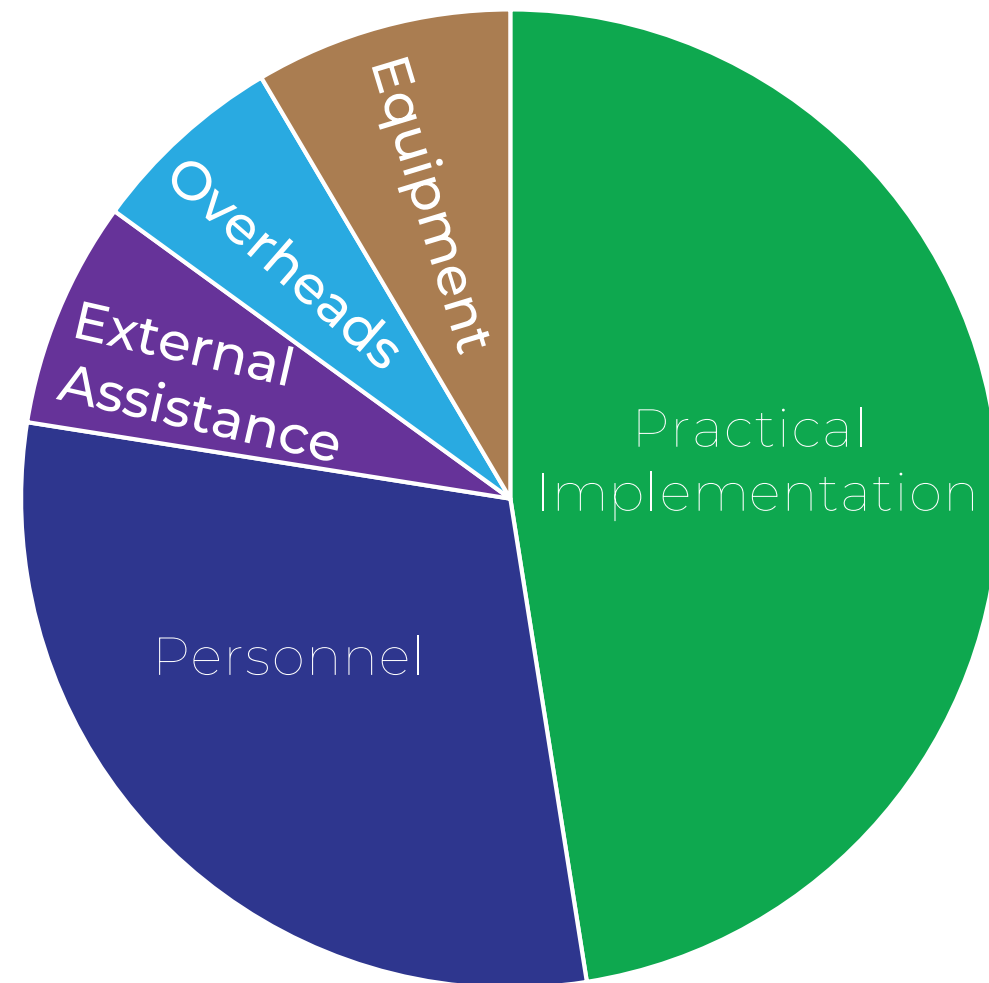
## Media Headline:

WED, 16 AUG, 2023 - 09:45

# €20m project to help restore Cork rivers' quality

## 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





	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:



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
- Local interest groups



October 10<sup>th</sup> 2022 - Kilbrin Community Centre. Attendance: 10



August 2024 – Drop-In Consultations. Attendance: 15



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

- Approach **customised** for Awbeg
- 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



“I think most people don't pay too much attention when they don't see the rivers.

You'd only hear about the bad news and the fish kills.”

“There's no hesitation with the drinking water.”





“You have to have good gravel for spawning. If the sediment gets in, they won’t spawn. What you want is stones they can kick with their tails.”

“If you can fish these rivers you can fish anywhere.”



“We do a big clean up every spring and every autumn.”

“There’s a group of farmers who love their land. They’re very capable.”



Source:  
Castlemagner  
Community  
Development  
Association  
Facebook





“Castlemagner Community Development Association got funding from the county council to have limestone bridge signs installed at

- Marybrook; Ardine; Bannagh; Ketragh and Assolas Bridges

We clean them every year. We’d extend it if we could.”

NB: This is the best example of bridge heritage we’ve seen in our catchments. We’d like to case study it and support where possible.





“This was our  
Ballybunion.”





“ Do people want to care about the local river? There’s a lot going on.”

You’re right. There *is* a lot going on. There is always someone telling us what we should and shouldn’t be doing with the world around us.

It can be hard to care about the environment when it doesn’t feel like it’s in our power to fight it. Or we don’t see the river every day.

But these rivers run right through our communities. And we can make a difference. So we’re hoping to help people learn more and care more.

“You have been testing our rivers. What way are they?”

We'll present a summary of the Local Catchment Assessment tonight and publish it on [watersoflife.ie](http://watersoflife.ie)

In all truth, local water quality is not where it needs to be.

But these reports are just a snapshot in time.

We'll be doing a lot more testing throughout the project and it will give us a much clearer picture of where we're going.

## “What role do the insects have?”

Macroinvertebrates are the most important story tellers for water quality.

Where we see mayfly, stonefly and caddisfly in rivers, it's an excellent indicator of good water quality.

Other insects and worms are more tolerant of pollutants in rivers. If they are all we find, it points to poorer water quality.

Insects are food for fish. Fish are food for birds and mammals.

The better the insects, the better the ecosystem.

“What difference will we see on the banks of the river?”

River banks are a habitat. We want to protect those habitats and improve them where needed.

River banks also protect the river and help the river be more resistant to both flooding and drought. We want to help these areas be stronger and healthier for everyone.

The 20m either side of a river is a key scoring area of our results based payment scheme.

Fencing and planting are likely to be important measures for us.



“ Could we see signage on local wildlife?”

We'd love to help with that.

We have some budget for local signage.

We want to put something in place that offers something meaningful and relevant and will serve a purpose beyond the life of this project.

“What about getting a drone to follow the Awbeg and Ketragh from their source to where they join the blackwater?”

Brilliant idea. You have to see it to appreciate it.

Where local landowners are happy to support fostering that sense of appreciation for local rivers, this is something we're very happy to look at. Where's the nearest cinema screen ;).

Is there an update on the  
Waste Water Treatment  
Plant in Castlemagner?

## **‘Raw sewage’ bypassed north Cork treatment plant and flowed towards nearby river**

A local landowner said there was a ‘Foul, sickening smell’ at the overflowing sewage plant in late August 2023



Sewage emerging from a manhole at the wastewater treatment plant.



# Waste Water Treatment Plant in Castlemagner

- Flagged with project August 2023
- Met onsite with local landowner
- Commitment to continue working within existing structures .

## **‘Raw sewage’ bypassed north Cork treatment plant and flowed towards nearby river**

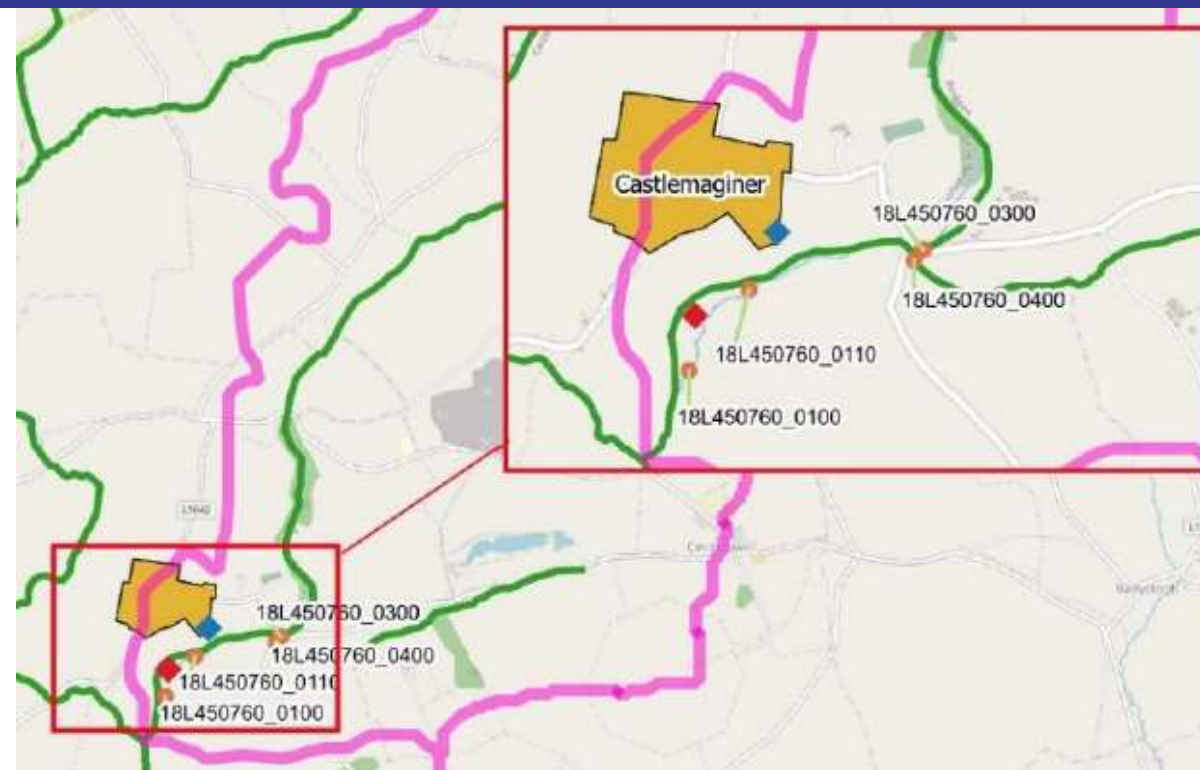
A local landowner said there was a ‘Foul, sickening smell’ at the overflowing sewage plant in late August 2023



Sewage emerging from a manhole at the wastewater treatment plant.

# LAWPRO Local Catchment Assessment:

- Biological assessment along reach of concern.
- “Evidence of probable impact.”
- Ammonium “main nutrient of concern”
- “Intermittent pressure”



Date	Site Code	Orthophosphate (mg/l)	Ammonium (mg/l)	Nitrite (mg/l)	Nitrate (mg/l)	BOD (mg O2/l)
30/11/2022	18L450760_0300 Most Upstream	0.031	0.041	0.01	4.2	< 0.1
	18L450760_0400 Inputting tributary	0.031	0.039	0.004	0.8	0.4
	18L450760_0110 DS of CoA	0.039	0.076	0.011	3.8	< 0.1
	18L450760_0100 DS from DPI	0.036	0.095	0.011	4	0.2
22/05/2023	18L450760_0300 Most Upstream	0.014	< 0.02	0.009	4.3	
	18L450760_0400 Inputting tributary	0.037	< 0.02	< 0.004	< 1	
	18L450760_0110 DS of CoA	< 0.01	< 0.02	0.008	4.1	
	18L450760_0100 DS from DPI	< 0.01	0.055	0.009	4.1	



# UISCE ÉIREANN UPDATE:

August 24 via Waters of LIFE correspondence

- Waste Water Treatment Plan is Developer Provided Infrastructure
- It is not an asset of Uisce Eireann and its operation is outside their remit.
- Progressing a project to cater for all existing homes and businesses in Castlemagner, plus growth.
- In accordance with National Planning Framework and Planning Authority's development objectives for the village.

## UISCE ÉIREANN UPDATE:

August 24 via Waters of LIFE correspondence

- Castlemagner is currently at stage 3 (of 4) Final Business Case of the Small Towns and Villages Growth Programme.
- Not able to provide a timeline. Dependent on complexity, approvals, consent and funding.

## SUMMARY:

- A long-term process is being implemented
- It's complex and there's no sight of timeline.
- <sup>35</sup>We'll communicate what we know and push for updates.

You care very much about your local community.

It's harder to care about something you don't see or use.

People want to do the right thing.

We have the data and the science.

We can tell the stories that help too.

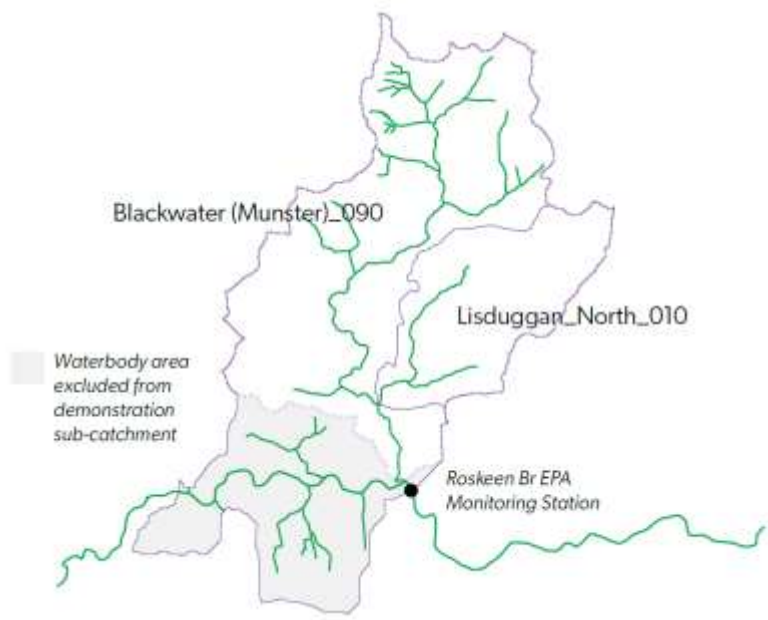


# LOCAL CATCHMENT ASSESSMENT





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?
Blackwater (Munster)_90	Good*	Restore to high	At risk
Lisduggan_North_10	Good**	Protect	Not at risk



\*Blackwater (Munster)\_090 status is based on a monitoring (sampling) location outside our demonstration sub-catchment. It represents a bigger area so does not represent local water quality.

\*\* Lisduggan\_North\_010 status is based on modelling (predicting). Recent findings suggest water quality is not as good as predicted.



Local Authority  
**Waters**  
Programme  
vibrant communities | catchment assessment | healthy waters





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 landscape characteristics (water movement)
- Find and interim ‘story’ using data as evidence

### Step 2: Catchment Assessment – Aug to Oct 23

- Nutrient sampling (19 sites)
- Hydromorphology assessments (19 sites)
- Biological assessments (11 sites)
- Sedimentation assessments (11 sites)
- Biological oxygen demand (11 sites)



## LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Awbeg River	Too much nutrients (nitrogen and phosphorous)	Nutrients such as nitrogen and phosphorous can cause algal and plant growth in rivers. This is known as eutrophication.
Ketragh River		Excess algal and plant growth rob water of oxygen and smother the river bed, making it hard for fish and other animals to survive.







## LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Ketragh River	Organic Matter (e.g. sewage)	<p>Bacteria use up oxygen as they break down organic matter. The more organic matter in the water, the more oxygen gets used up.</p> <p>Less oxygen in water makes it harder for fish and other animals to survive.</p> <p>Organic matter can also cause the growth of sewage fungus that can smother a river bed.</p>



# Sewage Fungus

Image Source:  
LAWPRO LCA

## LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING ISSUES

Where?	What?	How?
Awbeg River	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 PRESSURES

Where?	What?	How?
<p>Awbeg River</p> <p>Ketragh River</p>	<p>Agriculture</p>	<p>Agriculture refers to a broad range of farming activities and land use. Certain activities can pose a higher risk to river water quality.</p> <p>These include inappropriate use of fertiliser, drainage works, land clearance, overgrazing and access of livestock to rivers.</p>

## LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING PRESSURES

Where?	What?	How?
Ketragh River	Urban Waste Water	<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>

LAWPRO'S LOCAL CATCHMENT ASSESSMENT FOUND THE FOLLOWING PRESSURES

Where?	What?	How?
Ketragh River	Weirs	<p>A weir is a man-made barrier across a river channel to hold back the flow of water.</p> <p>Weirs change the river's habitat and can stop fish from moving up and downstream.</p>







SOURCE

Bare soil / poaching



PATHWAY

Surface run-off



RECEPTOR

River





# PILOT AGRI- ENVIRONMENT PROGRAMME



## Elements:

- Semi-natural habitat scoring (RPBS)
- Run-off Risk Assessment
- Training
- Non Productive Investments
- General Actions
  - Nutrient Management
  - Catch Crops
  - Minimum Tillage
  - Mob Grazing





1  
Riverside Habitat on  
Improved Grassland

2  
Riverside Habitat on  
Tillage

- Applies to within a 20m strip adjacent to river
- Only applies where there is no other semi-natural habitat.
- Higher the score - higher the payment
- Payment only on scores of 4/10 or higher
- 10/10 score pays €2000/ha





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- Only applies where there is no other semi-natural habitat.
- Higher the score - higher the payment
- Payment only on scores of 4/10 or higher
- 10/10 score pays €2000/ha

3 Semi-Natural Grassland

- Same as ACRES payment rates (€400/ha for 10/10)

4 Woodland and scrub

- Riverside bonus applies river line on [catchments.ie](http://catchments.ie)

# Nutrient Management Plan

An NMP will:

- Develop farm specific fertiliser plan
- Develop farm specific soil fertility plan
- Ensure compliance with maximum amount of inorganic fertiliser

## Waters Of LIFE Role:

- Mandatory where nutrients are significant issue
- Optional elsewhere
- Project scientists can access
- Project will pay €400 for plan.
- Max of 1.



# Nitrogen Surplus Calculation

AgNav (Bord Bia, Teagasc & ICBF)

Support framework for agri-sector targets in Climate Action Plan

Opt in - Subject to farmers permission

Relies on data:

- Entered in Bord Bia Sustainability Audit
- ICBF – animal live weights and movement
- Co-ops – milk sold

Waters Of LIFE Role:

- Participants receive €250 per annum for preparing a nitrogen surplus assessment.

# Precision Nutrient Management

Teagasc PastureBase Ireland

Grassland management decision support tool. Captures background data on farms.

- For recording fertiliser applications at individual field level
- PBI calculates a N surplus value at field scale data

## Waters Of LIFE Role:

- Payment adjusted relative to PBI scorecard (excluding questions 2 to 4)
- Maximum payment €490/annum.
- Payment towards cost of grass measuring
- Payment per cover €27 up to 50 ha and €0.50/ha for every hectare over that.
- Equates to maximum payment for 50ha farm of €875.



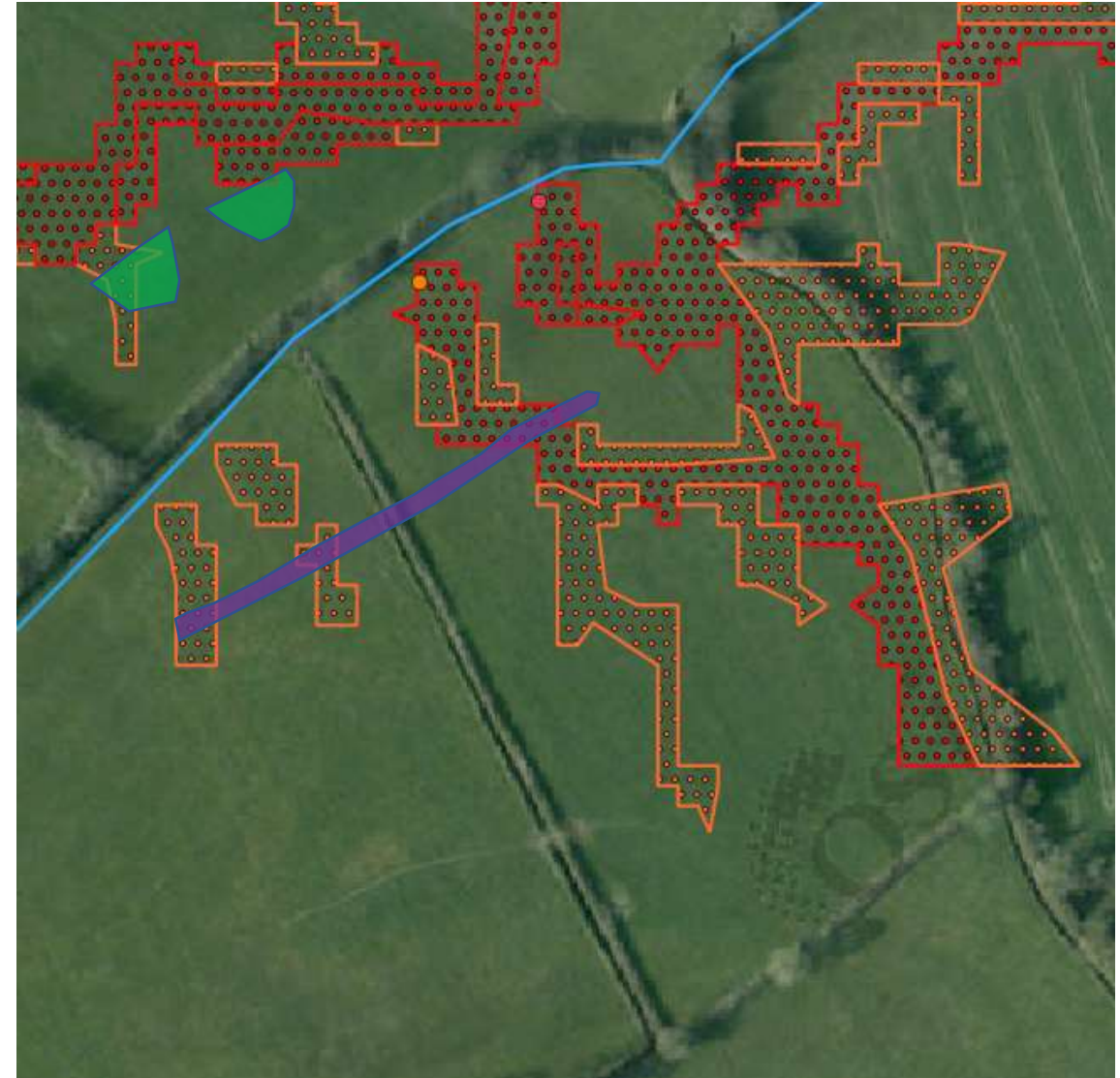
## Run-off Risk Assessment:

- Farm walk with advisor and farmer.
- The farmer is paid for his cooperation
- Advisor recommends voluntary actions the farmer can do to improve water quality on their farm.



## Non-Productive Investments (Capital costs)

- Earth bund
- Fencing for livestock exclusion and delineate riparian zones
- Sediment trap
- Small Scale Wetland Pond
- Solar Powered Electric Fencer
- Solar Pumps
- Spatially Targeted Buffers





MOB GRAZING



MINIMUM TILLAGE



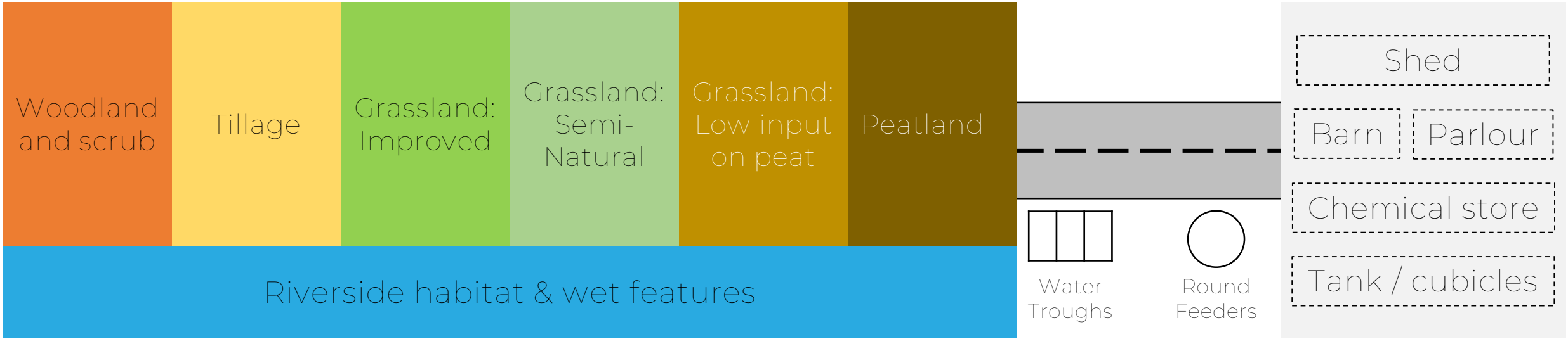
COVER CROPS



Fields

Trackway

Yard









When does it run? Early 2025 to March 2028.

Do you need an active herd number? Yes.

How do I sign up?

Fill out an Expression of Interest form. We'll be in touch.

No guarantee of entry.

Who will be assessing my farm?

A Farmer nominated, approved Waters of Life Ag Advisor.

Is there advisory costs?

No, all advisory cost are covered by the project.

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

Yes. We have to avoid double payments but we can top up payments based on results for water quality.

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 catchments. ie river line.

Will you be assessing forestry?

Yes, where it is a significant pressure.

e.g. Avonmore (Wicklów) and Graney (Clare/Galway)



## How much money can I expect to get?

- There is no set budget for each catchment.
- Depends on uptake.
- Depends on score.
- The total pot for practical works including the pilot agri-environmental programme is about €9,000,0000 across all five catchments.

## Is there a minimum payment?

- Yes. Farmers would be paid for the time in training.
- They would also receive payment for certain mandatory elements e.g. Farm Risk Assessment.
- After that, there is no minimum or maximum payment on scored land.

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

- Your land will be scored on those 20m. After that, if it's agreed that fencing is the right measure
- No. 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 18.5m.

## If I fence off 20m will I lose my BISS on that area?

- No, provided that you don't exceed the allowable space for nature on the plot as a whole.

Will you pay for an NMP if we are already required to have one?

No

If you are already in derogation you have to grass measure and use PBI?

- Derogation: We will pay for up to 35 covers after the 20 is required
- Non derogation: We will pay for up to 35 covers

Do I have to take up the scheme?

- Participation in the scheme is completely voluntary.
- It is private and confidential.
- Waters of LIFE project have no enforcement authority.



THANK YOU

