



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



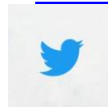
Ireland's European Structural and  
Investment Funds Programmes  
2014-2020

Co-funded by the Irish Government  
and the European Union

# On-Farm Actions to Improve Water Quality in the Mulkear Catchment

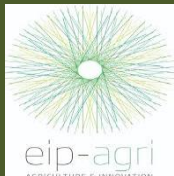
Mulkear EIP  
Carol Quish  
Project Manager

[www.mulkeareip.com](http://www.mulkeareip.com)



@mulkear

Carol@mulkeareip.com



# Project Background

- Commenced in 2019 - 5 years
- Funding European Innovation Partnership (EIP)
- Funding €1.17m (2019 – 2023)
- Board
  - Steering & Advisory Panel (SAP)
  - Operation Group (OG)



Mulkear River Catchment  
Overview

Limerick ▲

Annacotty ▲

Clare Glens

Annagh River

Murroe ▲

Mulkear River

Cappamore ▲

Caherconlish ▲

Dromkeen ▲

Pallas Green ▲

Toor

Newport River

Rear Cross

Kilcommon

Kilcommon ▲

Bilboa River

Cappagh White ▲

Dead River

Oola ▲

Monard

Limerick Junction

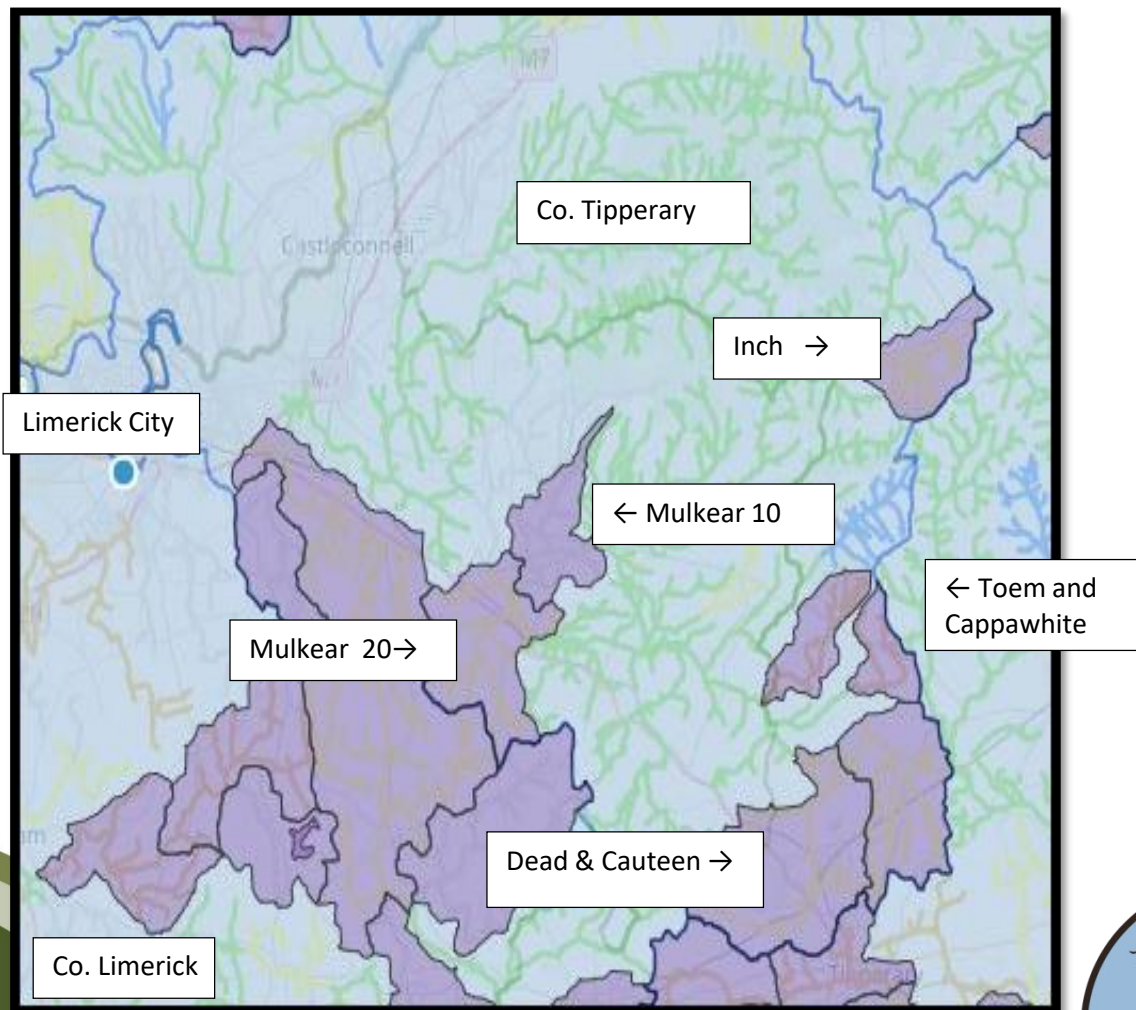
Tipperary ▲



# Mulkear Catchment - Lower Shannon SAC

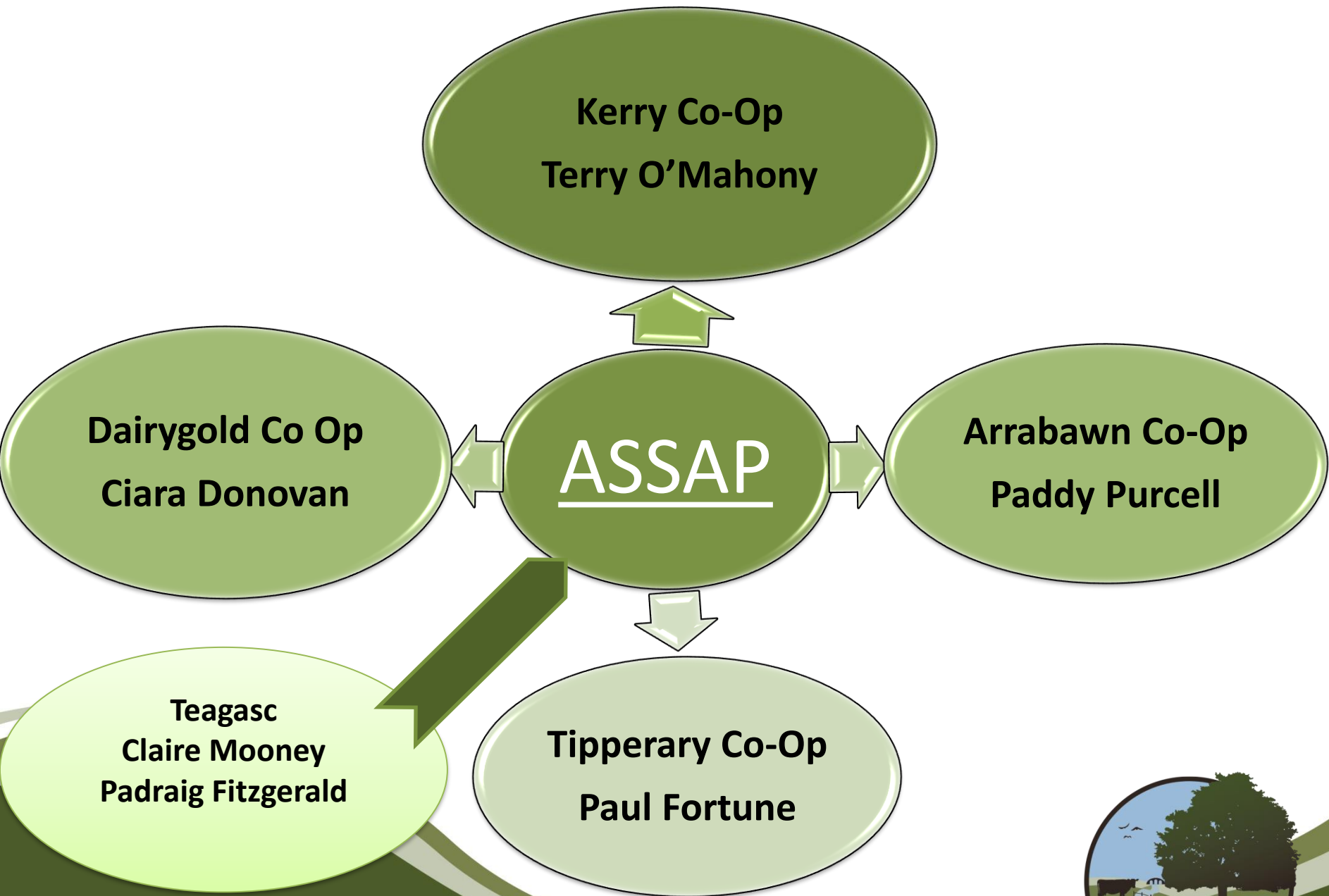
Priority Areas for Action & Water Quality in the Mulkear Catchment

(Source: <https://www.catchments.ie/maps/>)



# Project Objectives

- Develop a collaborative approach with all stakeholders/wider community/farmers
- Undertake detailed Farm Assessments
- Implement on-farm mitigation measures
- Devise a Results Based Agri-Environmental Payment Scheme (RBAPS)
- Deliver farmer discussion group meetings
- Outreach programme



**Kerry Co-Op**  
**Terry O'Mahony**

**Dairygold Co Op**  
**Ciara Donovan**

**ASSAP**

**Arrabawn Co-Op**  
**Paddy Purcell**

**Teagasc**  
**Claire Mooney**  
**Padraig Fitzgerald**

**Tipperary Co-Op**  
**Paul Fortune**



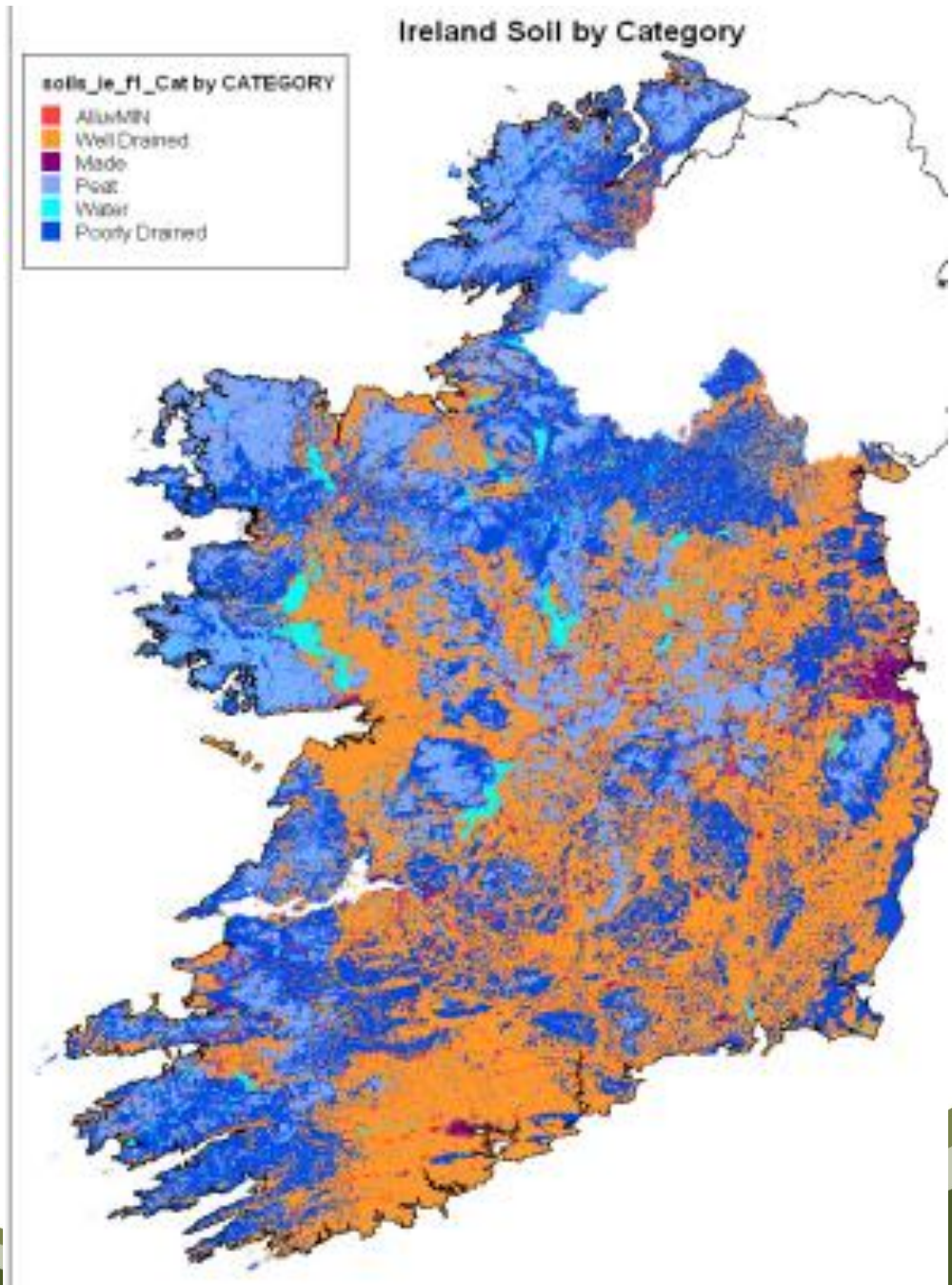
# Farmer Selection Criteria

- **Scored**
  - Environmental risk
    - High, medium, low
  - Potential pressures
    - 1- potential
    - 2- minor
    - 3- major
- **Farmer Attitude**



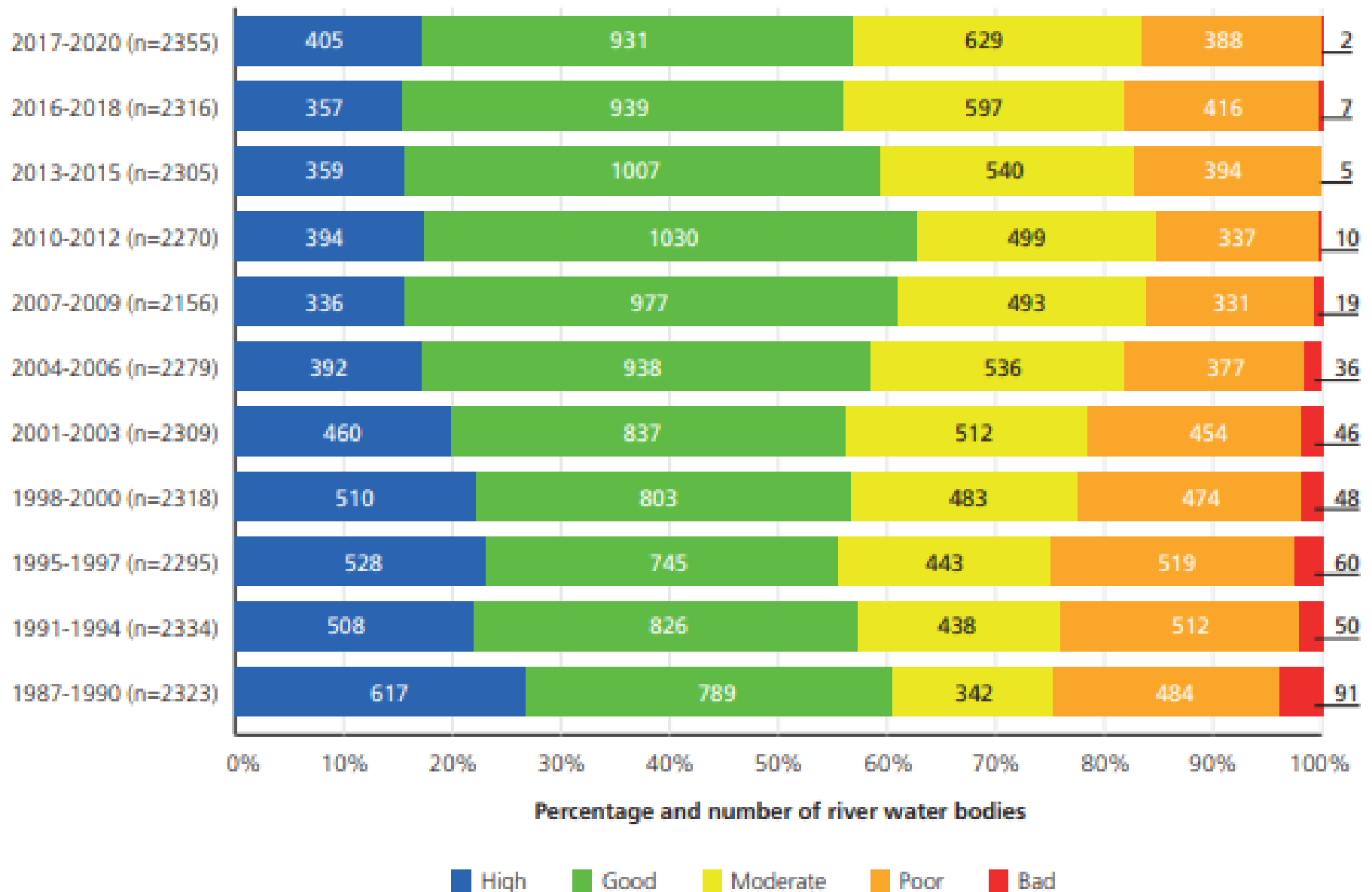
# Soil Type

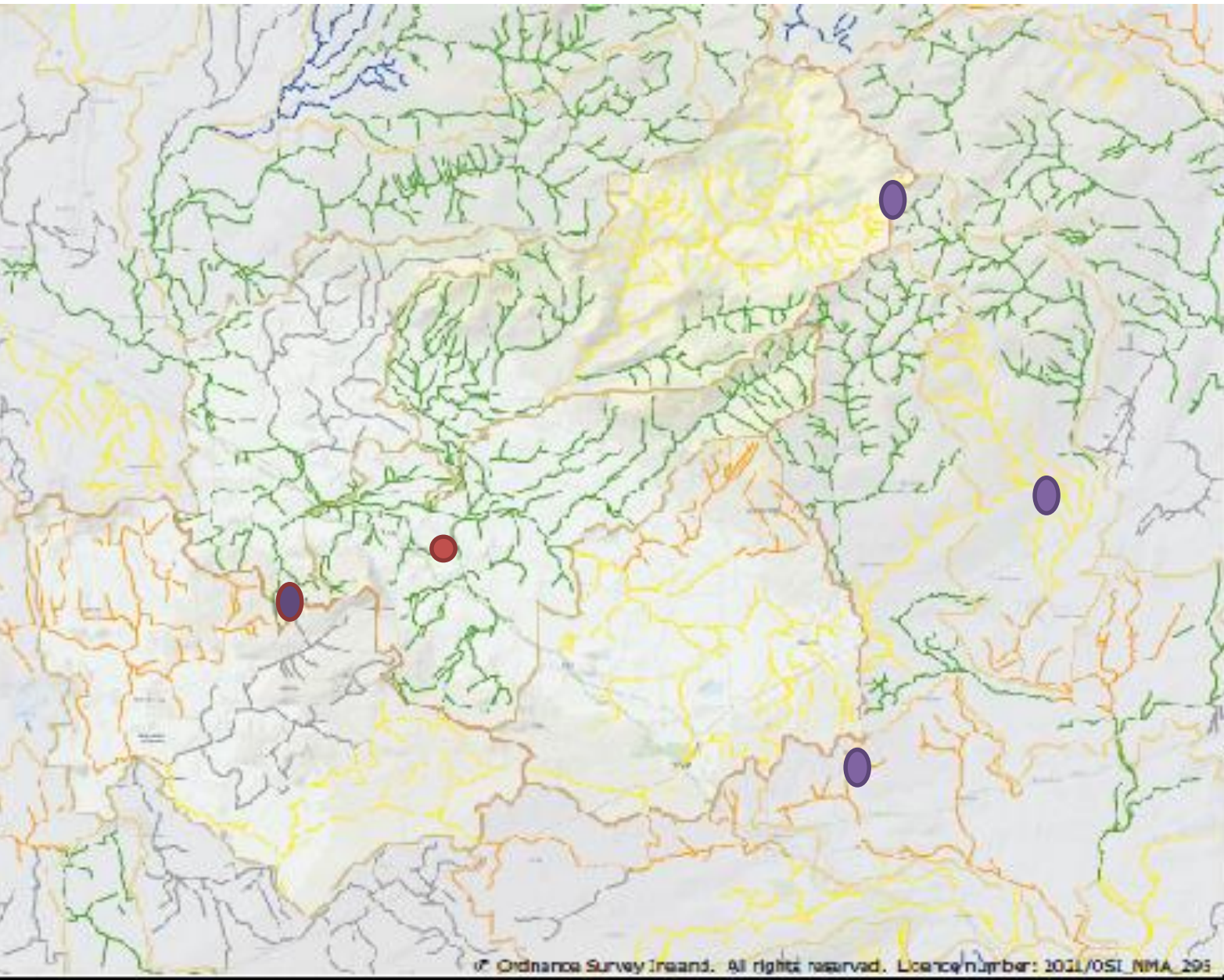
- Heavy gley
- High clay
- Poor drainage
- High water table
- Low permeability





# River Quality (Q Value )





**Legend**  
Water Quality Status

- High
- Good
- Moderate
- Poor
- Bad

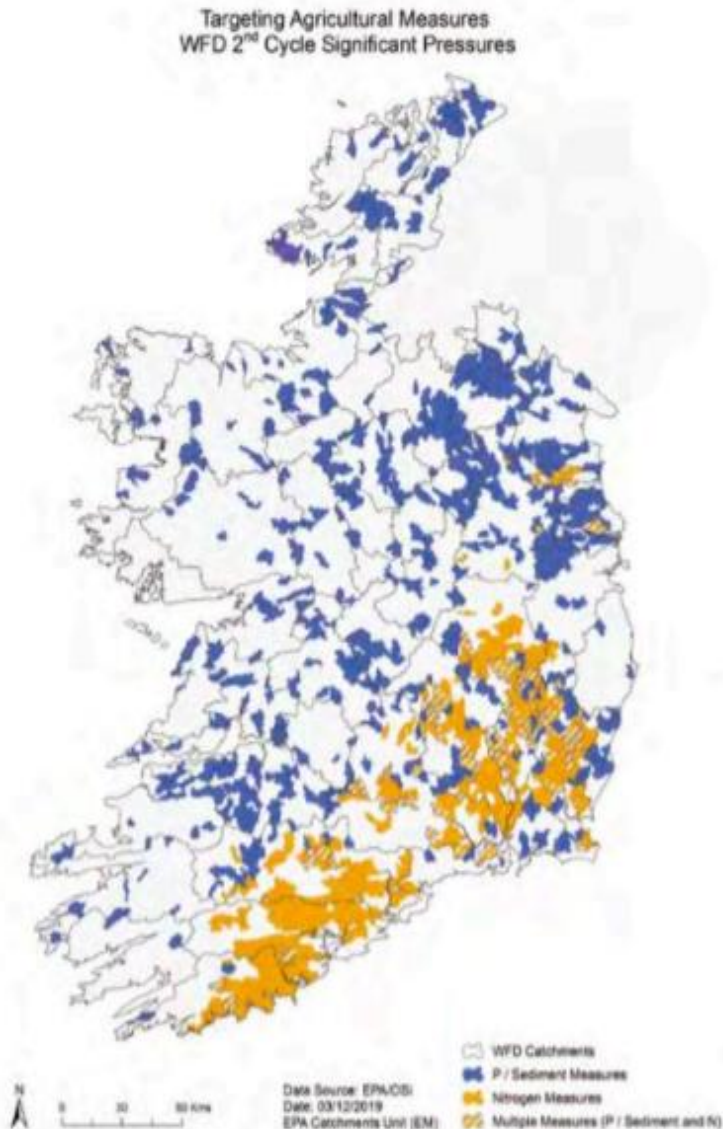
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**Water Quality**  
**WED Status 2013 - 2018**



# Nutrient Pressure

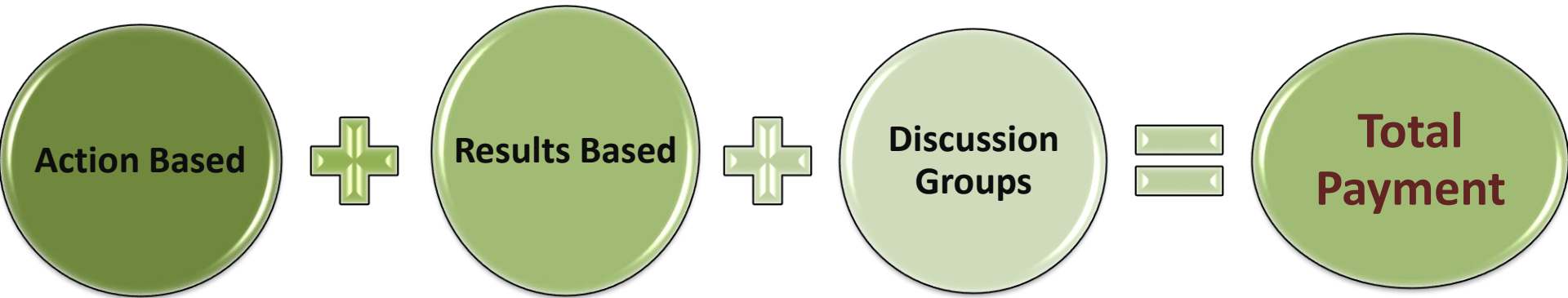


- Phosphorus & sediment



Pic 1: Heavy rainfall leads to overland flow of water, Phosphorus and soil particles.

# Hybrid Payment Structure



# Mulkear EIP Results Based Score Card

MEIP ID:

Farmer:

Date:

Riparian Buffer:

Max score: 20 points

3M BUFFER DISTANCE	1	2	3	4	5
MAINTANCE OF BUFFER	1	2	3	4	5
PROTECTION FROM LIVESTOCK	1	2	3	4	5
ESTABLISHMENT OF COVER	1	2	3	4	5

**TOTAL SCORE:**

*(AVAILABLE PAYMENT BASED ON SCORE)*

<b>ISSUES RESULTING IN NIL PAYMENT</b>
LIVESTOCK ACCESS SLURRY/FERTILISER APPLICATION PESTICIDE APPLICATION FARMYARD RUNOFF

Field Officer		Date	
Farmer		Date	



# Examples of Mitigation Measures

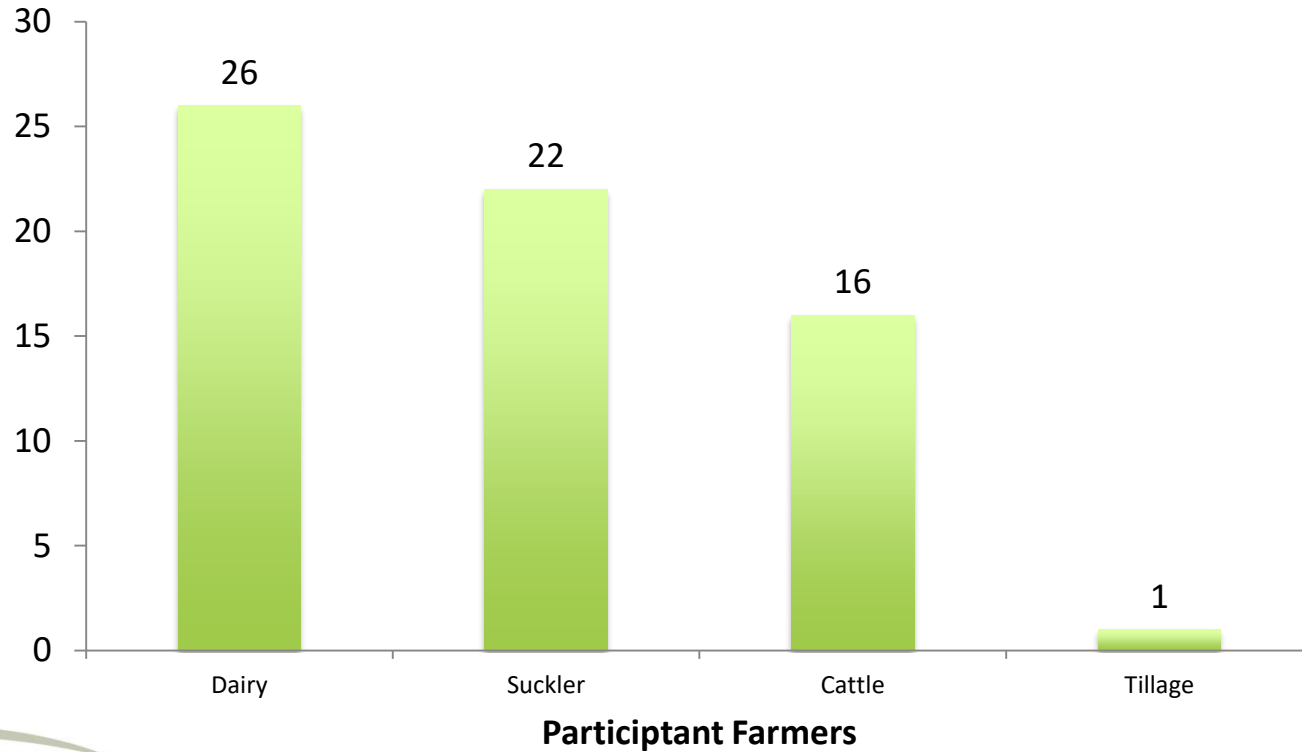
	Measures	Farm Requirements	Unit Payment
Nutrient Management	LESS	Max 270m <sup>3</sup>	€3.00/m <sup>3</sup>
	Lime application	Max 80 ton	€12.50/ton
	Multi-species sward	2ha min – 6ha max	€330/ha
Water Supply/Access	Water troughs	Max 5/farm	€200/trough
	Fencing watercourse	Max 1,000m	€1.50/m
	Solar pumps	Max 1/farm	€1,795/pump
Habitat Retention/creation	Ponds	1/farm	€2,400/farm
	Wetland	1/farm	€2,400/farm
Farmyard runoff	Silt-traps/interceptor drains	Min 3 chambers	€2,000/farm



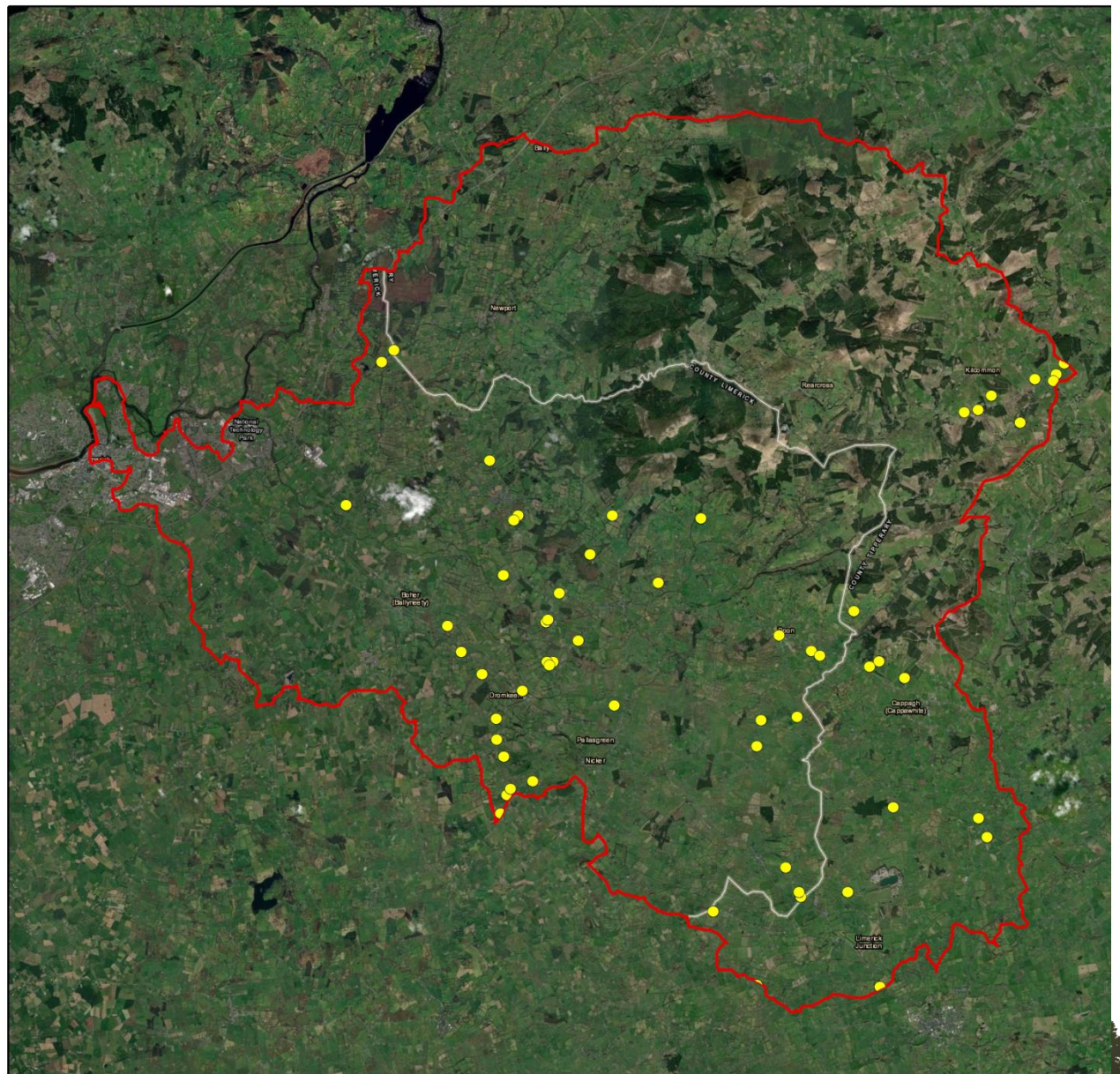




# Participating Farmers



# Location of 65 Participant Farmers



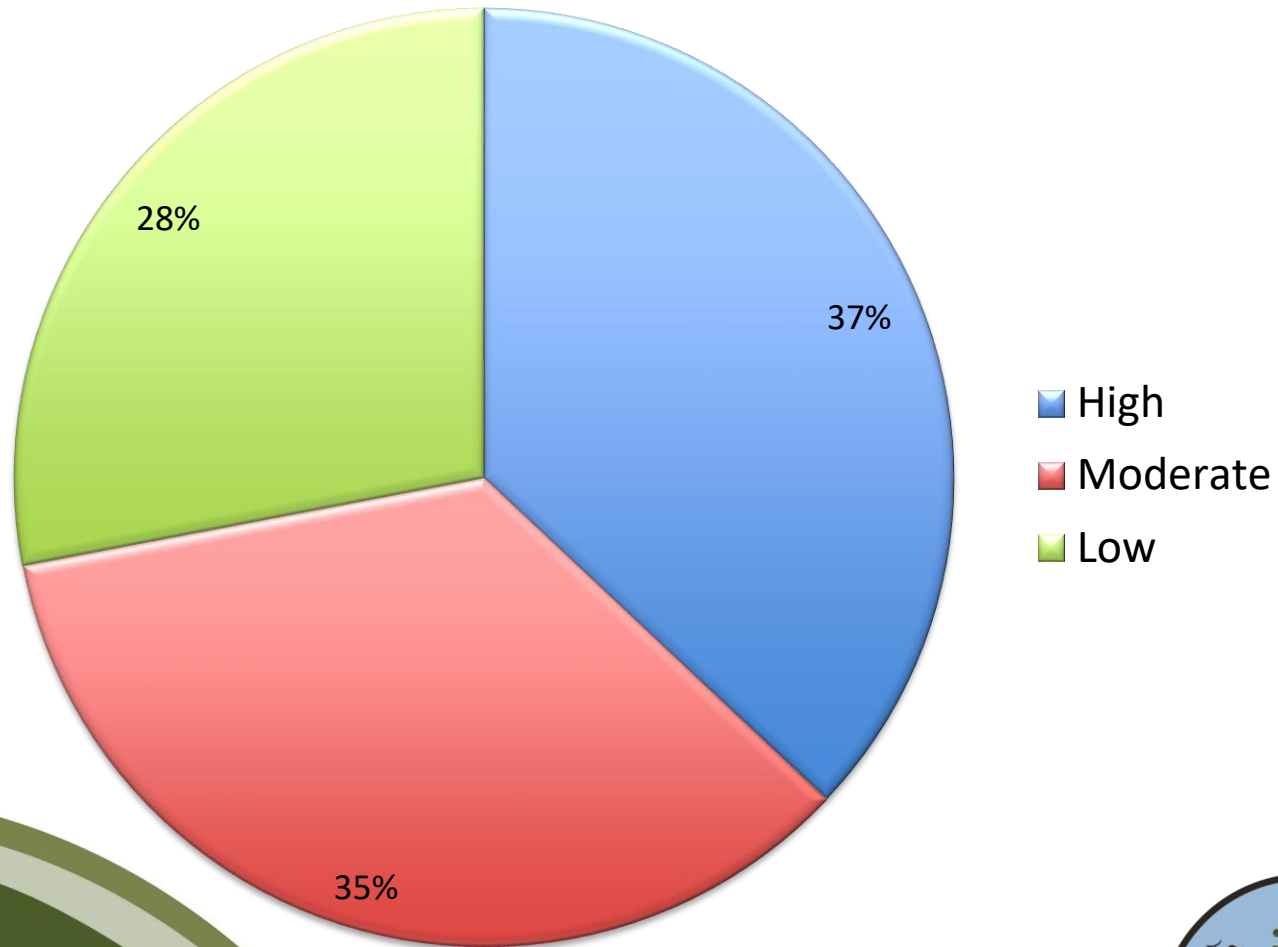
## Legend

- Participating farmers
- ▭ Mulkear Catchment

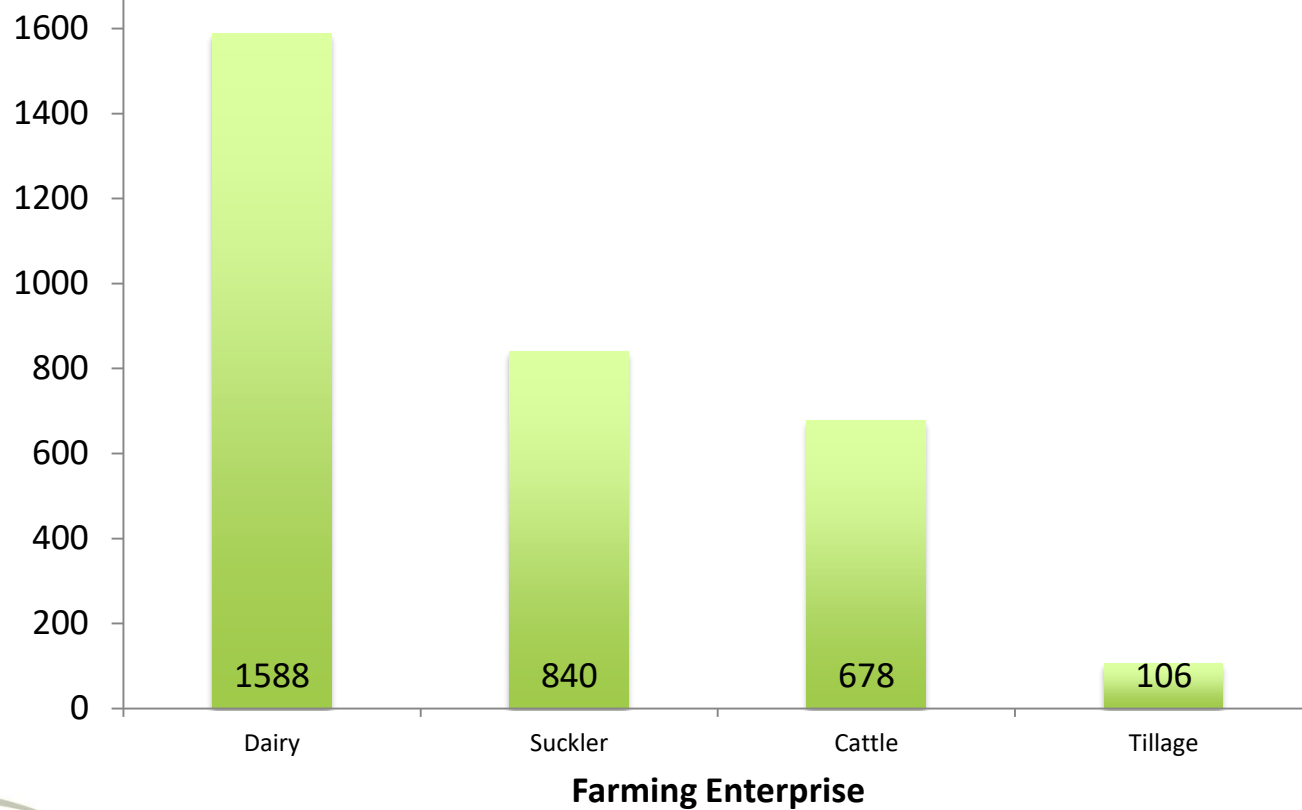
0 2.25 4.5 9 Kilometers



# Farm Environmental Risk



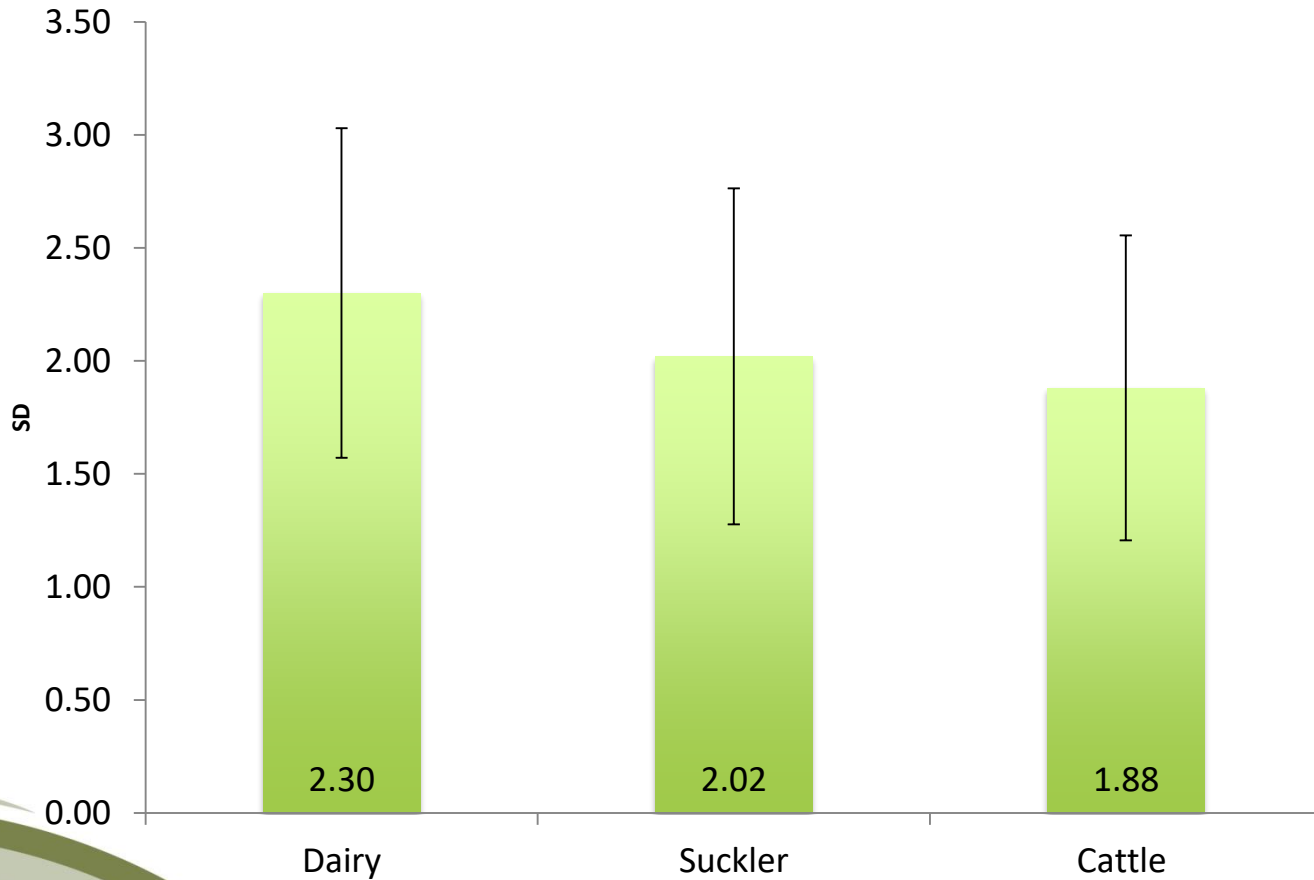
# Participating Area (ha)



**Total area c. 3,200 ha**



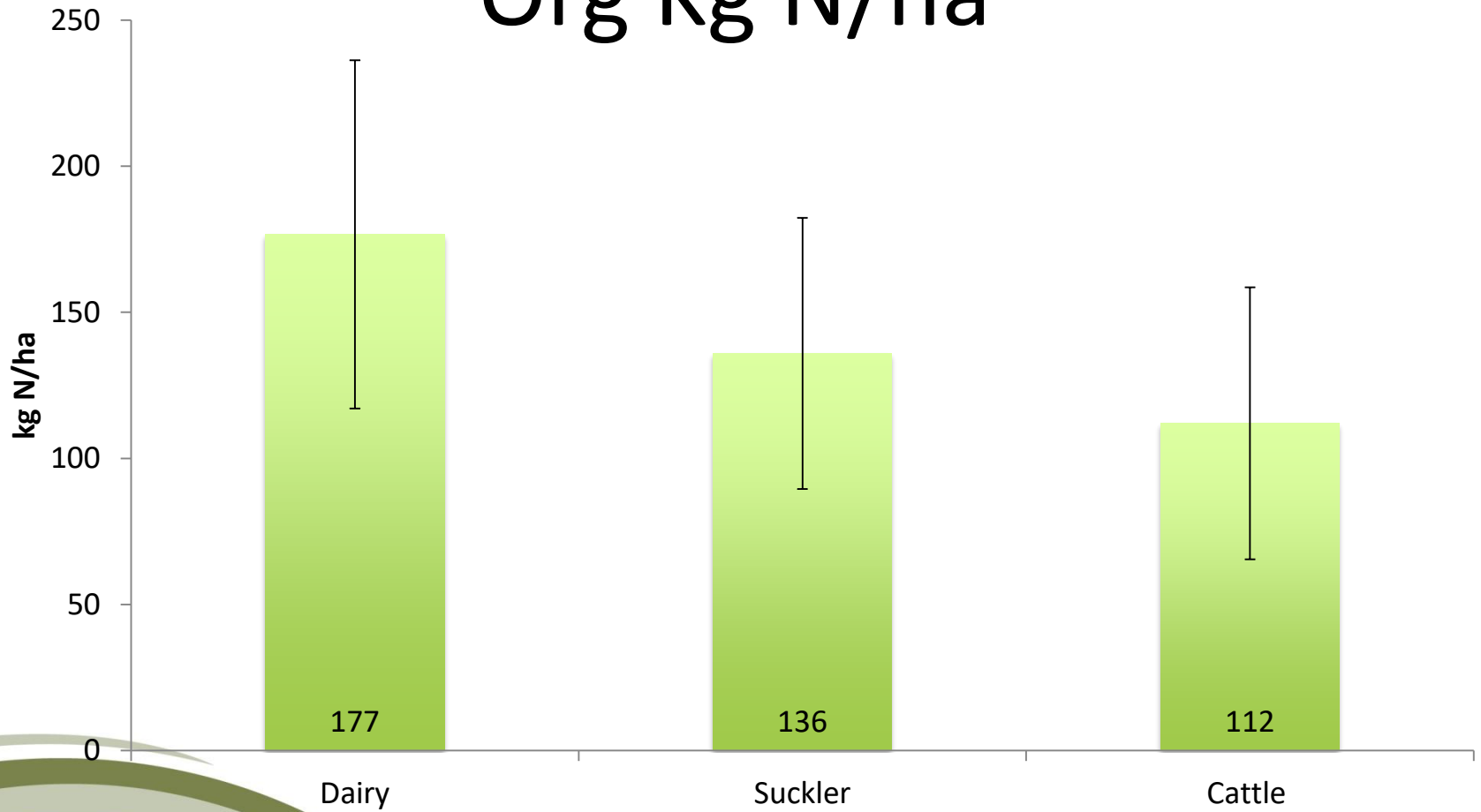
# Stocking Rate (LU/ha)



**Average 2.08 LU/ha**



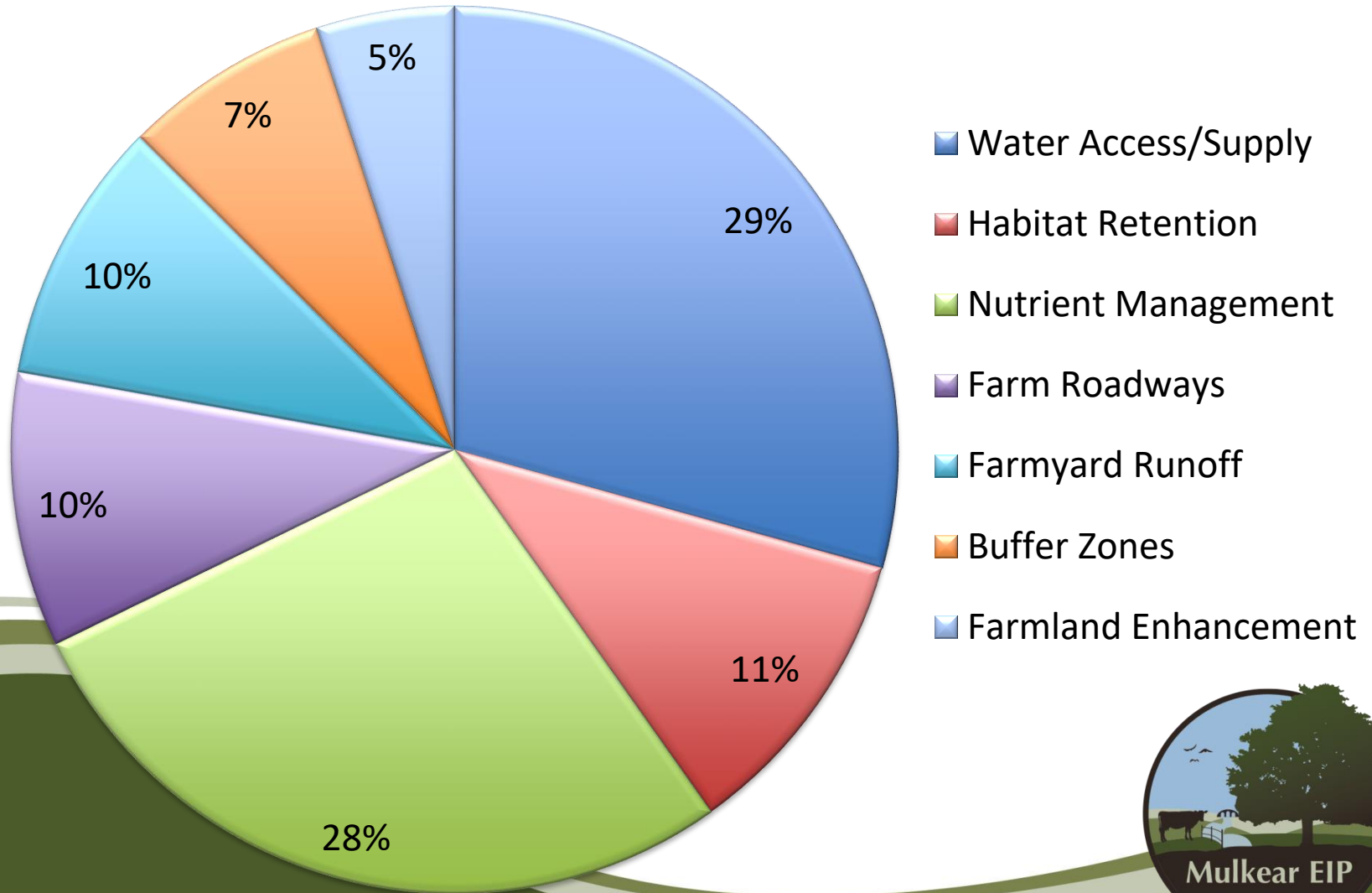
# Org Kg N/ha



**Average 145kg N/ha**

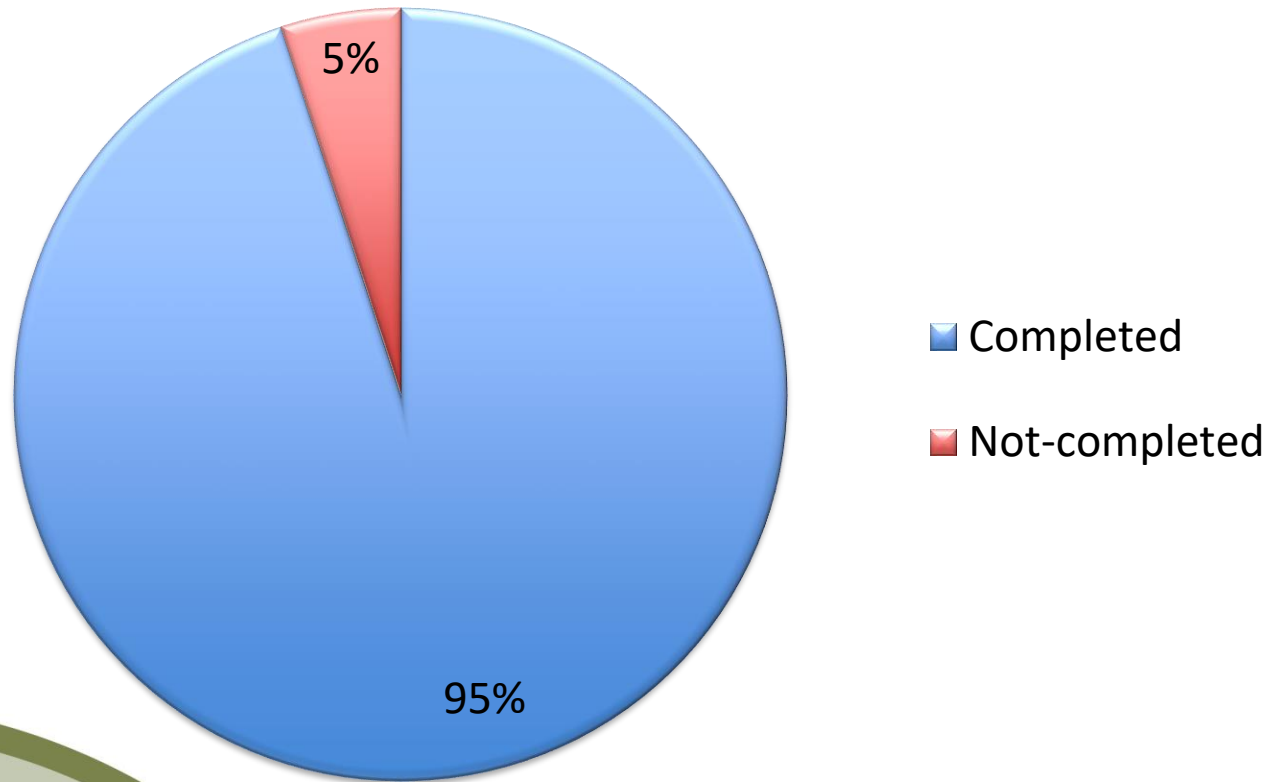


# On-Farm Actions Uptake





# On-Farm actions (n = 252)



# Actions Completed (n=239)







Action	€
Fence watercourse	€16,836
LESS	€11,340
Pond creation	€11,200
Silt trap	€9,833
Lime	€9,762
Crossfall	€9,104
Solar pump	€8,743
Wetland creation	€8,600
Tree line	€6,343
Multi species	€6,164
Settlement pond	€4,667
Other	16,410

# Farmer Discussion Groups

- Impact of Farming Practices on Water Quality
- On farm nutrient pathways
- Soil Fertility
- Importance of soil pH
- Timing and Application of nutrients –  
Slurry/FYM/fertiliser
- Nutrient Management Planning



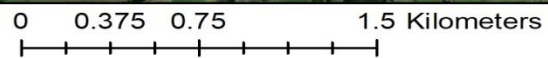
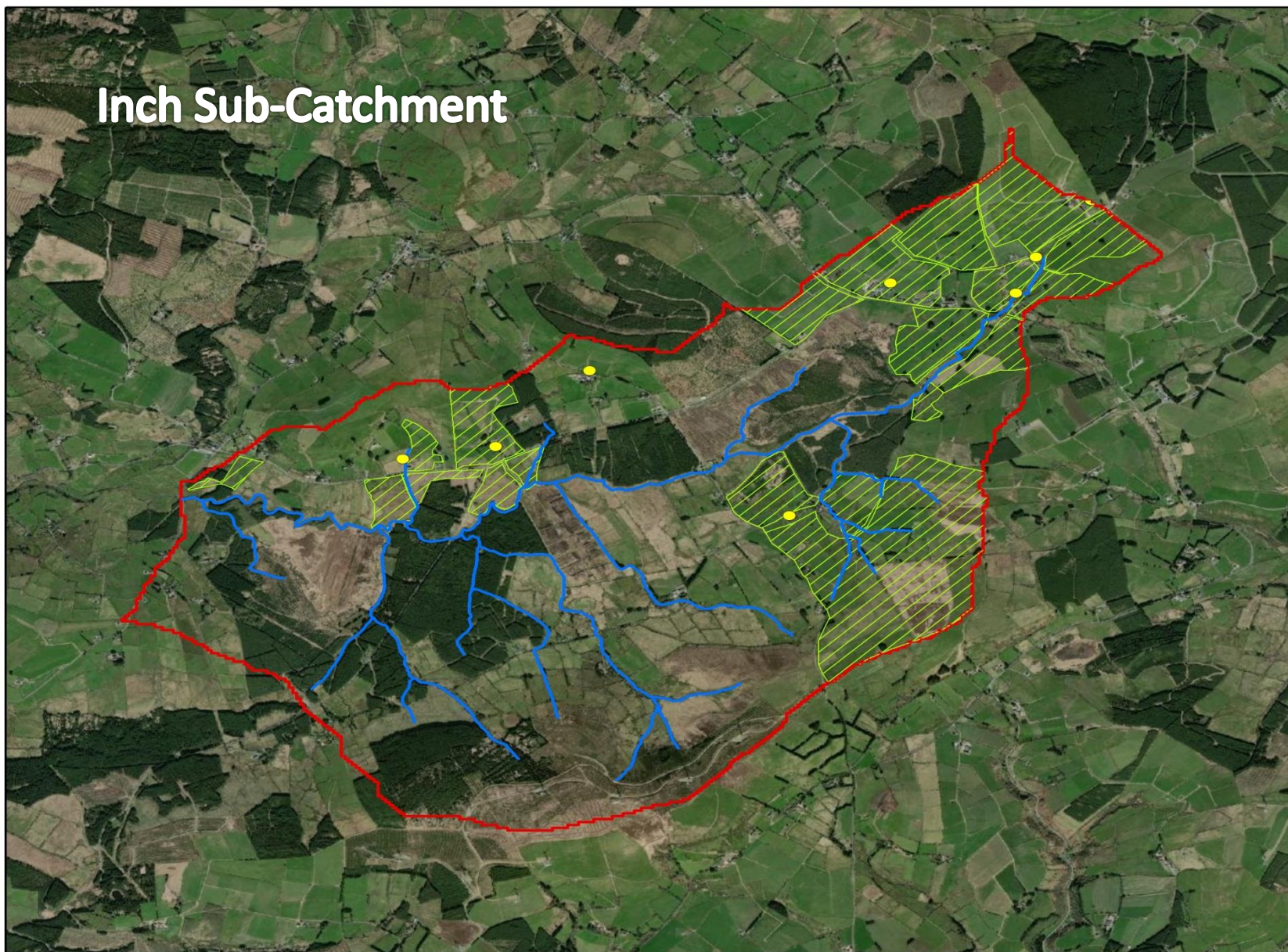
# Project Funding

<b>Proposed % Breakdown of Overall Budget</b>	
Project implementation	<b>71.0%</b>
Project Administration	<b>23.5%</b>
Monitoring & Evaluation, Community Outreach & Dissemination	<b>5.5%</b>

- Each farmer c. €7,000

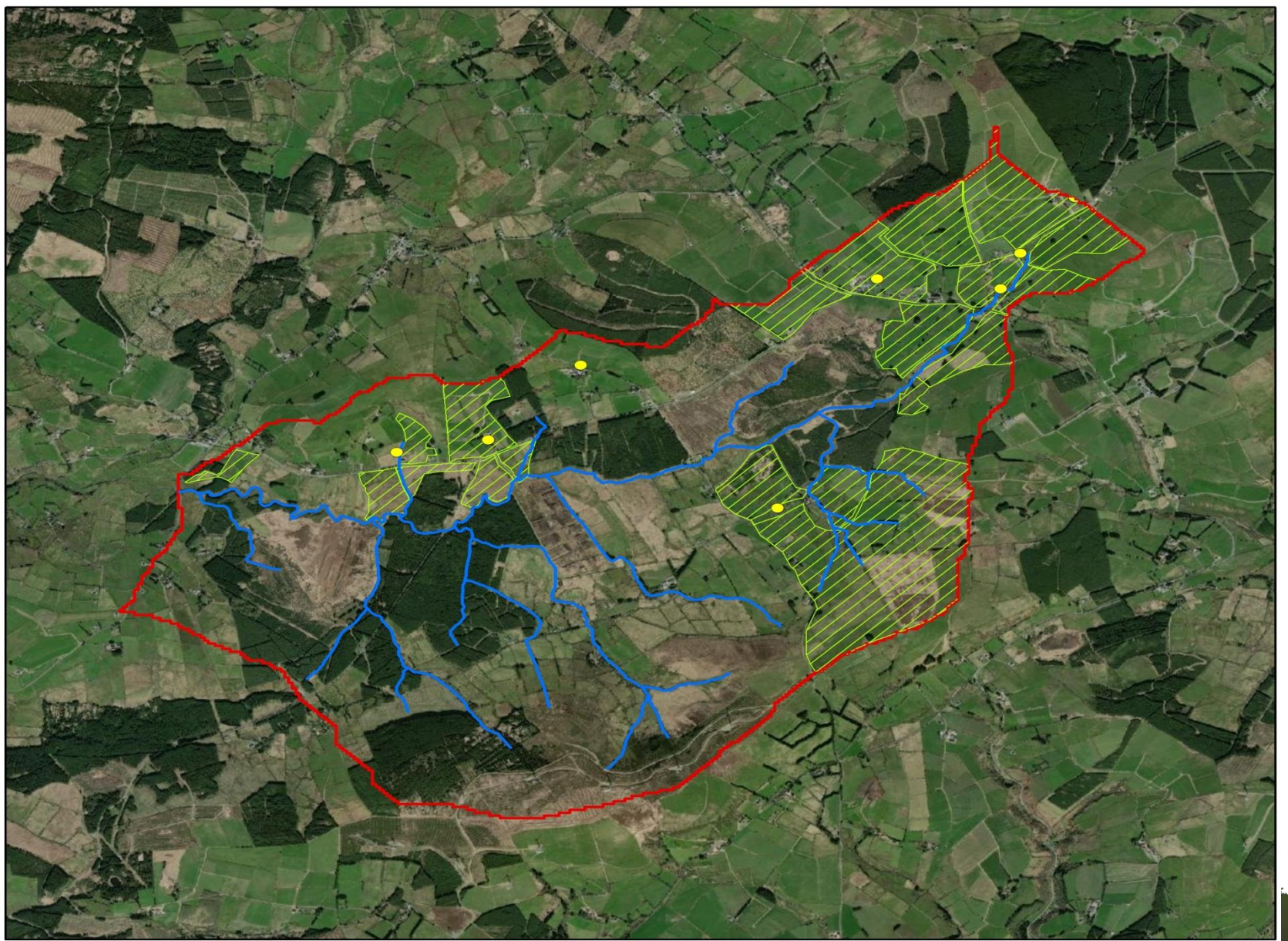


# Inch Sub-Catchment







## Legend

- Participating farmers
- Waterbodies
- ▨ Land parcels
- ▭ Inch catchment



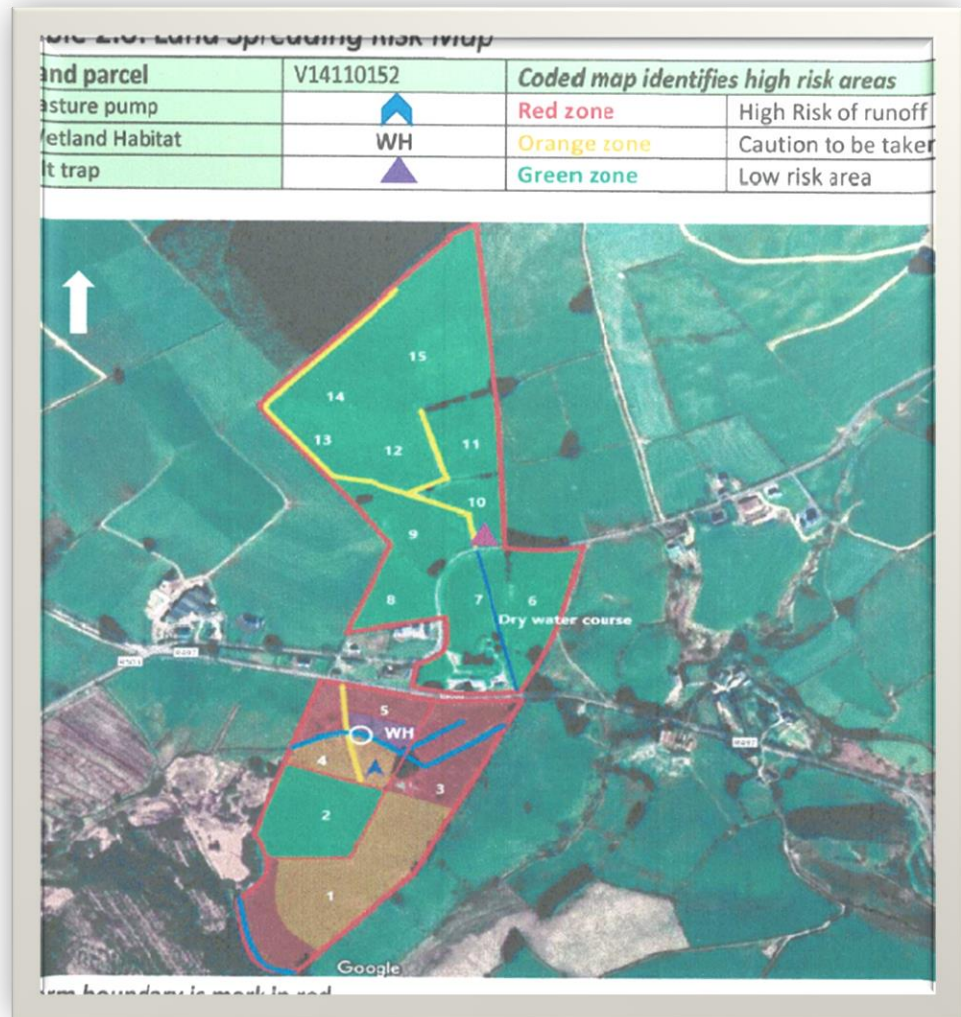
### Legend

-  Participating farmers
-  Waterbodies
-  Land parcels
-  Inch catchment



# Next Steps

- Nutrient Management Plans
- Slurry/Fertiliser Risk Maps
- Attitudinal Questionnaire
- Slurry Analysis
- Water Monitoring

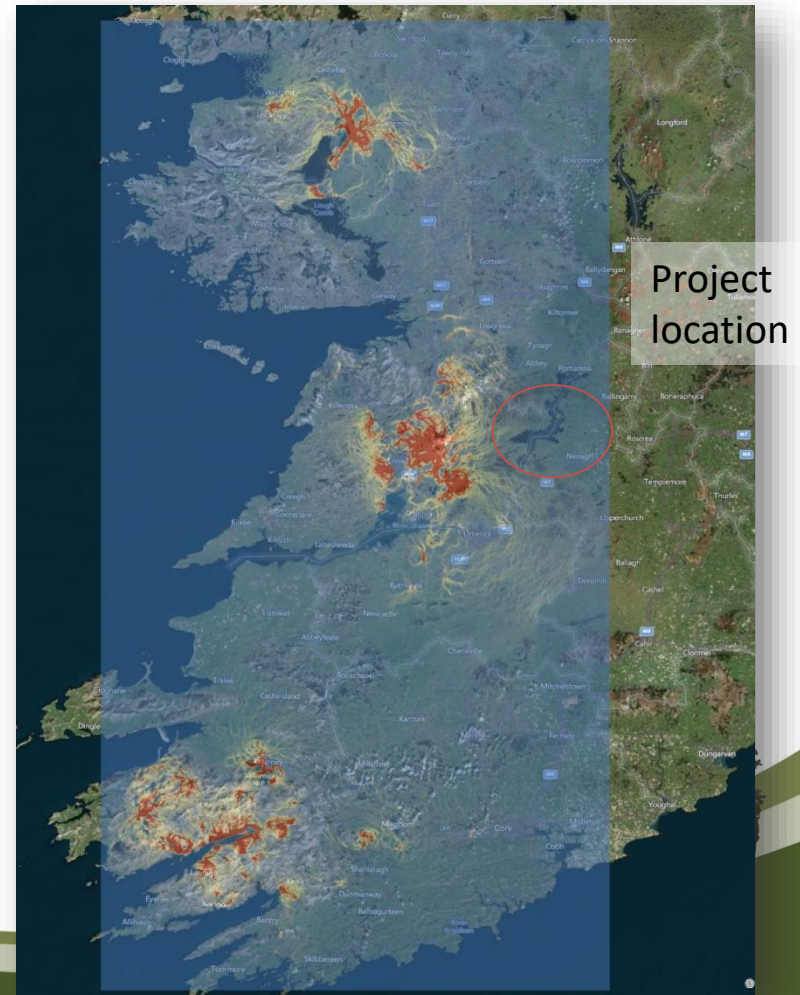


# Limerick Lesser Horseshoe Bat Conservation Project

Likely pathways between lesser horseshoe bat populations in Ireland



Lesser horseshoe bat  
© Frank Greenaway



# Limerick Lesser Horseshoe Bat Conservation Project



## Mulkear River Catchment Project



Source: Esri, Maxar, © GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

# Project Highlights

- 38km watercourse fenced
- 23 water pumps installed
- 2,700 ton lime spread
- 2,130 tress planted
- 61 ha Multi-species sward sown
- 1 million (5,000m<sup>3</sup>) slurry applied using LESS



- 3,300 m buffer zones created
- 23 Silt-traps/settlement ponds/in-channel ponds
- 15 ac wetland fenced off
- 14 ponds enhanced/created



# Farmers Feedback

- *“Very informative and all actions I agreed to complete were thoroughly explained to me on my farm – not by phone”*

Michael Ryan, Rath

- *“The Discussion Groups were excellent – refreshed my memory of things I had not taught about for years”*

Edward Carr, Knockmore

- *“Mulhear EIP is facilitating farmers both financially and educationally to complete measures that will in time improve the water quality of the river”*

Eddie O Malley, Pallasbeg

- *“This project has very clearly highlighted the importance of declining water quality in the Mulkear and the need to undertake action now for the future generations”*

Martin Crowe, Carrigmore

- *“This project has shown me that by mind-set needs to change if I want to see salmon back in the stream in my lifetime”*

John White, Knockaneera



Thank you

