Lough Carra LIFE

'Improving the ecosystem resilience and reducing nutrient pollution of Lough Carra, one of Europe's premier SAC Marl Lakes'.

Project Code: LIFE20 NAT/IE/000172

Project Overview.

Lough Carra LIFE Project

A 5-year Project, with a total budget of €5m; 60% funded by the European Commission LIFE Programme, and the remainder funded by the **Project Partners**:

- **Coordinating Body** - Mayo County Council.
- **Associated Beneficiaries** - DAFM, NPWS, GSI, Coillte, and LCCA.

- **Other associated partners** include Teagasc, LAWPro, IFI, EPA, NFGWS, JCWL Geopark, Vincent Wildlife Trust, and OPW.

Local community group **Lough Carra Catchment Association (LCCA)** responsible from driving the project application.

First LIFE project in Ireland to be **led by Local Authority.**

Project Code: LIFE20 NAT/IE/000172

The Great Western Lakes – Lough Carra, Lough Mask and Lough Corrib

Project Code: LIFE20 NAT/IE/000172

Lough Carra/Mask Complex SAC, Lough Carra SPA, Towerhill SAC, and Moorehall SAC

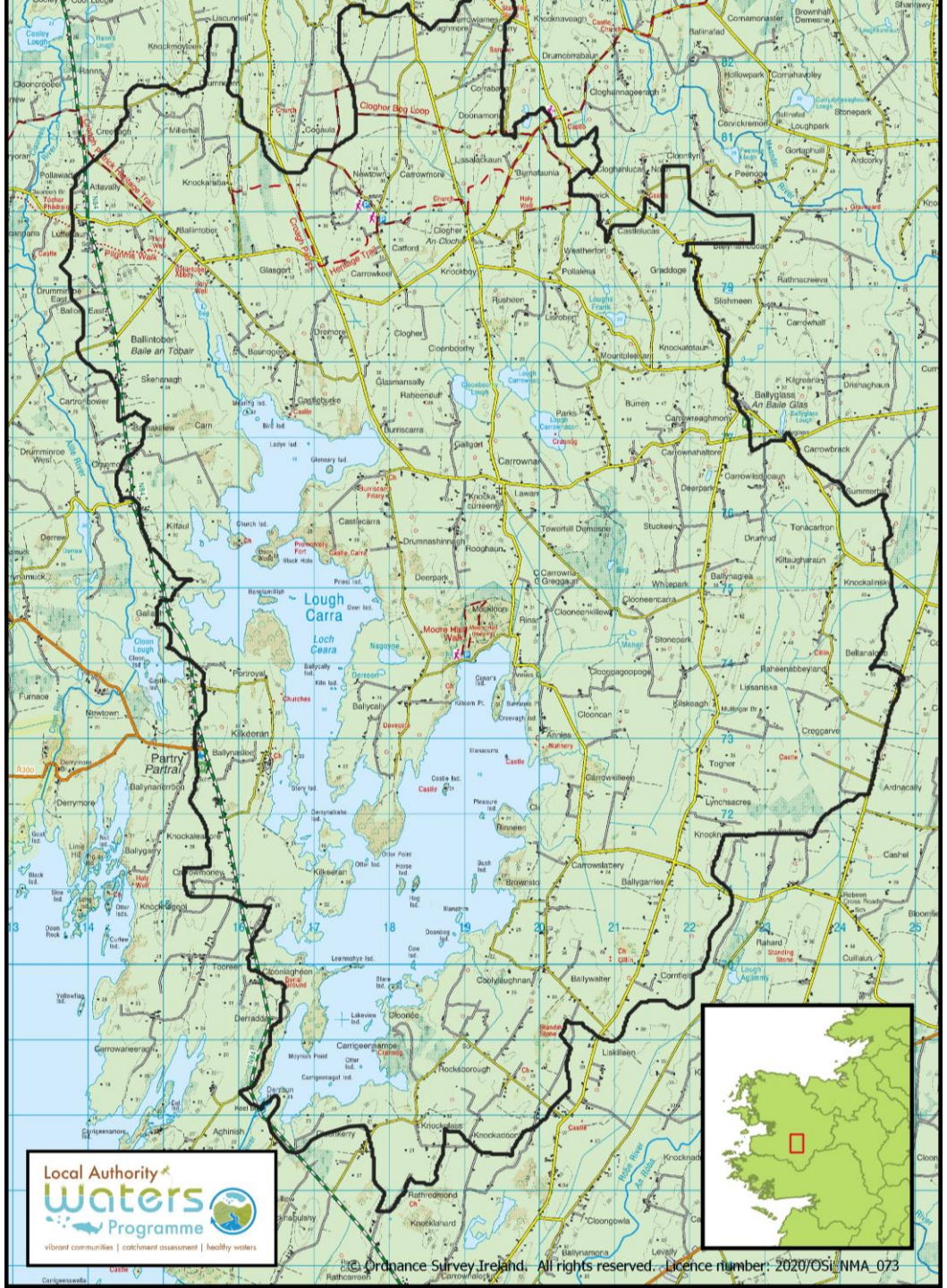
Habitats and species include, Orchid-Rich Grasslands, Limestone Pavement, Fens and wetlands, Otter, Breeding Common Gull, Lesser Horseshoe Bat, numerous other wetland bird species, and much more.

Marl Lake Habitat,

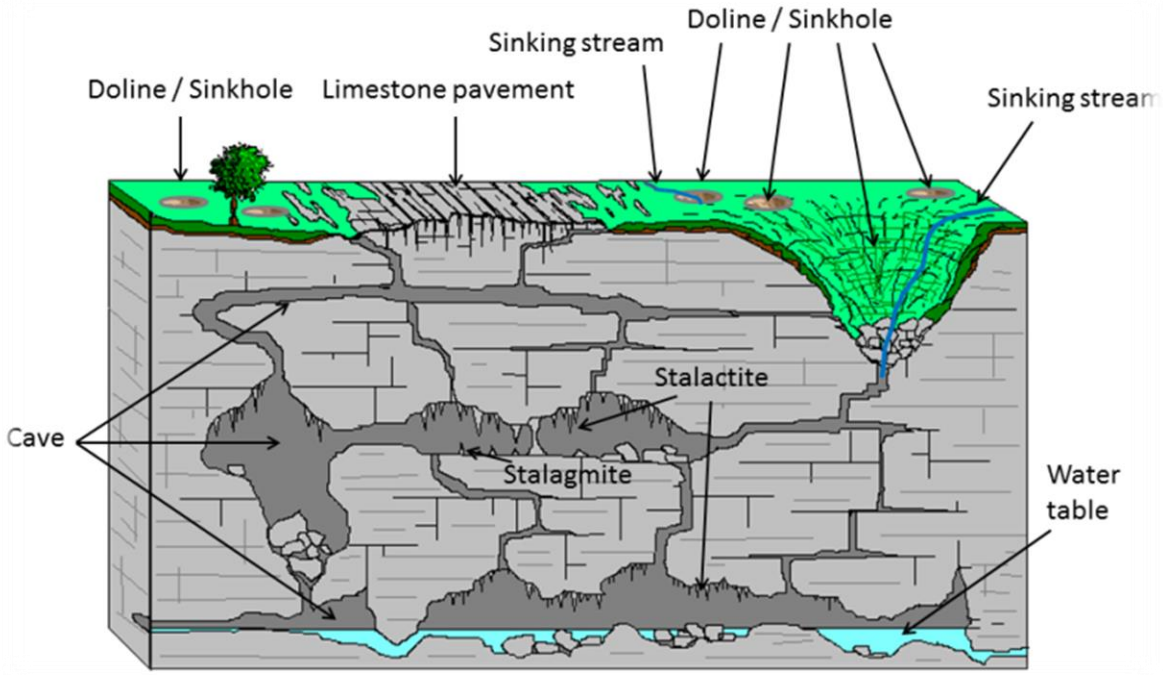
- **low nutrient**, high pH
- **clear water**, where rare communities have developed;
    - Charophytes communities
    - Invertebrates, diatoms, **cyanobacteria**, microbialite layers **(Marl crusts).**

One of the most pristine examples of Marl Lake habitat in Western Europe?

Project Code: LIFE20 NAT/IE/000172



- Small lake, mostly shallow. 16km^2
- Fed surfacewater and groundwater
- Limestone karst
- Groundwater sources mainly unknown



Project Code: LIFE20 NAT/IE/000172

Decline in Lough Carra

Lough Carra has been studied intensively in recent decades by a host ecologists, universities, state bodies, and other interested groups. Many signs of deterioration of Lough Carra's habitats have emerged.

- **Charophyte** cover, which is typical of Marl Lake habitat and indicates clean, oligotrophic lakes, has declined significantly.
- **Marl crusts** unique to Hard Water Lakes have become covered by green algae, causing decline of the microbialite community and disintegration of the crusts.
- Levels of '**Chlorophyll a**' in the water has increased.
- Total **Phosphorus** and Total **Nitrogen** levels have increased.
- Nutrient-sensitive **aquatic invertebrates** have declined, especially the once abundant Mayfly which has almost disappeared.
- **Trout** populations have decreased.
- **Invasive species** populations have increased, e.g. mink, Feral Greylag Geese, coarse fish.

Project Code: LIFE20 NAT/IE/000172

What are the Main drivers of change in the lake.

1. Increased nutrient inputs from local agriculture.

- Lough Carra is naturally very low in phosphorus (P) and nitrogen (N), and the species and communities that live there are well adapted to these conditions. Increases in these nutrients can cause large-scale changes.

2. Conversion of semi-natural habitats to improved grasslands.

- Increasing the problem of nutrient inputs into the lake.
- Reducing the amount of non-agricultural land around the lake available to absorb nutrient run off.
- Impacts on biodiversity.

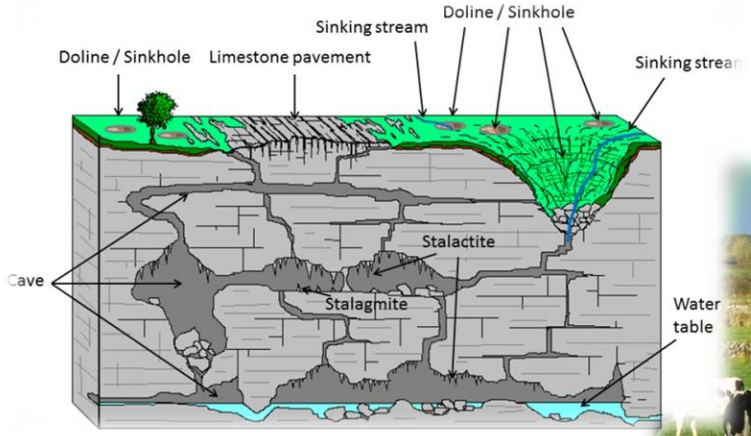
Project Code: LIFE20 NAT/IE/000172

These are issues impacting on waterways all over the EU

Lough Carra is particularly vulnerable.

Project Actions

Project actions to be delivered over 5 years:



1. A pilot Results Based Agri-environment Scheme, specifically adapted for the Lough Carra catchment.
2. Habitat restoration and enhancements for key species.
3. A Groundwater study of the Lough Carra catchment.
4. A monitoring programme of project impacts.
5. Knowledge exchange, public outreach, and awareness campaign.

2023 was been the first year of real progress on these actions.

Lough Carra LIFE Project

Agri-environment Payments Scheme

- A **pilot** Results Based Payments Scheme with approx. 10% of the catchment (c 40 farmers).
- Focused on measures to reduce nutrient run-off and encourage habitat protection.
- Scheme to run for 4 years – 2023, 24, 25, and 26.
- Present our results, and guide future Agricultural policy in the catchment.

Project Code: LIFE20 NAT/IE/000172

2022/23 First steps

- Navigating ACRES.
  - Curse - avoiding double funding
  - Blessing – strong on water quality
  - Farmers choice

- Lough Carra or ACRES
  - Dedicated farm adviser
  - More flexibility and farmer input into Farm Plans.
  - More choices available to farmers.
  - Additional aspects to scheme, e.g. soil testing, NMPs, drain management, whole farm bonus.
    - New measures being added, e.g. floodplains.
  - Payments rates
    - ACRES CP rates

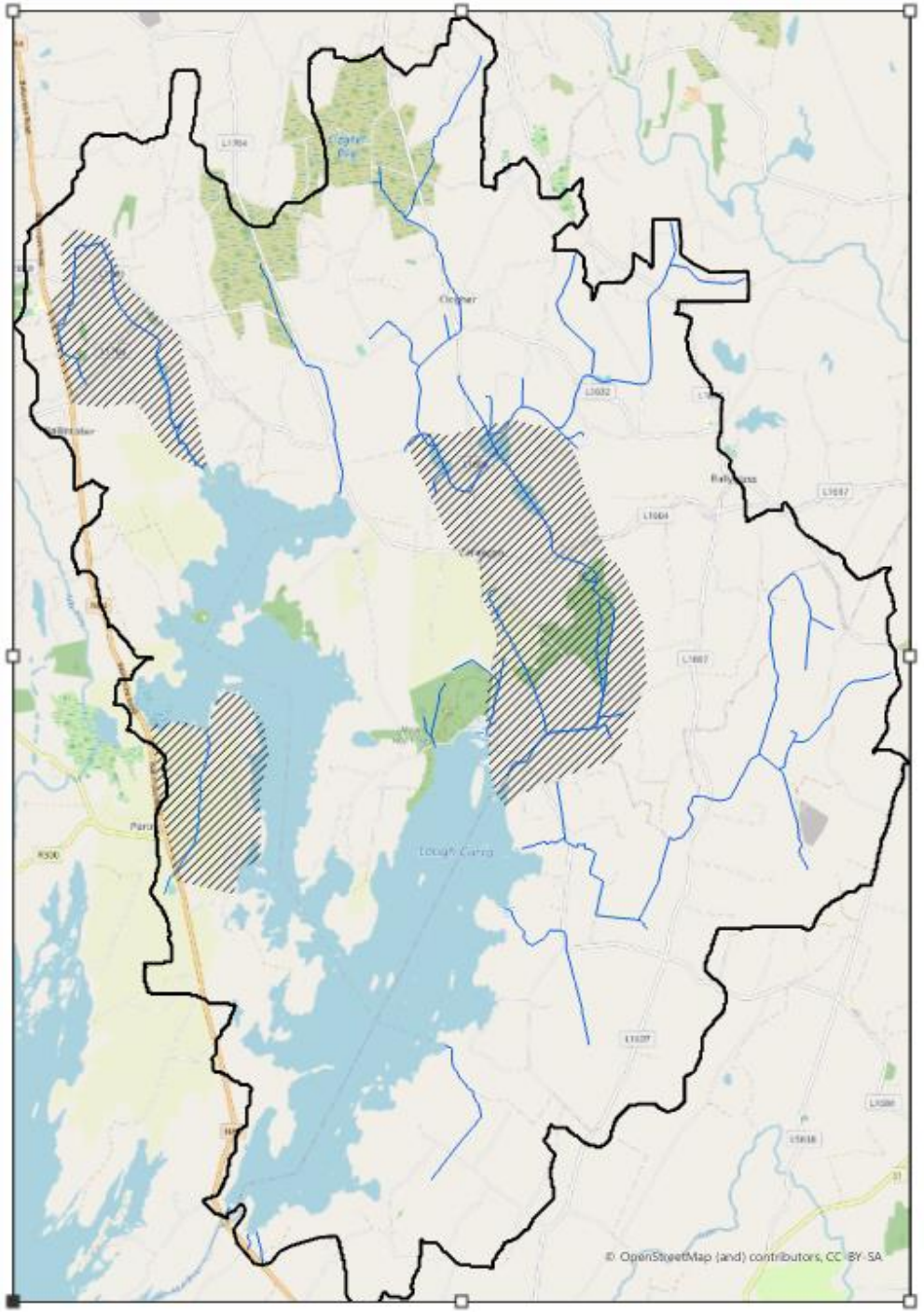
- Expressions of Interest, mapping, data sharing consents, liaising with farmers, farm planners, and DAFM.

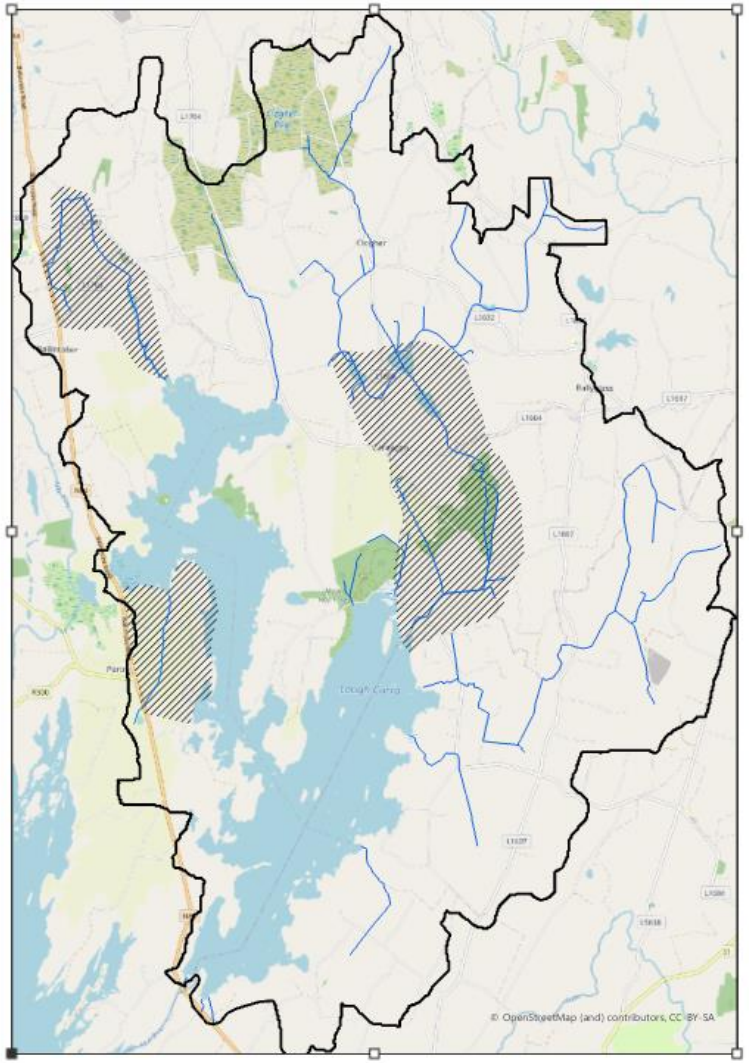
ACRES

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

2023 sub catchment areas

- Surface water flow (rivers and streams) into the lake
- Division of these rivers/catchments.
- PIP maps on soil vulnerability.
- Where we can effectively monitor water chemistry and biology.
- Where we have clusters of farmers who want to work with us.





Farm plans

- Selecting our farms for the Pilot scheme.
  - Start small in 2023
  - Selected sub catchment areas.
- Catchment science approach
  - Desk study, field work, farmer engagement, and partner engagement.
  - Lots of online tools available:
    - LAWPRO, EPA, EDEN WFD Module, Catchments.ie
    - PIP maps, pathway maps, etc
    - Waters of LIFE guidelines on Agri measures
- Farmer involvement in developing the plan.
- Liaise with Farm Planners on ACRES plans
  - Ensuring no double funding.
- Sign off by DAFM.

Waters of LIFE

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

Project Code: LIFE20 NAT/IE/000172

Agri-environment Payments Scheme 2023

- 30 Farm Plans
- Results-based monitoring
- Implemented ‘supporting actions’ on these farms
    - Riparian buffer zones and strips
    - Fencing
    - Solar pumps
    - Woodland and hedgerow planting
    - Settlement ponds
    - Drain management
    - Nutrient Management Plans
    - Soil Sampling.
- Farmer workshops

Project Code: LIFE20 NAT/IE/000172

Implementing the farm plan

- Results-based monitoring
  - Scorecards
- Supervising installation of supporting actions.
- Farmer workshops
- Soil analysis and Nutrient Management Plans.

Lough Carra LIFE Grassland Assessment Scorecard

Farmer Name: *Survey date:* *Surveyor:*

Business ID: *Field Number:*

Dominant Grassland Type:		Soil Type:		Total Score (A+B) /100
Wet grassland		Mineral Soil		
Dry grassland		Peat Soil		

A. Ecological Integrity — Total Score A (sum of A1 to A4) /50

A.1 What is the number of positive indicators in the field? Tick all positive indicators present below.

Note all positive indicators present as you walk a 'W' through the field.

Low: 0-4	Moderate: 5-8	High: 9-12	Very High: 13 +
0	10	20	25

Positive Indicators: (tick those present)

	Positive indicator		Positive indicator
	Bedstraws & Stitchworts		Orchids
	Bird's-foot trefoils		Ox-eye daisy
	Carline thistle		Purple loosestrife
	Cowslips & Primrose		Ragged robin
	Eyebrights		Scabious (Devils bit & Field)
	Forget-me-nots		Sedges
	Heathers		Self-heal & Bugle
	Kidney vetch		Sorrel (Common & Sheep)
	Knapweeds		Small rushes (spike, woodrushes, heath)
	Lady's mantle		Sphagnum & Branched mosses
	Lady's smock (Cuckooflower)		Tormentil (Common & English)
	Lesser spearwort		Umbels Large (Angelica Valerian, Common hogweed)
	Louseworts (Common & Marsh)		Umbels Small (Pignut, Yarrow, Wild Carrot)
	Marsh cinquefoil		Vetches & Vetchlings
	Marsh marigold		Violets (all species); Harebell
	Marsh pennywort		Wild Thyme
	Marsh thistle		Yellow composites (not Dandelion)
	Meadowsweet		Yellow flag/iris
	Meadow thistle		Yellow rattle (hay rattle)
	Mints (all)		Other, please specify.

A.2 What is the cover of all positive indicators (listed above) throughout the field?

Cover is the proportion of the field taken up by all positive indicators present.

Low	Moderate	High	Very High
Only a couple of individual plants present or you can take several steps without encountering any positive indicators at all.	You encounter a positive indicator with every few steps taken.	You encounter positive indicators with every step taken.	You encounter multiple different positive indicators with every step taken (and in between steps)
0	10	20	25

A.3 What is the cover of agriculturally favoured species throughout the entire field?

Agriculturally favoured species: (tick if present)

Docks (not small sorrels)		Thistle (creeping & spear)		Ragwort		Nettle		Perennial rye-grass	

High: >25%	Moderate: 5-25%	Low: <5%
Occurring in dense patches or abundant throughout the field. Very visible in the sward.	Occurring in medium to large patches in the field. Readily visible in the sward.	None or scattered or small clumps of negative indicators. Where present, cover should be less than 5%.
-20	-10	5

A.4 Vegetation Structure. Note: if grassland is **primarily grazed use A.4a** (including marsh fritillary suitability assessment). If grassland is **cut for hay or silage, use A.4b**. Refer to the guidance for sward quality details

A.4a What is the vegetation structure in grasslands which are primarily grazed?

Over-Grazed	Moderate	Good	Moderate	Under-Grazed

Agri-environment Payments Scheme 2024

- 62 farm plans
- Results based monitoring
- Supporting actions under development.
- Workshop series

- 2025
  - No further expansion in the no. of farm plans.
  - Focus will be on maximizing what we can do with these 62 farmers.

Project Code: LIFE20 NAT/IE/000172

Success

- 63 farmers
- 354ha ha results-based scoring grassland
- 22km of new/upgraded fencing 1.5m
- 71ha riparian buffer zones
- 835 trees – 300m hedging
- Provide 100 solar pumps and fencers
- Installed 5 new ponds
- Workshops – 6 held –very successfully

Problems

Acres – 95% farms in Lough Carra Life are in ACRES.

Organics – 2 farmers have joined organic scheme

Farmer not understanding/ignoring Terms and conditions.

Actions not completed/completed incorrectly

DAFM – too many cooks in the kitchen/very slow to finalize farm plans, later this year.

- not agreeing with the measures we want to implement

Main Problem – Co-ordination with DAFM

Closed minded

Better Communication

Better timelines

Structures

It this a common problem EU wide

Solutions

Thank you for your attention

All questions and comment welcome