Farming for Water Scheme 2023–2025

Clay Lake Drinking Water Catchment, Keady, Co. Armagh

niwater
Delivering what matters

Introduction

The Farming for Water Scheme was a fully funded NI Water initiative delivered by the NI Water Catchment Team within the Clay Lake drinking water catchment to implement sustainable measures that protect and improve raw water quality.

The programme focused on reducing losses of the herbicide MCPA, precious soil nutrients, and sediment to watercourses feeding Clay Lake, improving water quality at our important drinking water source and encouraging more sustainable farm practices.

Launched in July 2023, the Scheme provided farmers and landowners with practical options to help protect the water catchment and support long-term farm resilience.

Protecting the Clay Lake and Gentle Owens water bodies is essential for NI Water in supplying drinking water to over 4,000 people and maintaining the health of the local waterbodies. Reducing pollutants at source can also help lower water treatment costs and minimise the loss of valuable soil and nutrients.

Aims of the Scheme

The key aims were to improve raw water quality, help reduce drinking water treatment costs at Clay Lake Water Treatment Works, and contribute to Water Framework Directive objectives. This was done by working with the local farming community to install on-farm measures and make farms more environmentally sustainable in the long term.

The main water quality pressures in the catchment include point sources such as septic tanks, public and private sewage discharges and agricultural discharges as well as diffuse runoff from grazing, farm nutrient loss and pesticide use. There is also a waste composting facility in the catchment.

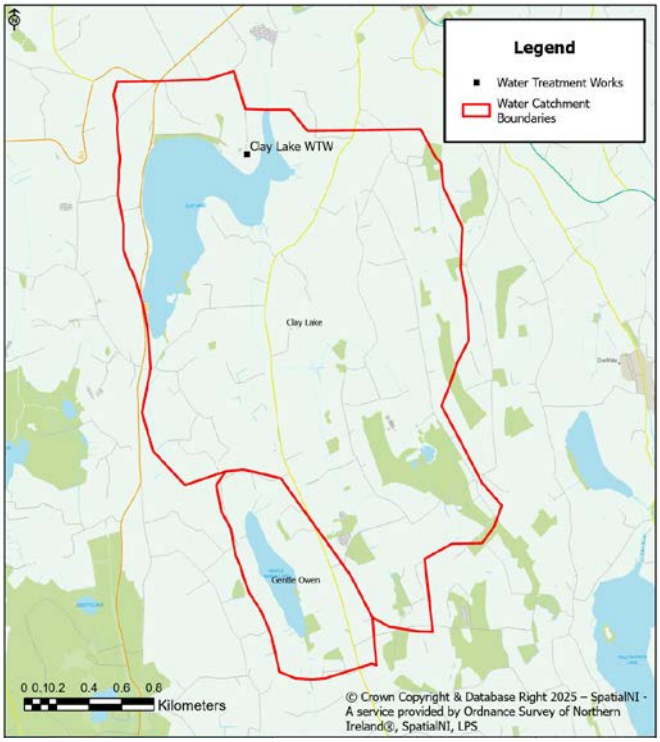

Fig 1: The Drinking water catchment area

The Catchment area

Location: Clay lake and Gentle Owens Lake, Co. Armagh

Catchment size: 593ha

Population served: 4,312

Land use: Pasture, water bodies, moorland, heathland

Abstraction from Clay Lake: 10ML/day

Measures delivered under the Scheme

Measure	Quantity
Stock-proof watercourse fencing	15,792 metres
Alternative livestock drinking points	70 number
Rush topping Prior to weed-wiping	82 hectares
Weed-wiping as an alternative to MCPA	82 hectares
Liming of treated areas	
	82 hectares
Alternative gates	25 number
Chemical spill kits	27 number
Chemical Drip Trays	27 number
Pesticide storage units	
	27 number
Mains pipe laying	3401 metres
Water culverting	45 metres
Farmer Pesticide Training	10 farmers

Project Implementation

The Scheme was formally launched on 28th June 2023 at a local community venue in Keady, Co Armagh, where more than 20 attendees registered on the night. Interest quickly grew, with 33 Expressions of Interest submitted and followed by farm visits, which ultimately led to 29 Farm Agreement Forms which were progressed to implementation.

Delivery on the ground was wide-ranging. 27 farms received pesticide storage suites, comprising storage units, drip trays and spill kits, to reduce spill risks and safeguard nearby watercourses.

Weed-wiping was promoted as a lower-risk alternative to MCPA and adopted across 27 farms, covering approximately 81.6 hectares after prior rush topping. The same area also received DAERA-recommended liming to raise soil pH, limit rush regrowth (hence limiting the need for future pesticide usage) and reduce nutrient runoff.

Watercourse protection formed another major strand of work, with 15,972 metres of stock-proof fencing installed across 27 farms, alongside the provision of 63 mains drinkers and 7 solar drinkers supported by 3,601 metres of pipework to service alternative drinkers, thus preventing livestock from entering watercourses.

To underpin these practical measures, 10 farmers completed PA1 and PA2 pesticide training, strengthening safe handling practices and ensuring compliance with regulatory standards.

Fig 2 and 3: Fencing along Watercourses

Fig 4: Weed-Wiping near the Lake

Fig 5: Alternative livestock drinkers were provided to prevent cattle encroaching into watercourses

Water Quality Monitoring

Three monitoring locations in the catchment were installed in March 2022 with composite water quality samplers and real-time sondes to monitor raw water parameters including MCPA, ammonia and turbidity before, during and after the farm measures were implemented. Data from March 2022 onwards was analysed, comparing pre- and post-scheme averages.

Figs 6 and 7: Water quality monitoring equipment installed in the clay Lake catchment, with solar power units

Water quality Results

Raw water parameter	Pre-FFW period average	Post-FFW period average	Difference between periods (%)
Turbidity (NTU)	4.33	3.57	-18
MCPA (µg/l)	0.09	0.07	-22
Total Ammonia (mg/l N)	2.28	0.83	-64
Total Algae (count/ml)	9.99k	6.90k	-31

Table 1. Average water quality results pre and post FFW from catchment and WTWs sample points and percentage reduction between periods (as of 18th March 2026). A minus figure demonstrates water quality improvement.

Conclusion

The Farming for Water Scheme has delivered substantial on farm measures and investment that has already contributed to measurable improvements in raw water quality across the Clay Lake catchment. Reductions in turbidity, MCPA, ammonia, and algal activity indicate that the interventions are effectively encouraging cleaner water for abstraction. These early gains are expected to help reduce future treatment requirements at Clay Lake WTW, lowering operational costs while enhancing the production of compliant drinking water. The Scheme also clearly demonstrates the value of collaborative engagement with the agricultural community in achieving meaningful environmental outcomes.

NI Water extends its sincere thanks to all participating farmers and the wider local community for their cooperation, support, and commitment throughout the Scheme. The collective efforts of landowners, farm businesses, and NI Water have been central to improving water quality and safeguarding this vital drinking water source for many years ahead.

Fig 8: NI Water, the contractor and farmers worked collaboratively on site