

Farming in Protected Landscapes Programme Case Study: Roadway Farm

An overview of the project

A brief background to the farm: the landowner family partnership farms dairy (Holstein Friesian herd), sheep and arable production over 133 hectares of farmland, including National Trust tenanted field parcels located close to their holding. The farm also undertakes summer season diversification in the form of a campsite and holiday cottages.

Background about the project: on approaching FiPL, the landowners were looking to build on previous conversations and actions undertaken through external organisations surrounding nature improvements, and to support the farms Countryside Stewardship mid-tier application for yard infrastructure works. The landowner partnership was open to new ideas and the opportunity for a greater understanding of what may be available to them with good long-term returns through FiPL. Management changes in marginal areas and slurry management, for both nutrient resource efficiency and air quality improvements, were also driving factors towards a FiPL application; and were supported by the North Devon AONB FiPL Officer after a visit to site. The FiPL officer also discussed with the landowner the volumes of surface water runoff observed on the series of tracks on farm which facilitates dairy livestock movements; and identified opportunities along a key section of track to mitigate the sedimentation and volume of waters collating at the end of the network. The FiPL Officer knew these measures would also deliver nature-based solutions in the form of flood risk mitigation to downstream communities alongside water quality improvements.

Facts on funding the project: The Farming in Protected Landscapes Grant awarded: £8,700 in year 2 (2022/23) out of a total project cost of £11,240, a 77% project grant. Other sources of funding: landowners own match for items of which their actual costs were above the awarded Countryside Stewardship rate amount, also towards those items which required quotations and were awarded a percentage funding contribution towards the works.

Objectives

The project fulfilled the following objectives over the year of the project.

- To reduce ammonia emissions and enable the undertaking of sustainable slurry management on fields within the AONB through the use of a dribble bar.
- Nutrient efficiency on farm leading to supporting improvements in air and water quality alongside soil health and carbon sequestration.
- Supports a reduction in flood risk, by slowing and syphoning off runoff from a farm track using cross drains in times of heavy rain for infiltration within the field parcel.
- Supporting improvements in water quality, by collating runoff within a sediment pond to settle out sediments and any light contaminants.
- Creation of ephemeral wet habitat on farm.

Activities

The activities undertaken under this project and funded by FiPL were:

- Dribble bar
- RP5: Cross drains x 2
- RP7: Sediment ponds and traps x 1

How the activities were delivered: resulting from a one-to-one site visit with the FiPL Officer and in receipt of a detailed farm advisory report alongside follow up supporting conversations, the farmer was in the position to be able to undertake all works themselves or with additional help where required. The farmer spent time working with the Protected Landscapes Officer to understand their habitats on their farm and how they may be enhanced for the themes Nature, Climate and Place.

Outcomes

The project supported reductions of ammonia emissions on farm, improved soil health and supported effective slurry management and its application on field parcels within the AONB.

The purchase of a dribble bar enabled 120 acres of existing grassland and soil function to be better managed, increasing soil diversity and also the surrounding environment through the direct application of slurry. Primarily, air quality improvements may be recognised through the reduction of slurry surface area exposed to the air, reducing ammonia emissions (and greenhouse gas NO₃) through wind and rain processes by approximately 30%; when compared to the preceding 'splash plate' method of slurry application on farm. Air quality improvements also reinforce the quality and character of the landscape within the AONB. Through such management, soil health and structure also received targeted management and instead is now able to deliver more for, carbon storage, flood risk reduction (as soil pore space and infiltration increases) alongside water quality. This project has assisted the landowners understanding of how different land management activities may support carbon storage and increased the resilience of a nature-friendly, sustainable farm businesses, contributing to the local economy.

The installation of two cross drains on a sloping farm track has redirected and slowed track runoff by providing a physical barrier to surface flows and syphoning off waters at suitable intervals into the fields. This method also has reduced channelling of surface runoff and the risk of sediment and other light pollutants entering the watercourse. A sediment pond positioned at the base of the track, within a rough corner of the farm, has provided an area where any remaining muddy run-off from the trackway is allowed to pond so sediment may settle out. This has reduced the risk of sediment and other bound pollutants entering a nearby watercourse, supporting improvements to water quality after vegetation regrowth. Ponding in such a way during wet weather temporarily allows for water storage and wet habitat prior to majority infiltration into the watercourse, acting as a natural flood management measure by reducing the speed track water reach the watercourse and associated flood risk.

Learnings

The FiPL officer having sight of the landowners Countryside Stewardship application enabled the FiPL project to run smoothly alongside the farms existing agreements and commitments, ensuring no double funding was taking place.

As the tenanted land was in the ownership of the National Trust, the National Trust's permissions and agreement to the usage of the dribble bar on their property needed to be sort to accompany their FiPL application.

The family farm is run by a multi-generational farming partnership and so it was important for FiPL to have all members of the partnership present at meetings and site visits as often as possible, to be able to effectively communicate the offer and the benefits for the farm of working with the programme. This provided all with the opportunity to ask any questions / queries they had about the project and built a trusted working relationship.

Photos

Dribble Bar

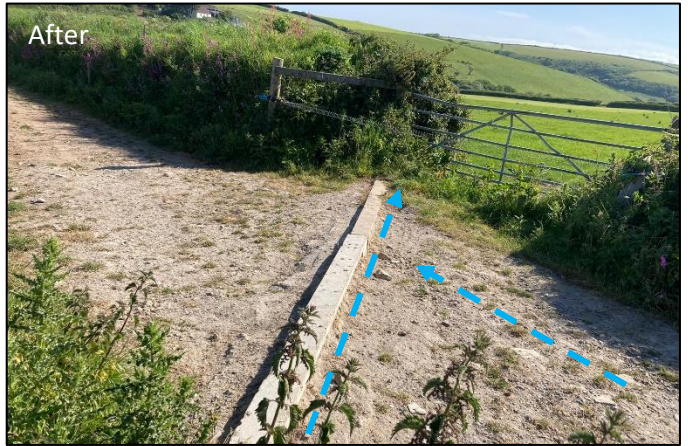


Cross drains

Before



After



Before



After



Sediment Pond

During



After



