



A clear solution for farmers

CATCHMENT SENSITIVE FARMING

Working with the Planning System Benefits for Dairy Farmers

This case study describes mitigation measures undertaken as part of a planning application to allow improvements on a dairy farm in Cumbria. These measures were required to protect sensitive designated sites from Ammonia and Nitrogen deposition.

The Farm Business

The business consisted of two separate livestock units; 180 Holstein cross Friesian dairy cows at the dairy unit on the main holding and a satellite holding housing 70 yearling heifers.

Both holdings had existing slurry stores which were nearing the end of their useful life and did not provide adequate winter storage capacity. Both units were in a CSF high priority area.

The planning application was for two new slurry based dairy housing units and a new slurry store at the main holding. Business aims were to;

- consolidate the two units into the main holding to improve efficiency;
- improve animal welfare;
- allow better slurry management to reduce diffuse air and water pollution.

What was the Problem?

The main holding is situated 1 km east of a designated site notified for raised bog, blanket mire and dwarf wet shrub heath. It contains communities of lichens and bryophytes making it particularly sensitive to ammonia.

The site is in unfavourable declining condition and subject to high background levels of Ammonia and Nitrogen which exceed the recognised levels beyond which damage can occur. 44% of Nitrogen deposition to this site is from local livestock housing, slurry storage and spreading.



Map showing proximity of the sensitive designated site (outline) and the proposal (blue dot).

The farmer's proposal would have increased the amount of ammonia emitted by the farm, exceeded acceptable thresholds, and have a detrimental effect on the designated site. Natural England was consulted by the planning authority and undertook a detailed air quality assessment and then worked with the farmer to find mutually acceptable mitigation measures.

Measures Adopted

- Two existing slurry stores removed
- New slurry store to be covered
- Slurry spreading by Shallow Injection and Trailing Shoe
- New housing designed for improved slurry management



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Benefits

- The new slurry store will provide adequate winter storage capacity and facilitate the spreading of slurry at the appropriate time of year. It has been designed to accept a rigid cover which will reduce ammonia emissions by 80% as well as reducing rainwater entry.
- Injecting slurry into the soil is the most effective way of reducing ammonia emissions and improving nitrogen retention for use by the crop; it reduces emissions by up to 70% compared to surface application. Application by trailing shoe, which places the slurry directly on the ground, reduces ammonia emissions by 30 - 60% compared to surface spreading.
- The umbilical system allows connection of the slurry spreader directly to the slurry source, while the flow meter controls the rate of application and can be adjusted to ensure the correct amount is applied for the crop.
- The new housing units will provide the dairy cows with more space and comfort and less stress, potentially resulting in higher productivity and better feed conversion with lower ammonia emissions.
- Automated scraping 4 times per day to keep the housing floor clean will reduce ammonia emissions by 15% compared to scraping twice a day.

Farmer Engagement and Motivation

This dairy farm is environmentally minded, and keen to be involved with Catchment Sensitive Farming. They have made changes on the farm that benefit the environment by reducing air and water pollution and have entered into a Countryside Stewardship agreement, both of which work with the farm business plan.

This farm is an example of how environmental change can be achieved by the industry working together with bodies traditionally seen as regulators. Proactive engagement with CSF and Natural England at an early stage can achieve multiple benefits for both the farmer and the environment.

John Bowman, Catchment Sensitive Farming Officer for Waver, Wampool and Ellen river catchments said: "This dairy farm has worked with Natural England for many years with both agri-environment schemes and CSF. The design of the new slurry store allows it to have a self-supporting cover, with help from grant funding which can be easily retro-fitted; once their existing Mid-Tier scheme expires in two years."

Get in touch with your local CSFO for advice, support or access to funding.

Visit gov.uk/catchment-sensitive-farming.

Catchment Sensitive Farming (CSF) is delivered in partnership by Natural England, the Environment Agency and Defra.



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