

Tamar catchment

CASE STUDY:
Dairy Farm
improvements
through advisor advice
and blended finance.

John Hunt

Westcountry



Rivers Trust

Background to farm/catchment

Westcountry Rivers Trust were contacted in early 2021 by a dairy farmer, near Launceston in the River Tamar catchment, who was looking for assistance with their slurry storage. The Farm is near the River Carey which currently is classified as having poor ecological status for water quality with farm infrastructure and poor livestock management cited as among the reasons for the waterbody not achieving a good water quality status.



What is the problem/Issue?

The area has a high annual rainfall of over 1350mm; the farm's yards were concreted and in good condition, and roofs were maintained with guttering in place to separate clean roof water from dirty yard water. However, some of the yards were not roofed which allowed clean rainwater to become fouled and put increased pressure on an already stretched slurry storage capacity. The existing slurry store was concrete walled, not roofed, dated from the 1980's, had a crack in a panel, and only just provided 4 months of slurry storage. The limited storage reduced the farm's opportunity to manage the timings of when they spread slurry to their land, and included times which were agronomically optimum, and when soil conditions were most suitable. This increased the risk of soil damage, and nutrients and sediment being lost to watercourses.



MAIN PROBLEMS / ISSUES:

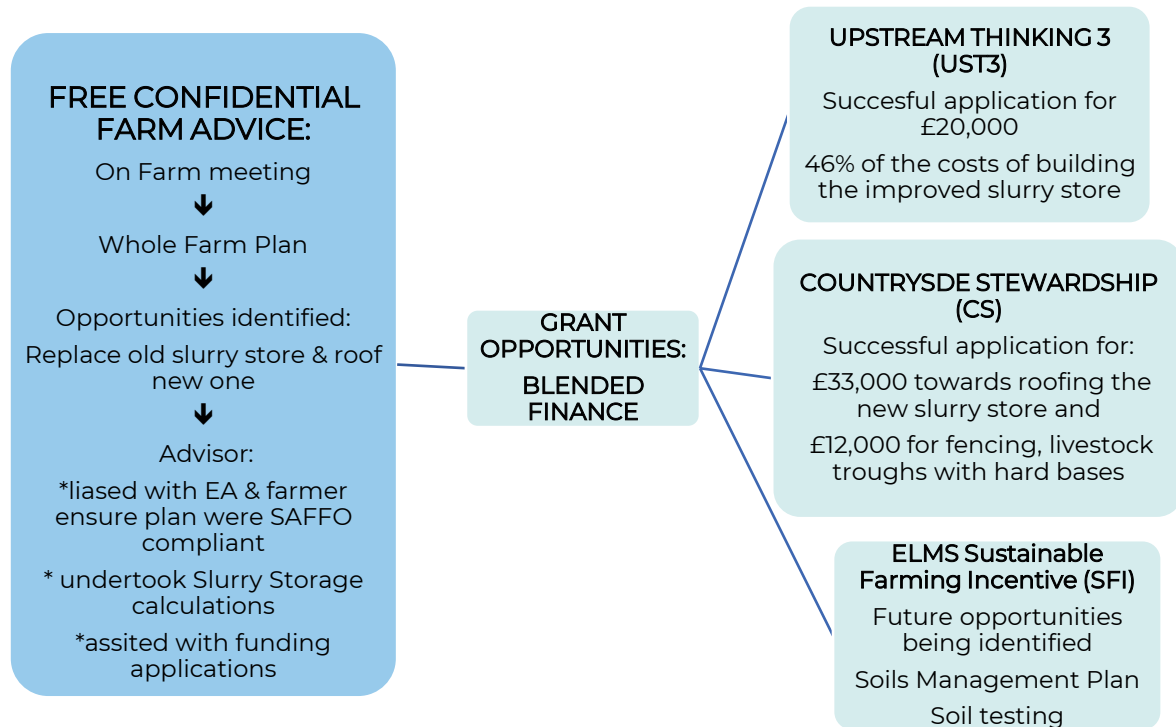
1. Limited storage – just over 4 months storage
2. Reduced opportunities to spread slurry
3. Cracked panel on slurry store
4. Not covered

What was done to address the solution?

A Westcountry Rivers Trust Farm advisor visited the farm and wrote a farm plan highlighting the opportunities available. It was suggested that replacing the old no longer fit for purpose slurry store with a newly built store would be the best option for the farm's future. Westcountry Rivers Trust helped the farmer liaise with the Environment Agency to make sure the plans for



the new store complied with the Storing Silage, Slurry and Agricultural Fuel Oil (SSAFO) Regulations. Having completed an audit of the farm slurry storage requirements, Westcountry Rivers Trust were able to demonstrate that by replacing the old slurry store with a new 900m² slurry store it would provide over 5 months of storage. This would greatly increase the farm's ability to manage the timings for spreading slurry to maximise its nutrient use efficiency and avoid inappropriate ground or weather conditions.



What was the outcome and how will it be monitored?

An Upstream Thinking grant of £20,000 was able to contribute towards 46% of the costs of building the improved slurry store, this was completed in the summer of 2021. Westcountry Rivers Trust then worked with the farmer to help them successfully enter into a Countryside Stewardship mid-tier agreement. This was able to provide a further £33,000 towards roofing the new slurry store, which will prevent over 720m³ of rainwater entering the store annually, at current stocking this will give the farm 11 months of slurry storage capacity. At an estimated cost of £5.00/m³ for spreading slurry by preventing 600m³ of rainwater entering the store will also cut farm slurry spreading costs by a further £3,600 per year and effectively increase the capacity of the slurry store by a similar quantity. The agreement also included riparian buffer strips and watercourse fencing to protect watercourses on the farm, and reduced nutrient inputs on a further 5.5 hectares of land adjoining watercourses.

OUTCOMES:

1. UST3 grant for £20,000 - 46% of the costs of building the improved slurry store
2. Successful application for Countryside Stewardship mid-tier agreement.
 - a. Providing £33,000 roofing the new slurry store.
 - b. slurry spreading costs reduced by £3,600 per year
 - c. agreement include riparian buffer strips and watercourse fencing to protect watercourses on the farm



What is the benefit to SWW / the customer / the environment?

With 11 months of slurry storage the farm now has the capacity to optimise the use and timings of application of their slurry as a nutrient source for their crops. Slurry will only be applied at timings when the nutrient within the slurry are required by the growing crop, and when ground and weather conditions are suitable. This will greatly reduce the chance of soil damage, and nutrients and sediment being carried into watercourses.

BENEFITS:

- 11 months of slurry storage
- Improved nutrient management :
 - Slurry can be applied when required during favourable conditions
 - More resilient soils
- Reduce chance of soil damage
 - Improving water quality and biodiversity in the River Carey.