



A clear solution for farmers

CATCHMENT SENSITIVE FARMING

Soil erosion solutions in Hampshire

Grange Farm, Tichbourne, Hampshire

Rivers Test & Itchen Catchment (29)

CSFO: *Serena Leadlay*

Farm Description

Mixed beef and arable holding Grange Farm runs along the Cheriton tributary, the source of the River Itchen. The Itchen has some of the most prestigious chalk streams in the country and is a designated SSSI and SAC. SAC species include Atlantic Salmon, Otter and Lamprey. Much of the Cheriton has also been designated a Wild Trout Fishery under the trout and Grayling Strategy.

Some of the SSSI units on the tributary are 'unfavourable'; one of the reasons is agricultural run-off. The CSFO and farmer Robert Raimes reduced water pollution by improving a farm track that was channelling dirty water from the yard into the river.

Pollution Problems

Analysis estimates nearly 15% of the Cheriton tributary at 'moderate risk' from soil erosion and high phosphate and nitrate levels. The problem is exacerbated by shallow chalk soils which increase the risk of nutrients leaching into the groundwater.



Grange Farm also has some of the steepest slopes in the catchment with silty soils prone to capping and run off to adjacent SSSI water meadows. Cattle from Grange Farm drinking from the stream, and freely accessing it at crossing points were causing poaching, sediment loss and faecal deposition into the stream. Fencing large areas of riverbank was neither feasible nor desirable for landscape and biodiversity reasons.

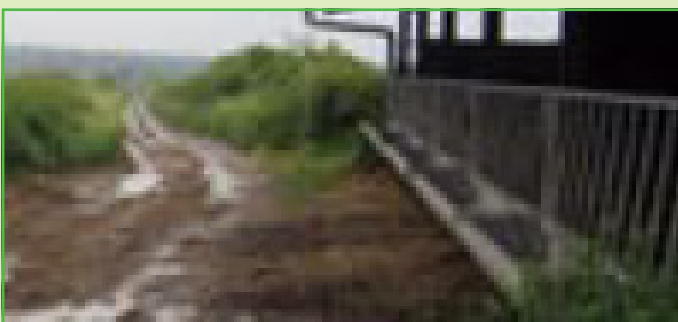


Fig 1: Cattle shed at the top of the track which contributed to the run off and contamination problems on the track – before improvements were made to the guttering

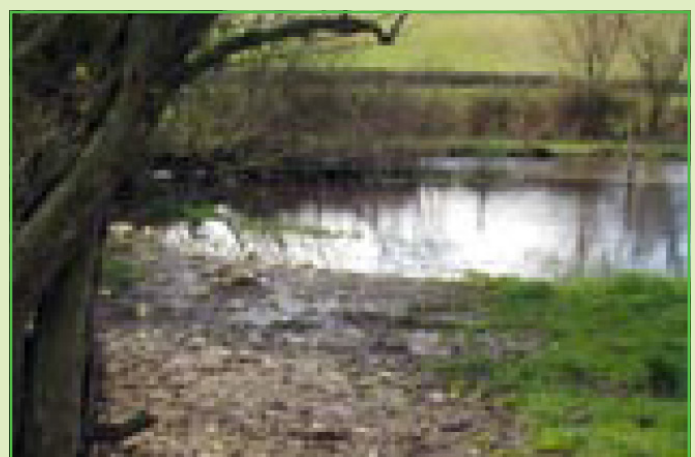


Fig 2: Cattle drinking bay prior to restoration

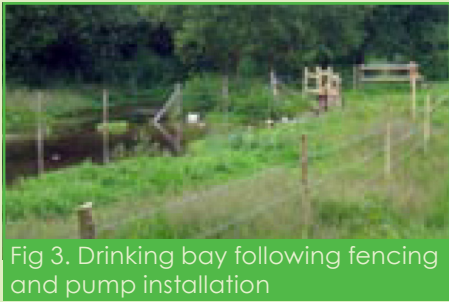


Fig 3. Drinking bay following fencing and pump installation

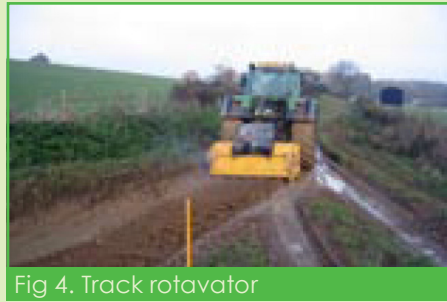


Fig 4. Track rotavator



Fig 5. Re-grading and ditch work

Manure, sediment and yard spillages were also washing into the stream off a farm track. Field run-off added to track pollution which then fed into a ditch and ended up in the river.

Pollution Solutions

1. The CSFO advised the farmer to fence two areas where the cattle drink and add two pumps to provide alternative drinking water to the stream. This provided the cattle with cleaner drinking water and reduced nutrient transfer into the stream.
2. The CSFO and the farmer reduced run-off on the track by installing new guttering on the roof of the cattle shed so that clean water could be diverted under the track. The entrance to the shed was moved to the side to reduce muck getting on the track. The farmer rotivated the track (Fig 4) to reduce berms and ruts and cleaned out and re-profiled ditches to make blind ditches which stopped sediment running directly into the stream.(Fig 7).
3. The farmer was already leaving margins and field corners to help cut sediment loss but on



Fig 6. Runoff at bottom of track

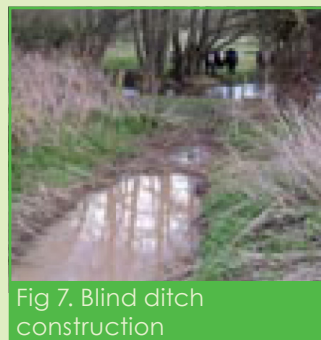


Fig 7. Blind ditch construction

the steepest field the CSFO and the farmer agreed to extend the margin from 6 metres to 20 meters - funded under Environmental Stewardship Scheme because of the protection it gave the river.

4. The farmer was already following a Soil Management Plan which had identified fields which needed ploughing to improve soil structure. He uses a minimum tillage system on the majority of the fields.
5. The farmer is now thinking of reducing the number of cattle on the holding. This would cut the straw and feed requirements and allow more straw to be incorporated back into the soil which would improve the soil structure.

Farmer Engagement and Motivation

Robert sits on the Catchment Steering Group for the Test and Itchen and encourages other farmers to engage with CSF. He's set up some trial sites to demonstrate to other farmers the difference in soil run off and capping on direct drilled, reduced tillage and ploughed fields. He also gave a farm walk to demonstrate the simple measures which can be implemented in order to help reduce diffuse pollution from agriculture.

Catchment Sensitive Farming Officer (CSFO)

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