



A clear solution for farmers

CATCHMENT SENSITIVE FARMING

Frogmary Green Farm South Petherton, Somerset

Somerset Levels & Moors Catchment (12)

CSFO: Roy Hayes

Farm Description

Soil erosion and run-off from Frogmary Green Farm and neighbouring farmland caused muddy flooding on the nearby road. Eroded sediment (along with the attached phosphate and pesticides) is carried to the nearby South Petherton Stream, a tributary of the River Parrett.

The Parrett feeds a number of SSSIs in the Somerset Levels and moors some of which have been evaluated as in “unfavourable condition” partly due to diffuse pollution.

The CSFO and farmer Nick Bragg found an integrated solution to cutting pollution working with a number of farms in the catchment.

Pollution Problems

The soil in the area is fine, well drained and silty but because the land has been under arable cultivation for decades it has very low organic matter content. This makes it vulnerable to capping and slaking when it rains causing accelerated run-off when there is any sort of slope. Sediment ends up in the South Petherton stream. Run-off washing down one of the farmer's tracks was also causing flooding near a village.

It has recently still been a problem despite the local highways agency adapting an existing pool to catch the run-off. Run-off from Nick and other farmers' fields in the area was also washing mud onto the road and causing flooding. The run-off overflowed from a ditch and a blocked culvert.



Muddy water crossing road at site 2 during rainfall event
Specific to Frogmary Green

The Solutions

The potential solutions were discussed on site with the farmer, local Louise and NE Soils Specialist Ian Ball. These are illustrated in map 3 below.

Site 1: A package of measures was recommended including better soil management, working as a group with all relevant land owners and the strategic use of capital items.

Soil Management

Nick's neighbouring farmers agreed to adopt measures such as cross slope drilling as a result of the local meeting. One of these farmers implements a soil management plan. Nick also already practices good soil management such as drilling winter wheat as early as possible after harvesting his potato crop. He has also implemented a number of recommendations from his soil management plan including:

- Drilling early maturing varieties of maize,
- Subsoiling post maize harvest
- Use of coarse seedbeds
- Cultivating post harvest to increase permeability

The CSFO also recommended the use of tied ridges this year that have worked well

Capital items

Nick has applied for CSF grants for a strategically placed sediment pond and to relocate the gateway, this will help stop the water from funnelling onto the road.

Group Working

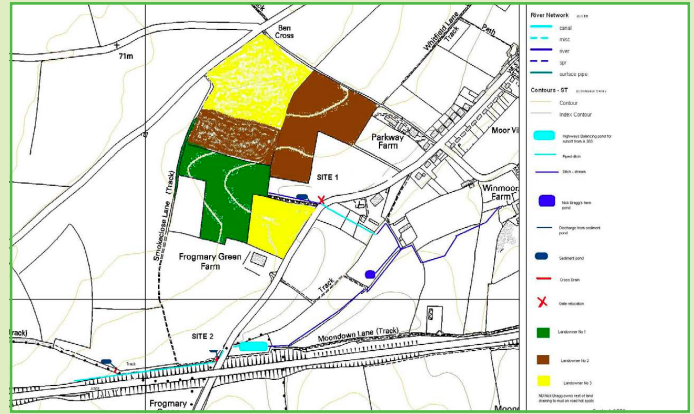
Nick organised a meeting which all the landowners attended to help generate ownership of the problem and arrive at solutions. This was funded through CSF and facilitated by a CSF contractor known to the farmers. The main aim of this was to devise a local strategy. Integrated solutions are required as the sediment pond would fill up in one event if the other farmers disregard the issue and their impact on it. Previously, some of the farmers had not responded to calls to engage with this issue so progress has really been made.

Their agreement to implement soil measures is encouraging but more is needed. This could be informal or formal but the farmers all need to agree and stick to this. In addition to this a further meeting is required to encourage collective management of the sediment pond.

Site 2: As all the runoff to this site comes from Nick's land this is a simpler situation however it is compounded by the track which concentrates runoff. In addition to adopting good soil management Nick is seeking to increase the organic matter content of his soils through the use of compost from the local Waste Disposal Site. The catchment area has been broken down to help reduce the load on one sediment pond so Nick has applied for two ponds and cross drains under the CSF to help take the water safely to the ditch. Nick already uses a cattle grid with large catch pit for the farm entrance; I recommended this also for the lower cross drain.



Map 1 shows where incidents of flooding have occurred.



Farmer Engagement and Motivation:

Nick has engaged with the project from the outset and is highly motivated. He set up and hosted the local group to try and create an integrated long-term solution with neighbouring farmers. Under his ELS agreement he has Soil and Crop Management Plans in place and is already reducing run-off by drilling early maturing maize and subsoiling and cultivating after harvest to increase soil permeability. However even this farmer has changed his and his neighbours' practices due to involvement with CSF.



Run-off enters Highways balancing pond, site 2

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



Department
for Environment
Food & Rural Affairs



Environment
Agency



Funding is from the
European Agricultural
Fund for Rural
Development: Europe
investing in rural areas.