

# River Axe N2K Catchment Regulatory Project Report



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November 2019

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## Executive Summary

- The River Axe Special Area of Conservation is in unfavourable condition and is declining, owing to nutrient enrichment and sediment pollution that had led to a number of ecological problems including habitat loss and loss of fish species.
- This has resulted from intensification of dairy farming and associated maize growing for fodder as well as for energy production. The soils in the catchment are vulnerable to compaction and erosion and are unsuited to growing maize or winter manure spreading but these activities are widespread.
- The Environment Agency secured £120,000 in local funding for a three year regulatory farm visit campaign during the winter periods 2016 to 2019, during which time we carried out 86 farm audits. As a result of these advice-led but regulatory visits farmers in the catchment have either constructed or are in the process of constructing 33 slurry stores, 3 silage clamps, 10 fuel stores and have carried out 21 infrastructure repairs.
- All the improvements have been achieved without recourse to prosecutions or formal cautions, although we made it clear these would be the sanctions should compliance not be reached. A minimal number of notices were served to secure compliance and a number of warning letters were sent in response to actual pollution incidents observed during the visits.
- These infrastructure investments are estimated to total nearly 4 million pounds and were sourced by both farmers and from grant aid incentives. Or put another way, every pound spent by the Environment Agency in regulatory visits has resulted in investment of £33 for infrastructure improvements.
- Initial evaluation of the impact of these improvements suggests that 30km of the River Axe has been enhanced.
- Despite over a decade of advisory visits in the period up to 2016, the catchment continued to decline and there were no significant improvement in farming practices. 95% of farms did not comply with storage regulations and 49% of farms were polluting the river Axe.
- This evaluation clearly demonstrates the power of advice, backed up by regulation and supported by financial incentives to create positive benefits for water quality. Neither advice, incentives nor regulation delivered in isolation of the others will generate the desired environmental improvements in water quality.
- All the farms visited are Red Tractor Assured. The findings of this campaign demonstrate that Red Tractor is not effective at assuring farms are meeting environmental regulations
- To maintain these improvements dedicated EA officers, with the skills to engage farmers will be needed. Having secured investment in basic infrastructure further regulatory improvements could be gained by focusing on wider land management in the catchment.
- The approach taken in this catchment could clearly be transferred to other priority catchments in the country to generate similar improvements for relatively small regulatory investment.

# 1. Introduction

This report presents the findings of a farm visit campaign carried out on the River Axe, East Devon by the Environment Agency from 2016 to 2019.

The River Axe has a history of problems due to pollution and run-off mainly from dairy farms in the catchment, and has received much attention over the last 20 years.

Partnership initiatives within the catchment to date have been mainly advisory. It was felt by partners that a more regulatory approach should be taken.

# 2. Background

## Judicial Review

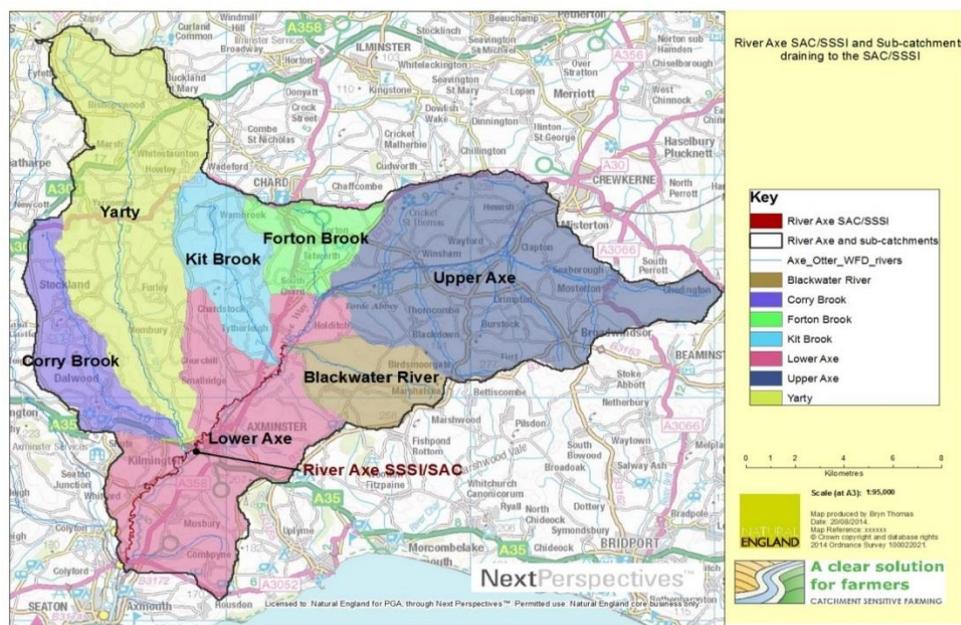
The World Wildlife Fund (WWF) and the Angling Trust (AT) instigated a judicial review of the Environment Agency and DEFRA in 2015. These organisations contested that DEFRA and the Environment Agency were not using all their regulatory powers including Water Protection Zones, (WPZs) to tackle diffuse pollution in Natura 2000 (N2K) sites.

The parties agreed to a Consent Order, which required the Environment Agency to review and update 36 Diffuse Water Pollution Plans (DWPPs) on the N2K sites and consider if the measures available to control pollution were sufficient to meet condition targets.

The River Axe is an N2K site and is covered by the Consent Order.

## The River Axe Catchment

The River Axe catchment covers an area of 308 km<sup>2</sup> across Devon, Somerset and Dorset. The lower reaches are also designated as a Special Site of Scientific Interest (SSSI) and Special Area of Conservation (SAC). 237 km<sup>2</sup> drain to the SAC.



Map of Axe Catchment

The River Axe SAC is in unfavourable and declining status owing to nutrient enrichment and sediment pollution. The SAC is designated for its aquatic plant communities (water crowfoot and water starwort) and for fish species (sea lamprey, bullhead and salmon). Salmon populations on the river Axe declined through the 1970s and 1980s to the extent where no salmon were recorded in the late 1980s and early 1990s. Salmon are now returning to the Axe and are probably derived from introduced hatchery reared fish as part of rehabilitation work started in 1988.

South West Water Limited PLC (SWW) has invested to reduce the phosphate discharges from the only major works in the catchment serving the town of Axminster. A former creamery has now closed, which contributed a significant discharge of phosphate to the river.

Despite these reductions, the catchment continues to fail its water quality targets mainly as a result of nutrient enrichment caused by dairy farming.

The river exhibits a range of ecological problems associated with:

- High phosphate concentrations
- Sediment pollution
- Algal (phytobenthos) communities smothering the river bed and aquatic plants
- Silty river gravels and loss of salmonid spawning and juvenile river habitats
- Loss of important aquatic plant communities (designated under the Habitats Directive)
- Higher and flashier river flows
- Eroded river banks
- Widening of river channel causing reduced water velocity and increased river temperatures
- Loss of bankside trees and habitats; and
- Invasive plants such Himalayan Balsam colonising eroded river corridors.

There are approximately 437 farming units in the Axe catchment. These include livestock farms comprising dairy, beef and sheep. Land use includes improved grassland for grazing and forage, with arable crops including maize, winter and spring cereals. Table 1 shows a simplified classification of all four farm types. There are 125 dairy farms (identified in this classification as ‘intensive grazing farms’) with an average of 100 cows. However, many of these farms will have herds of up to 500 cows.

| Farm Type               | Farm Count | Average stock per farm |              |               |       |         |
|-------------------------|------------|------------------------|--------------|---------------|-------|---------|
|                         |            | Dairy Cows & Heifers   | Other Cattle | Sheep & Lambs | Pigs  | Poultry |
| Arable                  | 82         | -                      | -            | -             | -     | -       |
| Pigs & Poultry (Housed) | 19         | -                      | -            | -             | 342   | 29,167  |
| Extensive Grazing       | 211        | -                      | 44           | 130           | -     | -       |
| Intensive Grazing       | 125        | 100                    | 80           | 77            | -     | -       |
| Total                   | 437        | 12,500                 | 19,284       | 37,055        | 6,498 | 554,173 |

**Table 1. Farm types and stocking**

Dairy farming has restructured over the last 20 years driven by a low milk price with farms under intense commercial pressure to remain viable. This has led to larger

herds, increased milk production and a drive to reduce costs and a disproportionate lack of investment in slurry infrastructure compared to milking parlours, housing and yards. There has also been an increasing trend to grow maize to increase milk output and to supply feedstock for two local Anaerobic Digestion sites. The farming sector is now the biggest cause of Category 1 and 2 pollution incidents of any industrial sector, including the water companies.

The dairy sector has high potential to release sediment and phosphorus into rivers. In wet conditions soils in the Axe catchment are vulnerable to compaction from heavy machinery and stock trampling. Applications of slurry on wet spring soils can also result in phosphorus loss when sufficient rainfall occurs within 10-20 days, through preferential drainage, along with ammonium-N and microbial pathogens<sup>1</sup>. When this happens sediment and nutrient run-off will often result. Approximately 80% of the land consists of heavy clay soils, is poorly draining, unsuited to growing maize and to winter manure spreading but these activities are widespread.



**River Axe SAC downstream of Axminster**



**The River Yarty near the River Axe SAC confluence with severe bank erosion, sediment pollution and loss of water plants**

Some dairy units will take a cut of grass from temporary grass leys prior to drilling a maize crop. This delays drilling operations until mid-late May, some 3-4 weeks after the earliest sowing opportunity in a normal year. Any delay in drilling can have knock-on effects later in the year, especially if the autumn is wet. Wet conditions stop the crop from ripening, delaying harvesting operations further. These wet conditions make heavy soils very vulnerable to compaction. Wet heavy soils are very difficult to manage without causing pollution and establishing a crop or preparing the land for winter are both very high risk.



**Poor Grass reseed**



**Direct Drilled grass reseed with slurry run-off**

Stubble is often used as sacrificial land for winter slurry spreading, providing no agricultural benefit. Stubble is often already compacted from harvesting operations and is compacted further by heavy slurry tankers. Even moderate amounts of rainfall can then generate run-off containing high levels of nutrients flowing into watercourses.



**Land compacted from harvesting**



**Winter slurry spreading on stubble**

Agricultural intensification has also resulted in physical changes in the river system as run-off has increased leading to the river coming out of regime. Severe bank erosion and the loss of many riparian trees is evident in much of the catchment. River channels are becoming more incised releasing more fine sediments from the banks. New run-off pathways caused by compaction will form after agricultural operations and in heavy rain these can create new flood problems for roads and properties. This is likely to be exacerbated as the climate changes.



**River Yarty after Spate**



**Beckford Bridge (River Yarty in spate)**

### Partnership projects prior to 2016

Projects that have been carried out in the catchment include:

- The Cycleau project (2004-2006) where farmers received advice and guidance on diffuse pollution;
- Since 2006 Catchment Sensitive Farming (CSF) has funded meetings, workshops, demonstration events, one-to-one guidance and grant aid to deal with diffuse pollution;
- Walkover and aerial surveys, and monitoring of diffuse pollution carried out by consultants (APEM) 2010;- A specialised agricultural Environment Officer was active in the catchment from 2008-2012 however they took a very advisory approach and did not use our regulatory powers to drive compliance;
- East Devon Maize project (2015-16) where farmers received advice on dealing with run-off and diffuse pollution.

There has been very little EA regulatory activity within the catchment during the last 15 years following a national steer to allow the voluntary approach to take place. In recent years regulation has been minimal due to limited and reducing Grant in Aid Funding (GiA) for this work. In 2017 the number of farm visits required to meet the national Key Performance Indicator (KPI) for the whole of Devon, Cornwall and the Isles of Scilly area was halved to 65 visits (0.5% of farms per annum). On this basis the Axe would proportionally receive only two visits per annum and most farmers would not expect an inspection in their lifetimes.

Most farms in the catchment are funded by Environmental Stewardship, with the majority in the Entry Level Scheme. The Blackdown Hills were also a former Environmentally Sensitive Area (ESA) scheme where farmers received payments for environmental improvements.

### **3. The Environment Agency farm visit campaign**

During the winter periods of 2016-2019, Environment Officers visited farms to carry out inspections under the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 (SSAFO) and since April 2018 also The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 Farming Rules for Water (FRfW).

The farm visits involved inspecting infrastructure, checking for pollution and risk of pollution and raising awareness of SSAFO and FRfW. The work followed standard Environment Agency compliance assessment procedures and follow-up enforcement with each situation dealt with on a case-by-case basis.

Environment Officers gave advice and guidance was also given on land management and the Farming Rules for Water (FRfW). Where appropriate, referrals were made to Natural England (NE) for further support and grant aid through the Catchment Sensitive Farming Scheme.

The project initially had three Environment Officers working on targeted farm inspections; two multifunctional and one specialist officer.

Critical to the success of the project were officers with the correct skills. The lead officer had an agricultural background and was able to understand and communicate the financial benefits of meeting compliance using economics as a driver, e.g. removing rainwater from slurry systems reduces spreading costs (in terms of manpower, wear and tear on tractors and fuel consumption)

The CSF Officer was experienced and well known within the farming community. The ambition was to deliver good advice in a regulatory context supported where possible and appropriate with capital grants to help improve water quality.

### **4. Campaign findings**

Environment Agency officers visited 86 farms. The inspections revealed widespread illegal discharges and activities with a high risk of causing pollution.

42 farms (49%) had evidence of a polluting discharge at time of the visit. Some (4 farms) were considered serious (Category 2 incidents). Nearly all farms (95%) failed to meet requirements under the SSAFO regulations with the majority at high risk of causing pollution. Sewage fungus was found in many tributaries and in most cases high phosphate levels were recorded downstream where samples were taken.



**Sewage fungus in tributary of Axe**



**Illegal burning of waste found on 4 farms**

| <b>Regulatory non compliance</b>   | <b>No of farms</b> |
|--|--------------------|
| Improvements needed for slurry storage to meet SSAFO compliance  | 33                 |
| Improvements needed for silage storage to meet SSAFO compliance  | 21                 |
| Silage stores requiring new structure  | 3                  |
| SSAFO compliant at time of visit   | 2                  |
| SSAFO compliant after improvement works (some units will not meet SSAFO compliance even after improvement works as structures have not been built to CIRIA specification). | 4                  |
| Dirty water and irrigation discharges causing diffuse pollution  | 5                  |
| Soil run-off and erosion   | 7                  |
| Burning of waste   | 4                  |
| Discharges from farmyard manure storage  | 6                  |
| Improvements needed for fuel storage to meet SSAFO compliance  | 10                 |
| Pollution from land spreading  | 3                  |
| Pollution occurring at time of visit   | 42                 |
| Total farms visited  | 86                 |

**Table 2 Environmental problems found on farms in the Axe Project**

The findings of the farm visit work revealed widespread problems. The visits were carried out in relatively dry winters and it was felt that problems could have been even worse in wet conditions. Most of the inspection effort was focused on farm buildings and infrastructure as these were in such poor condition. Further work is needed to carry out field inspections to assess compliance with FRfW in particular compaction and erosion issues.

Of particular concern was the lack of storage for manures and slurries on most farms. Four months storage is a legal requirement of the SSAFO Regulations and essential

to avoid spreading during the winter on land sensitive to compaction and at risk of run-off.



**Non-compliant weeping wall store**



**Newly constructed compliant earth banked lagoon**



**Bad practice slurry spreading likely to be causing pollution**

All the farms visited are Red Tractor Assured. The findings of this campaign demonstrate that Red Tractor is not effective at assuring farms are meeting environmental regulations.

### **5. Major incidents during the project**

Three significant slurry spills occurred in the catchment during the project. These were due to catastrophic failure of stores and associated infrastructure. These incidents were all self-reported by farmers, indicating growing confidence in the Environment Agency's reputation to be a fair regulator and taking appropriate enforcement action.

The incidents are illustrated in the figures overleaf.

**Fig 1**



**Fig 2**



**Fig 3**



**Incident 1 (Fig 1)**

The incident was a spill of slurry and considered foreseeable. The potential for a significant spill to occur was pointed out to the farmer during a previous SSAFO audit. Fortunately the farmer was constructing a new earth banked lagoon which captured most of spillage.

**Incident 2 (Fig 2)**

This Category 2 incident involved a release of 77,000 gallons of slurry into the River Yarty. This was caused by cattle scratching on a guillotine valve lever which was unlocked. The second valve had been left in the open position by the farmer. A controlled release of slurry during the night time period discharged across a field and entered the watercourse. The River Yarty was in full spate at the time of the incident which diluted the discharge, this avoided what would have been a significant fish kill.

**Incident 3 (Fig3),**

This incident occurred due to catastrophic collapse of a slurry store wall releasing slurry which travelled several kilometres over land. The structure was not built to CIRIA specification and collapsed under maximum pressure. A major effort by the local community prevented a Category 1 incident from occurring and slurry was contained before entering the watercourse.

During the project a major incident was also caused by the local water company when a discharge containing pollutants from a sewage treatment works caused the death of thousands of fish.



## 6. Discussion

Environment Officers identified the need for 33 slurry storage structures during SSAFO audits of the 86 farms.

Most farmers were aware of the requirement for four months slurry storage but often admitted to taking a business risk by not investing in infrastructure because there was little regulatory presence of the Environment Agency in the catchment and the lack of direct pay back. Instead they have been investing in housing and robotic milking systems which will increase herd size and put more pressure on existing infrastructure.

The majority of dairy farming units inspected employ the services of an agronomist and nutritionist, to ensure that high yielding dairy cows are fed an appropriate diet. Advice from nutritionists is promoting the use of maize as an aid to increase milk production. Agronomists are often seeking to meet the expectations of farmers to grow the required crops without considering the suitability of the land. A trend of poor advice from consultants is leading farmers into an unsustainable downward spiral, driven by the false economics of herd expansion without including the capital costs of slurry and silage infrastructures and the ongoing maintenance of these structures.

All of the 33 farms visited that were SSAFO non-compliant for slurry storage have voluntarily agreed to meet compliance and install the minimum of four months slurry storage. This agreement was reached after the regulations were clearly explained to the farmers alongside the enforcement repercussions if they remained non-compliant. Messages given on site were backed up in writing with agreed timescales confirmed. Only one dairy unit, where the farmer was past retirement age and was suffering from ill health, has decided not to invest and has retired enabling a family member to manage a small, low risk beef and sheep enterprise instead.

Following all regulatory visits a letter itemising all identified non-compliance was sent to farmers requiring improvement works to an agreed timescale. Failure to comply without good reason will leave the Environment Agency no alternative but to serve the appropriate enforcement notice to get the desired outcome. Failure to comply with a notice usually results in prosecution. However, as this had been made clear by the visiting officers, the vast majority of farmers chose to comply without the need for formal enforcement. Formal enforcement was necessary on only one farm where a large dairy unit was served with two enforcement notices for infrastructure improvements and soil run-off related problems. The notices were served only as a last resort as there had been a history of pollution incidents. The farmer failed to prioritise land management problems and rectify a chronic Category 3 pollution caused by general yard run-off



### **The Environment Agency subsoiler**

On some farms, where compacted maize stubble had been identified as causing high risk of run-off and pollution, the Environment Agency loaned its subsoiler. This equipment is held within Devon and Cornwall area and provided for demonstration purposes to show how to deal with soil compaction. Discussions were held with farmers to help them identify compaction and understand the nuances of using a subsoiler to ensure that matters are not made worse (for example by travelling on soft ground after subsoiling). It was made clear that use was for demonstration purposes and a contract was set up where liability was with the farmer only.

## **7. Cost Benefit Analysis**

Without Grant in Aid to fund officers on the ground funding was secured through the East Devon Catchment Co-ordinator from a variety of sources. In addition Local Levy funding was secured from the South West Regional Flood and Coastal Committee due to 'muddy flood' concerns and the need to find practical solutions as this issue of agricultural soil compaction are known to be part of the cause of the "muddy floods" that are prevalent for the rural communities of East Devon.

Whilst securing the funding has been successful to date, it is critical to remember that going forward the use of project funding for agricultural regulation is a not a sustainable model.

The project has resulted in significant investment in agriculture through the catchment:

|                        | Number of farms | Average cost £ | Total spend £          |
|------------------------|-----------------|----------------|------------------------|
| New slurry stores      | 33              | 50,000         | 1,650,000              |
| New silage clamps      | 3               | 60,000         | 180,000                |
| Infrastructure repairs | 21              | 5,000          | 105,000                |
| New fuel storage       | 10              | 1200           | 12,000                 |
|                        |                 |                | <b>Total 1,947,000</b> |

Table 3 Farm investment in SSAFO structures

| Project/<br>Environment<br>Officer Cost<br>(A)                | Investment by<br>farmers e.g.<br>slurry stores<br>(B) | Total amount<br>of grant<br>applied for<br>during<br>project<br>duration<br>(C)  | Farmers<br>match for<br>grant<br>(assuming<br>50%)<br>(D) | Stewardship<br>(E)    |
|---|---|--|---|-----------------------|
| £40,000 x 3<br>years<br>= £120,000<br><br><b>A = £120,000</b> | <b>B = £1,947,000</b>                                 | £366,666 per<br>annum<br>(based on<br>previous 9<br>year average<br>£366,666 x<br>40% x 3 =<br>£439,999<br><b>C = £439,999</b> | <b>D = £439,999</b>                                       | <b>E = £1,120,000</b> |

Table 4 Project costings and investment

NB: Data for 2016-19 is not available for CSF and stewardship, therefore, an average of previous years' data has been used. We have assumed that 40% of CSF grants and stewardship have come as a result of regulatory work. Due to the enhanced rate of referrals and regulatory pressure to progress change this figure is actually likely to be much higher for 2016-19.

From the tables above an estimate of the total investment in the catchment as a result of the regulatory presence throughout the life of the project is  $F = (B+C+D+E)$   
**F = £3,946,998**

This means that each **£1** spent on regulatory officers has secured an investment of **G = £32.89** ( $G = F / A$ ).

If we disregarded the CSF grants and stewardship the figure would be **£16.23** of investment per **£1** of regulatory activity.

This campaign has been highly cost effective resulting in very significant investment by farmers and deployment of grant aid. These interventions have been directly beneficial through protecting water quality by:

- Stopping identified chronic pollution from occurring,
- Reducing the risk of future catastrophic pollution events and
- Improving land management practices to reduce run-off.

30 km of the River Axe catchment was reported against KPI 1311 as 'enhanced' by this campaign although the pressure from agriculture remains.

The work has delivered multiple benefits in addition to improved water quality including soil protection and flood regulation and has enhanced/improved the recreational value of the catchment, particularly for anglers.

## **8. Referrals to RPA**

In total 7 farms were referred to the RPA (Rural Payments Agency) for cross compliance breaches of GAEC 5 (soil erosion greater than 1 hectare). The referral process is convoluted and was largely unsuccessful. The timing of visits from inspecting RPA officers often meant that breaches were unsubstantiated and payments were unaffected. From discussions with RPA colleagues it became apparent that interpretation of the rules focused on soil erosion with gullies as evidence of soil loss and not soil loss caused by sheet run-off which occurs on heavier soils, where gullying is less evident. In most cases water quality samples, photographic evidence and any historical intelligence was passed on to the RPA for consideration but the RPA did not consider soil run-off to be a breach. Meetings with local RPA inspectors and Environment Officers took place with both parties expressing their frustration with the referral process which has now been raised nationally.

## **9. Catchment Sensitive Farming Partnership**

All farms visited were signposted to CSF for further advice, including advice on soils and nutrient planning. Between 2017 and 2019, CSFO's have completed 41 farm infrastructure audits and more than 140 farmers have received advisory visits or attended specially focused events.

The Catchment Sensitive Farming initiative has been active in the Axe catchment since 2006. In this time 403 farm holdings have received advice both through events and one-to-one visits across the Axe and Otter catchments, representing 59% of the farmed area of the two catchments. 351 of these farms have received one-to-one CSF advice. In total there have been 1008 one-to-one visits in this time demonstrating an average of 3 visits per farm.

£3.3M of CSF grant aid has been invested in farm infrastructure across the Axe and Otter between 2007 and 2015/16; approximately two thirds of this was in the Axe catchment. During the period 2017/18 a further £2.8M was also paid within the Countryside Stewardship Scheme for infrastructure improvements. The catchment sensitive farming initiative is funded until 2020.

Grant aid is not targeted at storage facilities and so whilst new infrastructure is being installed such as new sheds and roofs, this does not deal with basic legislative requirements such as the conditions stipulated by the SSAFO regulations or illegal discharges.

CSF was a key component in delivering the farm campaign project with the vast majority of targeted farms visited being referred for further advice, guidance and grant

aid if within the target area. A very close working relationship with field based staff has been crucial to the success of the project. In some cases joint visits were arranged with the inspecting Environment Officer, CSFO and farmer to ensure that resource was directed to meet compliance as a priority. A good relationship based on mutual trust has been established with the local CSFO and this has been integral to achieving results. The key aspect is that Environment Agency and CSF officers have been able to join up their powers with the Environment Agency carrying out the regulatory requirements, and CSF support being better targeted.

## **10. Barriers to success**

Although this project has identified numerous pollution problems in the catchment, there have been a number of barriers to successful farm visits.

These are:

- The window of opportunity for productive farm visits is limited to the winter months (December-February). Background, chronic pollution from infrastructure, yards and tracks is more evident in these months. General run-off from open yards, feed areas and tracks are often point source discharges for high levels of phosphate. Being able to demonstrate environmental impact combined with a reminder of legislation to the farmer is a very effective method of obtaining compliance. Concentrating visits into a small time frame is very demanding on the inspecting officer, combined with other duties and follow-up work.
- Availability of competent officers to carry out this work was affected by a member of staff leaving in 2018. We were unable to replace this officer due to both resource issues and technical resilience. A risk to the project is loss of technically skilled officers with the right technical knowledge and expertise in dealing with the farming community.
- Demonstrating long term and lasting improvements to water quality is difficult to prove within the Axe catchment headwaters. The lack of routine monitoring is making it difficult to establish if river phosphate concentrations are reducing. This could be addressed in future monitoring programmes, which would need to take into account the timing and methodology of sample collection.
- Local Authorities were taking a long time to process planning applications for slurry and silage stores. Farmers are prepared to take a business risk and not gain planning approval. The weather window for construction of earth banked lagoons can be very seasonal, the correct weather conditions needed to be able to consolidate heavy clay soils are limited. Waiting for planning consent can delay infrastructure improvements for up to twelve months.
- Farms that have been referred to CSF for capital grant aid have been given an extended deadline to meet compliance. The Countryside Stewardship Mid-tier scheme has a closing date of 31<sup>st</sup> July for applications with scheme approvals being notified at the end of the following January. This means that following a

visit and a referral it could be over a year before some farms are able to implement the required improvements to meet compliance. It has not been helpful that CSF grants do not deal with slurry and silage stores, however grants for roofing and guttering can greatly reduce the capacity needed for slurry storage assisting some smaller stores with reaching capacity compliance.

- Depressed milk prices in recent years along with uncertainties linked with the UK's departure from the European Union have reduced the amount of reinvestment in infrastructure. With little presence from the Environment Agency there has been no real driver to make improvements to infrastructure.
- Farm tenancy agreements have in general not been a blocker on the Axe due to long term tenancies with forward thinking landlords. However, two farmers have struggled to reach agreement with their landlords on investment and infrastructure responsibilities.
- Whilst funding has been secured for continuation of the project in 2019/2020, reliance on project funding for agricultural regulation is unsustainable and merely offers a "sticking plaster" funding fix for a significant resourcing issue.
- Some agricultural agents and consultants are responsible for poor advice historically and do not take a holistic view of herd increases and the resultant infrastructure investments required to meet regulations.

## **11. Further work**

The long term aim is to improve the ecological quality of the SAC where the River Axe has thriving plant, fish and aquatic life. This requires a significant reduction in run-off, nutrient and sediment loading to watercourses within the catchment. A concerted effort is needed by all partners including advice, targeted financial aid and regulation.

This project has shown that despite significant amounts of advice and grant aid in the last 10-15 years there has been an absence of basic regulation and investment in storage facilities in the catchment.

Increased storage size will reduce the risks associated with winter manure and slurry spreading thus reducing compaction and diffuse pollution. Additional storage also reduces the pressure to land spread at other unfavourable times.

Further funding and work is required to implement the new Farming Rules for Water in particular those relating to soil management.

## **12. Recommendations**

- It is recommended that funding for Environment Agency agricultural compliance and enforcement work is increased significantly to allow campaign work to take place for a minimum of five years in priority catchments such as the Axe. This should include funding to implement the Farming Rules for Water. It should be

recognised that when we (the Environment Agency) talk about the value of regulation we include the environmental impact, flood mitigation and the economic uplift that is available for farm business through efficient and sustainable business models.

- Environment Officers working on agricultural regulation must be fully trained in both legislation and understanding of agriculture (including business models). Environment Officers need to be aware of the current economic pressures faced by farmers. They must also have a full understanding of all aspects of land management so that any offences or breaches are dealt with proportionally.
- The RPA referral process should be improved and RPA officers should be trained fully to assess soil erosion.
- CSF funding should be continued and better targeted with the help of Environment Agency officers.
- We need to continue to work in partnership across our catchments but must make sure that the important and distinct role of the Environment Agency as a regulator is recognised for what it is – the means by which we can threaten or apply regulatory sanctions to achieve compliance to complement advisory and voluntary approaches which may be insufficient on their own.
- The community of professionals (agronomists, economic advisors) advising farmers are often unaware of the environmental consequences that follow from their advice. There is a need to improve the breadth and depth of the advice offered to farmers to both support their businesses AND ensure that harmful environmental consequences do not follow from simplified and idealised advice that does not acknowledge the real limitations and risks presented by weather and difficult soil conditions.

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<sup>1</sup>: Defra. Appendix to the Report of the Joint Government and Industry Slurry Management and Storage Report. WT1508 Slurry Storage and Management. ADAS, 2013.

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## Appendix 1: Example of letter sent to land manager post visit.

Dear (Farmers name here),

Thank you for your time during the recent farm audit at (Farm name here). We would like to take this opportunity to formalise actions which are required in order to be compliant with the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) (England) Regulations 2010 (SAFFO) and The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (Farming Rules for Water).

### **Silage Clamps**

Your silage clamp at the top of the farm is high risk and is leaking effluent. The concrete block wall is porous and allowing ground water to penetrate the structure, there is also the potential for effluent to escape and pollute ground water. This exempt structure is in a poor state of repair and requires significant improvement works **during summer 2019** to reduce the pollution risk. If you wish to continue using this facility, the required improvements must be completed by 1<sup>st</sup> September 2019.

The temporary maize clamp also requires significant improvement works but this structure poses less risk to the environment therefore improvements will need to be addressed in **2020**.

The exempt silage clamp at the bottom of the farm located to the left hand side of the entrance drive, requires a dedicated effluent collection tank. The tank must be of sufficient capacity and I would strongly advise a high level alarm due to the location of the tank. There was evidence of effluent escaping from a number of areas around the silage clamp. The perimeter drain was not visible and was full of tyres and debris. The perimeter channel must be constructed of impermeable material and must be easy to inspect and maintain. Your current effluent collection is completely inadequate and poses a significant health and safety risk. There is no safety fencing preventing access to the lagoon area. These improvement works must be completed by the **1<sup>st</sup> September 2019**.

### **Slurry storage**

Your current slurry storage structures are high risk. The weeping wall structure is showing signs of serious fatigue and there is significant risk of catastrophic failure. Some of the steel supports are badly corroded and have been repaired a number of times. The concrete effluent channel wall is cracked in a number of places and leaking effluent. The wall is also leaning over and has become detached from the base. I was unable to fully inspect the rear of the store but I suspect that this area is also in a poor state of repair.

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Due to the location of the store any spillage of pollutants is likely to have a serious impact on the environment. We discussed various acceptable options to reduce the risk of pollution, once you have decided which option you will pursue please contact me. You will need to carry out significant improvements to the weeping wall store before **1<sup>st</sup> September 2019** or you will not be able to use it.

The earth banked lagoon that takes slurry from the weeping wall store is in a poor state of repair. During my visit I witnessed a number of rabbit holes in the structure and there were also mature conifers growing on the banks. You are strongly advised to take the necessary actions to repair/remediate any impacts caused by the rabbits and trees. The perimeter safety fence is not fit for purpose and does not meet the requirements set out by the HSE. There is a significant health and safety risk associated with the access track to the stores, you are also advised to address this issue.

Please review your slurry storage capacity and ensure you have the legal requirement of a minimum of four months for slurries, the Environment Agency recommends the you make provision for 5 months.

I fully appreciate that following my visit that significant resource will be required to reduce the pollution risk from your farm. The work identified will need to be done to the required standard and to the given timescales. Failure to meet any of the above will leave me no alternative other than to serve the appropriate enforcement notice to ensure the necessary improvement works are completed.

Following your verbal agreement I have referred your farm to the local Catchment Sensitive Farming Officer for further advice and guidance. If you feel that you will be unable to complete any of the above actions please contact me as soon as possible to discuss.

For further information please follow this link to the SSAFO Regulations guidance documents and also the Farming Rules guidance:

<https://www.gov.uk/guidance/storing-silage-slurry-and-agricultural-fuel-oil>

<https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution>

I would like to remind you that it is your responsibility to manage your current system without causing pollution or harm to the environment.

Yours sincerely

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Appendix 2: Record of actions taken to secure compliance on farms

| <b>Number of farms</b> | <b>Enforcement approach</b> |
|------------------------|-----------------------------|
| 84                     | Advice only                 |
| 14                     | Warning letter              |
| 1                      | SSAFO Notice                |
| 1                      | Other Notice                |
| 1                      | Intention to serve notice   |
| 0                      | Civil Sanctions             |
| 0                      | Formal Caution              |
| 0                      | Prosecution                 |

This is a live table updated as farm visits/outcomes are completed