

# **ENGLAND CATCHMENT SENSITIVE FARMING DELIVERY INITIATIVE**

## **PHASE I REPORT: APRIL 2006 – MARCH 2008**

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## **Executive Summary**

The England Catchment Sensitive Farming Delivery Initiative (ECSFDI) is the largest project of its kind in England, and probably in the EU. It has the overwhelming support of stakeholders and represents an early voluntary approach to achieving the objectives of the Water Framework Directive as well as additional benefits for bio-diversity and the environment in general.

The Initiative continues to be a very significant example of partnership working between central Government, delivery bodies and local stakeholders on a catchment scale. In particular the partnership working between Natural England (NE) and the Environment Agency (EA) has been a success and there has also been a good level of engagement from local stakeholders, for example on the Catchment Steering Groups which have been set up. Farmers, in particular, have reacted positively to the scheme.

The ECSFDI covers approximately 33% of agricultural land in England and 50,000 farmers operating in forty primary catchments. Advice in the catchments is being delivered by 42 catchment sensitive farming officers (CSFO) and by specialist contractors.

The priority catchments were identified by the Environment Agency and Natural England based on Water Framework Directive Risk Maps and designated sites at risk from diffuse pollution. Further detailed work was conducted through catchment appraisals and technical analysis to enable targeting of delivery to maximise impact.

Over the course of Phase I the Initiative has provided advice to 6,119 farmers through 517 group events, 147 advice clinics and 4,736 one-to-one visits. This equates to advice being given to farmers or land managers responsible for 770,000 hectares of farm land. Advice has been provided on a range of subjects - soil management, nutrient management, manure management, pesticides, to tackle diffuse pollution. Additionally the ECSFDI has worked with the Pesticides Voluntary Initiative to provide enhanced technical support in seven catchments with specific pesticide pollution problems.

Rather uniquely for a scheme of this nature, a comprehensive monitoring and evaluation framework has been put in place to measure effectiveness. However, actual water quality improvements are likely to take some time to come through for the majority of this work. Therefore, proxy indicators of success in the form of changes in farming practices have been recorded in detail. Data from the monitoring was also used to model impacts of the Initiative. Predicted pollution reductions at the catchment scale range from 10-40 per cent.

Farmers in the priority catchments have been surveyed twice, in early and late 2007. These surveys have told us that farmers are positive about ECSFDI, that they are increasingly using it for advice and that their knowledge of diffuse water pollution has increased significantly.

The twenty Associate projects, which were supported outside the forty priority catchments have provided one-to-one advice to approximately 450 farmers, and delivered 150 group events and 130 advice clinics on the same range of subjects and specific issues as the ECSFDI itself.

A Capital Grant Scheme was successfully launched on 2 April 2007. The scheme was oversubscribed receiving 1,150 applications for £8.1 million worth of grants against a budget of £5 million. 740 applications were successful and claims worth £4.645 million were paid, representing some 93% of the budget. It is worth noting that grants did not exceed 60% of the capital cost, clearly demonstrating that farmers were willing to commit their own money.

Over all the Initiative has achieved a great deal. The EA, NE and other partners have worked well together and this has been a major strength of the ECSFDI. The CSFOs have also done much in a short space of time. Again their ability to engage with farmers and other stakeholders is key to the success of the ECSFDI.

Looking to the future, the Water Strategy announced that Defra will continue to support farmers on catchment sensitive farming for a further three years. A key development for 2008 will be the integration of the ECSFDI within the River Basin Management Planning process for the Water Framework Directive.

## **Background**

### Strategic Context

The Government's Water Strategy, which was published on 7 February 2008, recognised the importance of the England Catchment Sensitive Farming Delivery Initiative (ECSFDI) in tackling diffuse water pollution from agriculture (DWPA).

The ECSFDI is part of Defra's CSF Programme which aims to tackle DWPA in order to meet the objectives of the Water Framework Directive (WFD). It is one element of the supportive approach in the policy package which Ministers have agreed for the WFD Programmes of Measures (PoMs). However, until PoMs are established (by 2012) the ECSFDI represents early action to tackle a known and widespread problem.

The ECSFDI is also making a significant contribution to the achievement of the 2010 PSA targets for SSSIs at risk from DWPA. Two thirds of such SSSIs are covered by the ECSFDI.

The ECSFDI represents partnership working between Defra and two delivery bodies – the Environment Agency (EA) and Natural England (NE) – as well as local stakeholders in catchments. It is building capacity and experience in delivering catchment scale projects aimed at tackling DWPA.

The ECSFDI encourages integration with other policy instruments like cross compliance, agri-environment schemes and with objectives such as nutrient, soil, flood risk management, ecosystems approach.

### Nature and Purpose of ECSFDI

The ECSFDI is a two year scheme<sup>1</sup>, initially running from 2006-2008 with a budget of over £21 million, including £5 million for capital grants in 2007-2008. Its aim is to raise awareness of DWPA and encourage changes in behaviours and practices to tackle it.

The Initiative covers 40 priority catchments over approximately 33% of agricultural land in England and about 50,000 farmers. Advice is being delivered by 42 Catchment Sensitive Farming Officers (CSFOs) and specialist advisers through workshops, seminars, farm demonstrations and in particular a substantial programme of 1:1 farm visits. CSFOs have a particular role to ensure that farmers select Environmental Stewardship options that most benefit water quality.

The Initiative also provides support for 'Associate CSF Projects' in further 15-20 catchments other than the 40 priority catchments, where similar and high quality catchment projects are in progress.

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<sup>1</sup> This report covers the period from April 2006 to March 2008. The ECSFDI is being extended for a further 3 years to March 2011.

## Catchment Selection, Appraisal and Targets

The 40 priority catchments were identified jointly by the Environment Agency and English Nature using risk-based maps for WDF combined with sensitivity data and EN's prioritised list of designated sites at risk from DWPA. Data for the risk-based maps was gathered on nitrates, phosphorus and sediment pollution, combined with data on sensitive freshwater fisheries, chalk streams, failing bathing waters, groundwaters and SAC-designated lakes.

In order to target delivery CSFOs undertook detailed catchment appraisals. In doing this they reviewed the outputs from risk-based models and sought local stakeholders' views to determine priorities for delivery, in terms of pollutants, activities and geographical areas in the period from Autumn 2006 to Spring 2008. These priorities were agreed and signed off by the Catchment Steering Groups.

Objectives and targets for advice delivery were set until March 2008 for all catchments. See **Annex 1**.

A CSFO Handbook was produced in May 2006 to provide guidance to the newly-appointed CSFOs on a range of tasks including undertaking catchment appraisals. The catchment appraisal process is a technical assessment of pollution issues within a catchment, which aims to identify high risk areas and activities to target. CSF officers completed their preliminary catchment appraisal reports in summer 2006 (catchment characteristics, evidence of problem, map of high risk areas and outline monitoring report). The catchment appraisal is viewed as an on-going process and, a further stage ensured updated catchment appraisal reports were delivered in March 2007. A refresh of the catchment appraisal is undertaken in early 2008.

## **2. Governance**

The key governance structures for the ECSFDI are the Programme Board (PB) the Programme Management Group (PMG) on which Defra, NE and EA are all represented.

The Senior Responsible Owner for the ECSFDI is from Defra which also provides the Secretariat for the PB. The PMG is chaired by NE. The PB met eight times in the period from 25 January 2006 to 13 December 2007. The PMG met 26 times in the period between 7 November 2005 and 13 March 2008

The ECSFDI also operates Catchment Steering Groups which are local bodies – see section 5.

## **3. Finance**

The Initiative was first announced with a budget of £10m in 06-07 and £15m in 07-08 (from the SR04 Settlement). The budget for 07-08 included a £5m capital grant scheme. However, two rounds of Defra cuts to the programme

element reduced the overall budget to £8.557m in 06-07 and £13.287m in 07-08.

#### Programme budget

The outturn for these two years was £6.592m in 2006-07 and £7.563m (estimated) in 2007-08. However, expenditure on advice delivery remained constant in each of the two years at around 38% i.e. £2.555m in 2006-07 and £2.869m in 2007-08.

The underspends for 06-07 and 07-08 were due to several factors:

- For 06-07, delays in recruiting CSFOs, the establishment of NE in October 2006, the need to carry out detailed catchment appraisals and, in particular, the delay (due to the Defra moratorium) in starting advice delivery in catchments;
- For 07-08, the delay in confirming continuation of the Initiative for 08-11 (resulting in vacancies being held open, some work being held back and delivery ending early to allow a managed project closedown) and outbreaks of FMD and bluetongue.

#### Capital grant budget

The outturn for 2007-08 was £4.645 million.

Despite an 8% over-commitment against the budget, there was an underspend of £355k. This was due to non-acceptance of grant offers and nil or partial delivery against grant agreements. The reasons cited by land managers included: insufficient time to complete works; cash flow problems; poor weather conditions/wrong time of year to complete works; unavailability of contractors; and personal reasons. Steps taken to minimise underclaims included follow-up activity by CSFOs and the CGS team, agreement to vary eligible work, and extension of both claim and delivery deadlines.

#### **4. Catchment Sensitive Farming Officers**

CSFOs were recruited jointly by Natural England (separately by the Rural Development Service and by English Nature at the time) and the Environment Agency, with officers drawn from both organisations and via external recruitment. Interviews were held in late February 2006, 7 officers were in post by 1 April, 35 by the end of May. A further round of recruitment took place in June to fill 7 remaining vacancies. By September 2006 all posts were filled.

As at 31 March 2008 there were 40 CSFO roles on the project. Eleven of whom were also lead CSFOs.

## **5. Catchment Steering Groups**

Catchment Steering Groups (CSGs) have been used to inform advice delivery and to provide technical input and feedback. They have brought together key local stakeholders and farmers to shape activity within the catchments taking account of local circumstances. The CSGs meet approximately three/four times a year depending on local circumstances and issues.

Each CSG has representatives from all or some of the following stakeholders: NE; the EA; the local CSFO; the local water company; champion farmers; farming organisations, i.e. NFU, CLA, LEAF etc., or organisations working with farmers, i.e. AIC, NAAC; nature conservation bodies, i.e. Rivers and Wildlife Trusts; RSPB; National Trust etc. There are over 60 farmers currently on the CSGs, in addition to NFU/CLA representatives.

Specific tasks for the CSGs include:

- provide views and comments and to sign off the catchment appraisal, catchment delivery and monitoring plans
- oversee delivery of project targets as agreed in the local catchment delivery plan and monitor progress against the plan
- assist local evaluation and to progress reporting on advice delivery

In some ECSFDI catchments there are existing catchment groups operating across the entire catchment or parts of it. Existing steering/stakeholder groups are used if they meet the terms of reference and are capable of delivering the necessary support and guidance.

CSGs are chaired by a range of individuals representing EA, NE, farming organisations or farmers.

## **6. Champion Farmers**

Farmers work as partners with ECSFDI in two ways (i) as a member of a catchment steering group (see above) (ii) as a champion farmer.

Farmers are represented on all catchment steering groups where their duties include representing the farming industry, championing CSF, and providing feedback on how the programme is being perceived by the farming community.

In many catchments, champion farmers have helped to promote CSF and engage effectively with other local farmers. These champion farmers have hosted on-farm events and demonstrations, been guest speakers at other events and advocated the project and what it has to offer to their peers.

The ECSFDI December 2007 conference saw three presentations from champion farmers all of whom talked of lessons learnt:

- A Shropshire Dairy Farmer talked about the process of gaining ownership of diffuse pollution issues on his farm. The designation of a SSSI on his farm had, in his eyes, removed the problem of diffuse pollution. The ECSFDI convinced him that he was responsible for minimising the impact of diffuse pollution on water quality on his farm. He was happy to pass that message on to his peers in the local area.
- A Herefordshire Arable Farmer and Potato Grower talked about his working relationship with the Lugg CSFO who convinced him of the merits of the project and the potential benefits it could bring to his farm business. As a result he no longer rents high risk fields for potato growing and he takes steps to minimise diffuse pollution on fields that he does rent.
- A Suffolk Arable Farmer and Grower talked about his successful application for a capital grant towards installation of a biobed and for roofing a stock gathering area. This led him to consider diffuse pollution much more widely across his farm business.

## **7. Advice Delivery**

### Delivery by Contractors

To support CSFOs in the delivery of advice to land managers and their advisors, a framework agreement was established in November 2006 with 13 specialist advice providers. The tender specification for this contract was published in *Farmers Weekly* on 19 May 2006. However, the Defra moratorium on spending introduced in mid-2006 delayed the arrangements for contract signing, with the result that advice delivery did not commence in earnest until late 2006/early 2007.

The thirteen contractors who are preferred suppliers under the framework agreement are: ADAS; Momenta; Herefordshire FWAG; Pang, Kennet and Lambourn FWAG; Promar; Farmacy; DJL Agronomics; SAC; Genix Holdings; Primum; RuralScapes; Cumbria Rural Enterprise Agency; and West Devon BIP.

The framework agreement encompasses a range of standard and non-standard activities for ECSFDI advice provision, including: one-to-one farm visits: Whole farm appraisal; soil, nutrient and manure management plans; farm infrastructure audits; advice on slurry handling and storage; soil, manure and slurry sampling and analysis.

There were also a number of group events: Adviser/farmer workshops and seminars; farmer meetings; on-farm demonstrations; on farm walks; and clinics (pre-booked and drop-in).

At the end of March 2008, the number of farmers that received advice from the ECSFDI is estimated to be 6,119. This is based on the 5,141 farmers that had received advice by mid-January 2008 plus planned advice delivery and

CSFO projections (based on previous attendance and uptake to 30 March 2008).

This advice was delivered through:

- 517 group events attended by 3,882 different farmers (6,017 including multiple attendances by the same farmer)
- 147 advice clinics attended by 497 different farmers (660 including multiple attendances by the same farmer)
- 4,736 one-to-one farm advice visits to 3,527 different farm holdings

The large number of repeat contacts reflects the fact that behavioural change does not occur overnight. Typically a farmer might first attend an introductory event on CSF and DWPA, followed by a more specific workshop (for example, on soil management planning) before receiving farm-specific advice through a one-to-one farm visit. In some cases, additional visits might also be appropriate; for example, to explore opportunities to make farm improvements through the ECSFDI Capital Grant Scheme.

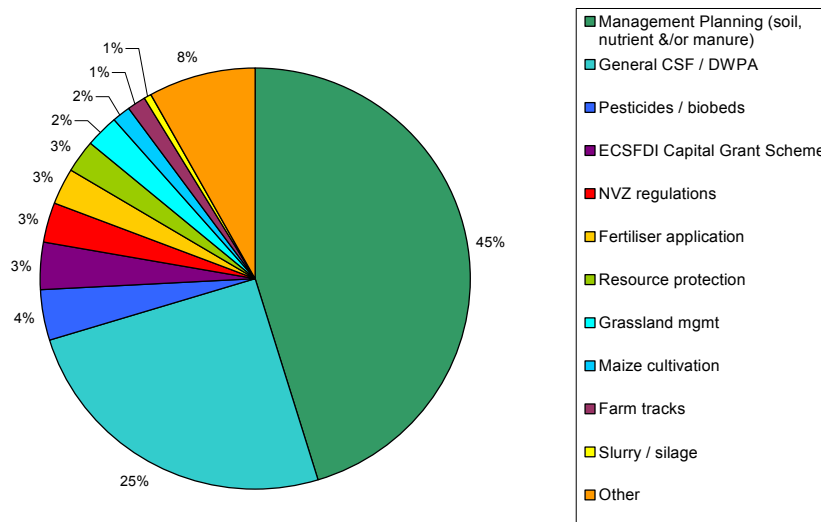
Overall, advice will have been delivered to holdings covering a total area of 770,000 hectares, equating to:

- 34% of all farm holdings located within Target Areas (and 45% of the total area occupied by these holdings)
- 15% of the holdings located within the 40 Priority Catchments (and 23% of the total area occupied by these holdings)

The higher percentages for holding area reflect the fact that in many catchments, and particularly those with large numbers of holdings, CSFOs have targeted their advice to larger holdings to maximise impact.

70% of group events related to management planning for soil, nutrients and / or manure (45%) and general introductions to, and advice on, DWPA and CSF (25%). More specialised events focussed on pesticides and bio-beds (4%); the ECSFDI Capital Grant Scheme (3%); the Nitrate Vulnerable Zone regulations (3%); fertiliser application (3%); resource protection (3%); grassland management (2%); maize cultivation (2%); farm track management (1%), and slurry / silage management (1%). Small numbers of events were also held in relation to the Environmental Stewardship scheme; precision farming; nutrition; soil organic matter; sulphur deficiency; out-wintering cattle; equine paddock / pasture management, and tenancy agreements.

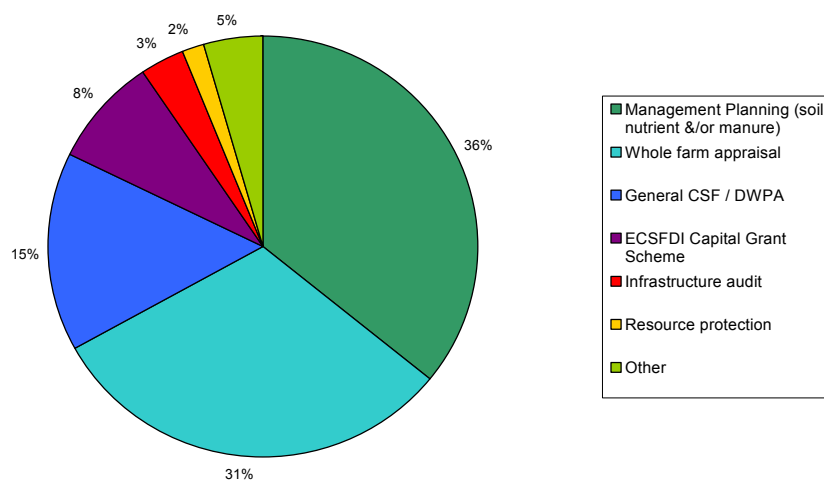
## ECSFDI group events by subject area



One-to-one advice visits focussed mainly on management planning for soil, nutrients and manure (36%), whole farm appraisal (31%) and general DWPA / CSF (15%). They were also conducted in relation to the ECSFDI Capital Grant Scheme (8%), farm infrastructure (3%) and resource protection (2%). Other visits focussed on specialised areas such as the Environmental Stewardship scheme and farm-specific issues.

In addition to advice visits, approximately 1,000 farm visits were undertaken to collect soil, manure and foliage samples for nutrient analysis. The provision of such analyses was an important mechanism for engaging farmers with the Initiative.

## One to One Advice by Subject Area



Other activities by CSFOS to engage with farmers included:

- catchment and regional newsletters
- local/regional press releases and television/radio interviews
- 'drop-in' advice clinics (e.g. at a local farmers' market)
- farm demonstration events
- soil testing services
- slurry analysis and nutrient management workshops
- sub-catchment meetings (for groups of farmers in target areas)
- stands at agricultural shows, county shows, local ploughing matches etc.
- meetings with local farming co-operatives, agrochemical distributors
- training events for farm contractors, equipment operators
- working with levy boards and other sector organisations.

It has been very important for CSFOs to establish key partnerships, to work with a wide range of stakeholders and to find innovative methods of engagement to influence others. **Annex 2** summarises some of these other engagement approaches.

There has been close working with NE to make the most of Environmental Stewardship, both ELS and HLS. The latter has been particularly important for SSSIs with water quality issues.

The delivery of RP options in ELS, notably management plans has been central to a lot of advice delivery in many catchments. Even with the management plans (MPs) no longer being eligible for ELS points in new agreements since Jan 07, there has been an ongoing role for ECSFDI to encourage the full implementation of existing ELS inspired MPs (usually soil management plans). More recently there has been much CSFO effort to influence HLS targeting.

In many cases CSFOs have linked up with other projects and organisations delivering farm advice. Working with agronomists has, in particular, enabled CSFOs to engage with hundreds of farmers.

## **8. Communications**

The Initiative website at [www.defra.gov.uk/farm/environment/water/csf](http://www.defra.gov.uk/farm/environment/water/csf) provides a comprehensive range of information to stakeholders and is updated periodically. Defra news releases about the Initiative were issued jointly with EA and NE in December 2005 and October 2006.

Throughout the two years, the focus remained on local promotion of ECSFDI. National publicity in connection with the capital grants scheme in 2007 was intentionally low-key because of the limited number of grants that were on offer.

Promotion was locally-driven, mainly restricted to target areas. Ambitious plans to promote ECSFDI through advertorials in the national farming press

and a proposal to link up with the BBC's Country File programme were put on hold because a) there was a delay in the ECSFDI funding decision (the announcement was originally expected in July 2007, but not made until February 2008) and b) farmers had an unprecedented number of distracting issues to cope with in 2007 (such as the summer floods, Foot and Mouth Disease, avian flu, Blue Tongue and rapidly rising feed prices) and it was felt that these would negate the impact/effectiveness of our messages.

Nevertheless, some national coverage for ECSFDI was secured in British Farmer and Grower and also Farmers Weekly. ECSFDI was also represented on the Defra stand at the Cereals Show and the Royal Show (but our planned participation at the Dairy event didn't happen because the event was cancelled). During 2007 we released our DVD 'Practical Catchment Sensitive Farming', with copies being sent to a number of national stakeholders as well as to CSFOs for local distribution. We held two national Conferences, one in July and the other in December. For the latter event - attended by farmers and other external stakeholders as well as ECSFDI staff - we produced approximately 60 case study posters and we are currently working to transform this material into a compendium for external distribution. A number of other case studies were produced during the year by CSFOs (initially to support the business case). Also, the final touches are being made to the Farm Business Benefits Case Studies that were commissioned from Momenta. The national generic CSF leaflet was refreshed and updated. The content and format of Defra CSF website was revised in an attempt to make the site more user-friendly.

To assist communications at the local level around the time of the 'autumn push', we ran a series of regional communications workshops/training events for CSFOs. A 30-page local communications guide was produced in support of this. We continued to provide display materials for CSFOs to use at local shows and events, and provide help and guidance on farmer engagement activity generally. The e-bulletin provided an effective channel for news and information for staff working on ECSFDI.

## **9. Monitoring & Evaluation**

A detailed report has been produced on the evaluation of Phase 1 (2006-2008) of the ECSFDI. A brief overview is provided below:

The impact of the ECSFDI is being assessed through a Monitoring & Evaluation Framework that includes:

- Farmer engagement - Quantifying the amount of advice we have provided to land managers and their advisers.
- Changes in farmer awareness and attitude – Surveying farmers to determine the extent to which our engagement with them results in behavioural change, essential to optimise environmental outcomes.

- Changes in farming practice - Quantifying what happens on farms to reduce diffuse water pollution as a result of the Initiative.
- Reductions in pollution load - Estimating reductions in diffuse pollution entering watercourses as a result of the Initiative.
- Improvements in water quality - Modelling changes in water quality and our progress towards Water Framework Directive objectives.

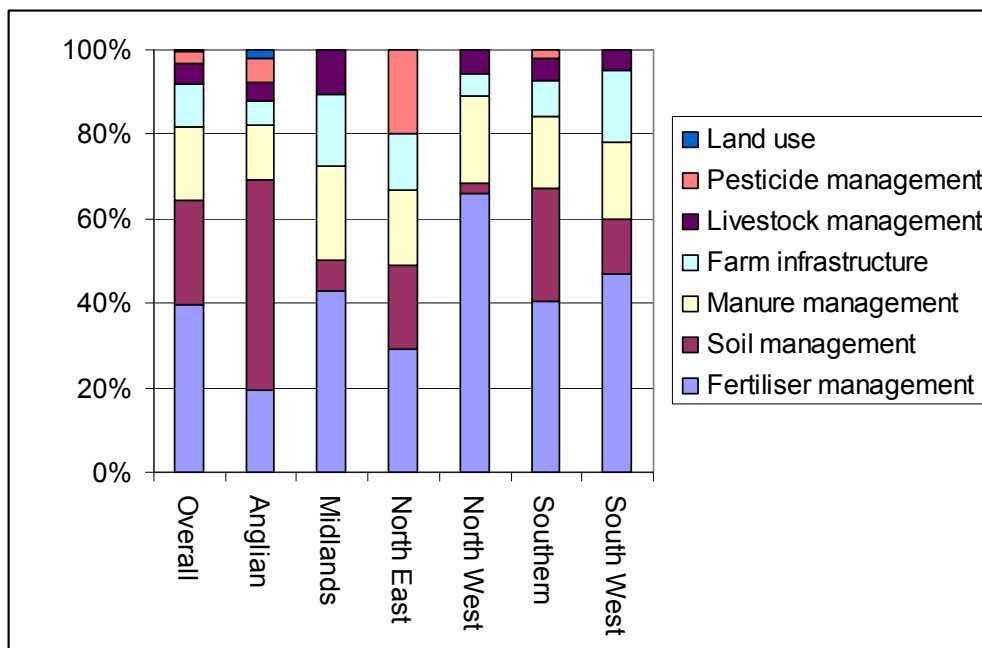
### Farmer Surveys

The baseline survey of 1000 farmers within the 40 ECSFDI Catchments undertaken in January/February 2007 was repeated in November 2007. A summary of some key results from the two surveys is at **Annex 3**.

Those farmers that have engaged with the ECSFDI are overwhelmingly positive about it. Farmers are increasingly using the ECSFDI as a source of advice. Their knowledge and understanding of DWPA has increased significantly, they are better informed about how to modify farming practices, and they indicate a strong intention to take action. However, there is only slightly greater acknowledgement of the impact of agriculture on water quality and farmers are increasingly aware of financial constraints to taking action. Overall, farmers remain convinced that water pollution from agriculture is best addressed on a voluntary basis.

### DWPA Mitigation Measures

Over 14,000 farm-specific recommendations have been made for improving soil and land management to control diffuse water pollution. Indications are that there is a high level of uptake of these recommendations. A regional breakdown of the categories of DWPA mitigation methods planned and / or implemented is provided overleaf:



### Pollutant losses, loads and water quality

It is too early to detect reductions in DWPA pollutants from the initial results of our water quality monitoring programmes. This is because of the complexities of pollutant mobilisation and transfer and the impact of external factors such as the weather, the measurement of catchment responses to DWPA mitigation requires long-term monitoring.

Modelling results indicate that, at a local scale, significant reductions in agricultural nutrient, sediment and pathogen losses can be expected as a result of ECSFDI activity. At the catchment scale predicted reductions are generally small (less than 10%), although in some catchments relatively large reductions are predicted (c. 20-40%).

Extending current ECSFDI activity within the catchments would be expected to result in significant reductions in diffuse pollution. However, there are significant differences in the responsiveness of catchments to DWPA control measures. This variation has been reflected in a simple catchment typology that is potentially useful for informing future advice delivery strategies and for strategic decisions such as what level of resources to allocate to a catchment and when to stop advice delivery in that catchment.

At the catchment scale, predicted reductions in in-river phosphorus loads and concentrations were generally less than 5 per cent. Greater reductions were, however, predicted for some catchments or sub-catchments targeted for advice delivery (20%-30%). In isolation, the predicted changes are unlikely to secure significant additional compliance with WFD standards or guideline standards for SAC rivers. In combination with planned and future improvements to sewage treatment works and other pollution sources, it is possible that the predicted reductions to agricultural sources may be more significant in terms of achieving future compliance.

Across the modelled catchments, predicted in-stream reductions in total nitrogen were generally higher than those for phosphorus. This was attributed to a combination of the higher level of uncertainty in the modelling and a lesser influence from point sources. At the catchment scale, reductions of around 5 to 10 per cent were predicted. Extending current advice activity across the catchments, typically increased the predicted reductions to around 20 per cent.

Pesticide modelling also indicates that we would expect the advice delivered so far through the ECSFDI - VI partnership to have had only limited effect. Our model predicts a reduction in pesticide occurrences above a  $0.1 \mu\text{g l}^{-1}$  threshold of between 0 and 10%, compared to the pre-ECSFDI baseline. After five years we can expect a potentially more significant reduction of between 5 and 50%, with a reduction of between 8 and 72% when maximum achievable take-up of advice is achieved. The wide range of estimated reductions for each time period signifies the importance of variations in uptake of advice, responsiveness of catchments, and the effectiveness of advice for different pesticides.

## **10. Associate CSF projects and partnership with Pesticides Voluntary Initiative**

### **Associate CSF projects**

The ECSFDI has provided approximately £900,000 of funding over 18 months to 20 associate projects. These sit outside of the priority catchments with the common aim of working with farmers to tackle DWPA through advice. They differed primarily from the activity in the priority catchments through not having access to a Capital Grant Scheme, although some of the partner organisations supporting individual projects did provide some capital grant support to supplement the advice.

By the end of March 2008, the completed Associate CSF Programme (delivered and led by partner organisations through contracts, overseen by regional NE Project Managers) had provided one-to-one advice to approximately 450 farmers. Additional advice has been delivered through approximately 150 group events (attended by 1,800 farmers) and 130 advice clinics (attended by 780 farmers).

Other activities include distributing newsletters and information cards; soil testing; stands at livestock markets; establishing demonstration farms; and hosting events for the general public. A summary of advice delivery across the 20 Associate CSF projects (as of early March 2008) is in **Annex 4**.

The Associate contractors included the EA, ADAS, National Trust, FWAG, Wildlife Trusts, River Trusts, LEAF, a university, an agricultural college and a water company.

Evaluation of the Associate Programme was conducted on three levels:

- i) Individual contracts were monitored for value for money and achievement by regional NE Project Managers Farm Advice;
- ii) Best practice and quality of messaging was assessed nationally by the ECSFDI team; and
- iii) An independent evaluation was carried out by the Land Use Consultants (LUC) looking in depth at six of the 20 projects.

The findings reinforced a number of the findings from the evaluation of the 'core' ECSFDI Programme, including the benefits of:

- the use of a risk-based approach for targeting advice delivery (comparable to the Catchment Appraisal process)
- the use of 'Champion farmers' to support advice delivery
- approaching farmers on an individual basis as opposed to 'blanket' mail-shots or advertisements (over 50 per cent of farmers that engaged with the core programme did so following an individual invitation to an event)
- focusing workshops on farmers' needs and emphasising the personal and business benefits; and
- the need for project staff to have good extension skills or access to such skills; project management skills; technical expertise rooted in a practical understanding of agronomy and farm business; and to be well known in the catchment.

Other findings included:

- steering groups were less important and indeed unnecessary if existing deliverers had good contacts and networks which could be called upon when necessary;
- the local reputation of the organisation leading the specific project and the individual deliverers was much more significant than belonging to the ECSFDI brand; and
- that farm visits should be used to engage farmers that do not attend workshops, and to follow up workshop attendance with more specific advice where appropriate (these approaches featured strongly in CSFOs' advice delivery strategies).

The concluding finding from the LUC report stated:

“The direct approach adopted by Natural England to contract project contractors to deliver a simple set of required outputs, attached to milestones and staged payments, has worked well. It has encouraged efficient project management by contractors, reducing the burden of administration while ensuring accountability for the key outputs. By leaving decisions on issues such as the involvement of partners in steering groups and the use of sub-contractors with specific skills to the discretion of project contractors, the projects have been administered in ways that suit their own preferred ways of working. These arrangements have allowed the range of different types of organisations who were awarded contracts to focus on their strengths.”

Associate projects leads were given opportunities to learn from developments in the priority catchments and spread their own good practices through their attendance to national conferences and the development of fourteen poster presentations.

In conclusion the associate projects as a whole delivered a large amount of varied activity across many agricultural sectors in all the regions of England. These projects provided existing experts who often had strong links to their local communities with the opportunity to develop their own projects (with varying amounts of guidance from the ECSFDI) and deliver activity to reduce DWPA outside the priority areas.

#### Partnership with Pesticides Voluntary Initiative

The ECSFDI also funded a partnership with the Pesticides Voluntary Initiative (VI) to provide technical and practical support in respect of pesticide best practice in the priority catchments. The VI carried out a comprehensive pesticide risk assessment for each of the 40 priority catchments to identify catchments most at risk of pesticides entering watercourses. Five catchments were identified initially as a high priority for pesticide work, the Teme, Lugg, Yorkshire Ouse, Nidd and Swale, Wensum and Yare. Subsequently another two catchments have been included, the Wyre and the Little Ouse.

The VI provided a toolkit to enable CSFOs to tailor advice in the seven high priority catchments. They also commissioned Cranfield University to carry out pesticide risk mapping using the CatchIS catchment modelling tool. The output from this work was used to more effectively target advice in those parts of the catchment at highest risk of pesticide leaching.

### **11. Capital Grant Scheme**

A successful Capital Grant Scheme (see Annex 5 for eligible items and grant rates) was set up and administered within year 2 following a very tight (5 month) timescale for development of the scheme, review by lawyers and receipt of State Aid approval.

Over 1,150 applications with a total value of £8.1m were received by the deadline (80% during the last fortnight). With a budget of £5m, the scheme

was oversubscribed and a scoring system was used to prioritise applications for funding. As a result, grants were only awarded to applications within target areas and with high and/or medium priority items. In total, 740 applications were successful and grant offers with a value of £5.4m (amounting to 108% of the budget) were awarded.

The South West received the most grant offers (47%), followed by the Severn (15%), the Humber (15%) and Anglia (10%). By sectors, this comprised: cattle and sheep (40%), dairy (32%) and mixed (18%). The main items funded were: roofing for stock gathering areas, concrete yard renewal, farm tracks, and watercourse fencing.

The oversubscription to the scheme is particularly noteworthy as the grants did not exceed 60% of capital cost (based on a standard costing), demonstrating that farmers were willing to commit their own money. CSFOs also reported that the scheme made it a lot easier to engage with farmers, many of whom would have been reluctant to engage otherwise.

Grant payments amounted to 93% of the budget, with inspections undertaken on 5% of claims.

## **12. Business Case Studies/Case Studies**

Efforts were made to collect evidence on real examples of how farmers tackled DWPA on their holdings to not only understand how farmers can interact with DWPA issues, but to also convince other farmers how DWPA mitigation measures can be implemented.

This evidence was collected in two ways. The first was to commission eight fully researched and costed business case studies looking into the impacts of specific DWPA mitigation measures on the farm business, particularly on profitability. These studies considered all possible financial implications of DWPA mitigation deployment including the interaction with Environmental Stewardship, crop efficiency and the time that could be saved by farmers through more efficient management.

The second way was to ask CSFOs for evidence where they have been successful in changing practices on farms. The result was a series of case studies illustrating how the ECSFDI is changing farming practices and reducing DWPA. The case studies focus either on the effect of targeted advice for specific issues or on overall catchment strategies. A number highlight the use farmers made, or were intending to make, of the Environmental Stewardship and ECSFDI Capital Grant Schemes.

A list of all case studies finalised for publication is in **Annex 6**.

### **13. Lessons learned**

In January 2007 Andrew Critchlow was seconded to the ECSFDI from the NFU to strengthen links and communication and to evaluate the extent and effectiveness to which the ECSFDI has engaged with stakeholders, in particular farmers. The review found that catchments where there had been activities prior to the Initiative (i.e. the multi-agency CSF project in the Teme, Hampshire Avon, Wensum and Bassenthwaite catchments) there were signs of better engagement with farmers. Other points to note were that CSFOs have a key role in overcoming confusion amongst farmers over existing regulations on DWPA; and in many areas, particularly on ruminant livestock farms, knowledge on soils and manure nutrient status is very low.

In April 2007 Isobel Davies, an independent consultant, carried out a review of the ECSFDI. The purpose was to identify what was working well and not working well at CSFO level; and to determine the key issues and opportunities for the future.

Recommendations were: review of management of the programme, focusing on working together, communications, roles and responsibilities, ensuring capability of staff; improve the resources and tools available to CSFOs, including technology, HR, procurement of contractor advice and administration; review of the structure and allocation of resources to catchments and regions.

Following these Reviews and further consideration by the Programme Board the Lead CSFO remit has been seen as too wide to effectively develop and take forward the important role of strategic relationship building across the partnership and with stakeholders. The lead CSFO role will therefore be abolished and a new CSF Regional Co-ordinator role established for Phase 2.

Improvements are being sought to the appraisal process of new catchments. While the 'high-level' process of how to undertake a catchment appraisal has been defined by the ECSFDI the next level of detail has not been fully documented e.g. what data sets are available, who to contact and methods of new data collection and analysis. In 2006 this lack of detail created difficulties for the individual CSFOs in their preparation of an appraisal for their priority catchment. Therefore, a science project has been commissioned by the EA to develop a protocol to guide CSFOs through key catchment appraisal issues e.g. available data, catchment size, population, past and current land, geology, soil, topography, water quality and ecological considerations.

### **14. Forward look to 2008-2011**

We will look to extend the initiative to a limited number of new catchments during 2008. We will look to further align ECSFDI with WFD River Basin Management Plans. Strategic priorities for new catchments will be aligned with RBMPs. New catchments will be subject to a refined catchment appraisal process, incorporating new evidence such as preliminary WFD compliance assessments and new source-apportionment assessments.

We will review our current monitoring and modelling evaluation frameworks and refine them in the light of lessons learnt from our evaluation of Phase 1 of the Initiative.

The ECSFDI has started a process to;

- revise the focus and location of advice delivery within existing catchments,
- possibly withdraw from existing catchments, and
- adopt new catchments.

With completion of the catchment refresh process and appraisal of new catchments it is expected that delivery changes to the ECSFDI will be made between October 2008 and April 2009.

Because the ECSFDI is considered to be an early measure for WFD, it is important that the targeting of advice is considered in the context of the River Basin Planning Process. This is being undertaken by the River Basin Programme Managers with the Lead CSFOs working closely with EA and NE operational teams. These managers will shortly submit candidate catchments for diffuse measures including adoption into the ECSFDI. Catchments that are unsuccessful as new priority catchments will be considered for Strategic Partnership' projects and for future years. As the ECSFDI delivery structure changes to reflect the lessons learnt, the new CSF Regional Co-ordinators will take forward the important strategic role of working with the RBPMs. The regional co-ordinators will help ensure the ECSFDI provides the local evidence and likelihood of benefit for reducing an identified DWPA issue within a specific catchment. This evidence will be used in deciding whether to move to the stage of taking direct regulatory action in order to achieve a specific environmental outcome.

## Summary of Catchment Objectives and Targets (set in 2006)

ANNEX 1

Catchment	Number	Objectives and targets
RIVER WENSUM	2	13,000 ha to be under catchment sensitive farming management. 70% land in target area to have an approved SMP.
BURE ANT AND MUCKFLEET	1	10500 ha to be under catchment sensitive farming management. 70% land in target area to have an approved SMP.
RIVER NAR	17	2,425 ha to be under catchment sensitive farming management to reduce soil erosion, runoff & cattle poaching. 60% agricultural land in target area to have a CSF approved SMP.
NORTH NORFOLK RIVERS	9	13,080 ha to be under catchment sensitive farming management to reduce soil erosion, runoff and cattle poaching. 70% agricultural land in target area to have a CSF approved SMP.
YARE	4a	70% of farm land in the Blackwater and Tas target areas under catchment sensitive farming. A soil management plan carried out and commenced implementation on 70% of land eligible for an ELS soil management plan within these target areas.
WEST MIDLANDS MERES	3	All landholdings in target catchments aware of CSF. Increase awareness of HLS and encourage uptake. 80% land in target area to have NMP and MMP. SMP's on targeted holdings. 80% land managers to have received guidance on HLS.
RIVER LUGG	7	Identification of DWPA issues through risk audit, promotion of resource protection options & analysis of non-engagement. 45% holdings to have risk audit. 45% holdings to have SMP, NMP & MMPs and/or be advised on managing tracks & gateways.
RIVER WYE (England & Wales)	23	Raise awareness of soil & manure management, including onto highways. Specific to sub-catchments.
RIVER TEME	28	80% holdings in each target area to have implemented catchment sensitive farming measures. 75% target river corridors to implement satisfactory riparian management. 80% potato growers to have implemented SMP. 70% dairy farmers to be working to a manure

LITTLE OUSE (THETFORD AREA)	10	and fertiliser management plan. 80% of poultry producers to have implemented MMP. All holdings in the target areas with high manure land, in risky soil locations and adjacent to/upstream SSSI/SAC, to be under catchment sensitive farming management. All poultry & outdoor pig units and pesticide users in target areas to be aware of issues. 100% holdings to have soil and/or manure management plans and begun implementation (agreed % implementation depends on target area). All poultry & outdoor pig holdings to have received advice. 80% pesticide users to have crop protection plans.
WAVENEY	4b	All holdings in the target areas with high manure land, in risky soil locations and adjacent to/upstream SSSI/SAC, to be under catchment sensitive farming management. All poultry & outdoor pig units in target areas to be aware of issues. All holdings in target areas to have SMP and/or MMP and begun implementation (depending on target area). All poultry & outdoor pig holdings to have received advice.
DEBEN, ALDE & ORE	15	80% land managers and all outdoor pig units in the target area to be under catchment sensitive farming management. 80% land managers in the target area to have a MMP and/or NMP in place. All outdoor pig holdings in the target area to have received advice have implemented appropriate measures.
GIPPING & ORWELL	31	80% of all holdings in target area to be under CSF management. All holdings with high risk crops to implement change. All outdoor & indoor pig units in target areas aware of issues. 80% of holdings in target area to be offered advice. All farmers with high risk crops in the target areas to have SMP in place & implemented. All holdings using/importing FYM & or Para 7 wastes to undertake soil testing. All indoor & outdoor pig units to have received advice.
YORKSHIRE DERWENT	21	80% of land managers aware of Environmental Stewardship & Catchment Sensitive Farming methods. 50% land managers to have implemented mitigation measures from the SPR. In each sub-catchment (6) an agreed % to have completed and implemented a NMP and/or MMP.
EAST RIDING OF YORKSHIRE & NORTH LINCS	6	All land managers in target areas aware of catchment sensitive farming methods. Agreed number of land managers in target areas to have received a 1:1 visit and have implemented mitigation measures from the SPR and NMP plans. Where relevant to complete & implement MMP and encouragement to complete CPMP.

YORKSHIRE OUSE, NIDD AND SWALE	8	80% high risk holdings in 2 sub-catchments & 20% in 4 sub-catchments aware of Catchment Sensitive Farming methods & implementing best practice. All holdings in the catchment to have improved awareness of Environmental Stewardship. 50% land managers to have implemented mitigation measures from the SPR. 50% to have completed and implemented a NMP and/or CPMP. In 2 sub-catchments 50% relevant holdings to have completed a MMP.
TWEED CATCHMENT RIVERS (ENGLAND) RIVER EDEN AND TRIBUTARIES	25	In target areas to reduce the impact of nutrients and sheep dipping activities on DWPA and fields at high risk of soil erosion. 70% NMP and SMP in place and being implemented. All sheep farms in target area to have sheep dip inspection and improvement plans in place.
RIVER WYRE	11	Raise awareness of CSF in target areas of River Eden & valley & basin mires. Improve soil, nutrient, slurry, water & riparian management. Adverse condition due to DWPA to be remedied by CSF with measures in place to reduce the % contribution of P inputs attributable to DWPA. 95% of farmers to be visited and made aware of CSF issues. Agreed % of holdings to have received detailed advice on SPR & RP measures & completed relevant ELS management plans. Conservation Objectives met for water quality in the River Eden and Tributaries SAC by 2015.
RIVER WAVER & BIGLANDS BOG	19	All holdings to have increased awareness of CSF. In target areas to improve use of manures and inorganic fertiliser, better soil management, watercourse management and ELS. 50% holdings in each target area to understand benefits & have individual farm plan in place to deliver improvements.
BASSENTHWAITE LAKE	34	To reduce P loads in the target areas by increasing awareness of the sources and pathways of nutrients and the impacts of different management practices on P transport. 75 holdings to have NNP and/or MNP. 60 holdings to show an overall decrease in P inputs. 40% of sources contributing high P loads to be removed diverted or minimised.
SOMERSET	12	Raise awareness of CSF to all holdings within the catchment. All holdings within the target area to be under CSF Management. 100% holdings to receive advice on soil erosion & nutrients. 100% holdings with cattle to have a MMP. 100% holdings entering HLS to have a SMP.
		To identify and improve management of high risk land on all large holdings with vulnerable

LEVELS & MOORS		soils. To reduce connectivity via key pathways. To evaluate nutrient inputs and raise awareness of best management of nutrient/manures/slurry. Assess risk from energy crops. Review use of existing SMPs on key large farms. Provide general audit of connectivity/pathways & implement up to 10 improvement projects. Provide nutrient advice to key dairy farms. Provide nutrient and manure management planning advice and infrastructure design to key farms. Audit and assess energy crops.
NORTH SOMERSET MOORS	36	Raise awareness of the Catchment Sensitive Programme to all land managers within the target areas. Encourage improved management of manure, dirty water, risky crops and key pathways to water. Audit agreed % holdings & implement SMP, MMP & NNP and improvement projects. Audit agreed % farm tracks, watering facilities, gateways and access to rivers and deliver improvements through capital grants.
THE FROME	20	Raise awareness of the Catchment Sensitive Programme to all land managers within the target areas. Encourage improved management of manure, dirty water, risky crops and key pathways to water. Audit agreed % holdings & implement SMP& MMP and improvement projects. Audit agreed % farm tracks, watering facilities, gateways and access to rivers & implement up to 10 improvement projects. Using sediment foot-printing raise awareness of the contribution to run-off of 80% of dairy and arable farmers in 1 sub-catchment.
THE FLEET	20	Raise awareness of CSF with all dairy & arable farms in the catchment. Alter land management practices within the West Fleet catchment so as to reduce the flow of N & P into the Fleet SAC lagoon. 70% of arable & dairy land to have SMP. 50% of dairy land to have MMP. 50% of arable land to have a NMP. 60% of all arable and dairy land within the catchment to be included in HLS.
RIVER AXE	5	Raise awareness of the Catchment Sensitive Programme to all land managers within the target areas. Encourage improved management of manure, dirty water, risky crops and key pathways to water. Audit agreed % holdings & implement SMP & MMP and improvement projects. Audit agreed % farm tracks, watering facilities, gateways and access to rivers & implement up to 5 improvement projects.
RIVER OTTER	5	Raise awareness of the Catchment Sensitive Programme to all land managers within the target areas. Encourage improved management of manure, dirty water, risky crops and key pathways to water. Raise awareness of best practice with maize growers throughout the

		catchment. Audit agreed % holdings & implement SMP & MMP and improvement projects. Audit agreed % farm tracks, watering facilities, gateways and access to rivers & implement up to 10 improvement projects.
HAMPSHIRE AVON SYSTEM	24	Raise awareness of CSF in the target areas, including land managers that have not yet engaged, through setting up on-farm demonstration, manure and soil farmer groups and advice on soil management and ES. Ongoing research. Set up demonstrations and manure & soil farmer groups and soil testing in 1 sub-catchment. Improvement projects to be carried out through capital grants. At least 9 holdings in each sub-catchment who have not previously engaged to be targeted for advice.
RIVER PIDDLE (PART OF CHESIL, THE FLEET etc)	20	All holdings in target areas to have raised awareness of the loss of soil through run-off. Highlight the pathways of run-off and control. Increase knowledge of soil, manure and bio solid analysis, the use of manure, bio solid and fertiliser to meet soil and crop needs efficiently and NVZ legislation and Agri-environment schemes.
DORSET STOUR (MIDDLE REACHES)	26	All holdings in target areas to have raised awareness of the loss of soil through run-off. Highlight the pathways of run-off and control. Increase knowledge of soil, manure and bio solid analysis, the use of manure, bio solid and fertiliser to meet soil and crop needs efficiently and NVZ legislation and Agri-environment schemes.
TAMAR - TAVY ESTUARY	22	To raise awareness of catchment sensitive farming in the target area, to encourage follow-up activity and implement improvements. 50% of holdings >20 ha to be aware of the need to reduce diffuse pollution. 50% of those holdings to participate in follow up activity and to have RPP/SMP/NMP and/or MMP completed & implemented.
EXE ESTUARY	18	To raise awareness of catchment sensitive farming in the target area, to encourage follow-up activity and implement improvements. 50% of holdings >10 ha to be aware of the need to reduce diffuse pollution. 20% of those holdings to participate in following activity and have RPP/SMP/NMP and/or MMP completed & implemented.
RIVER CAMEL VALLEY AND TRIBUTARIES	27	To raise awareness of catchment sensitive farming in the target area, to encourage follow-up activity and implement improvements. 40% of holdings >5ha to be aware of the need to reduce diffuse pollution. 15% of those holdings to participate in follow up activity. In 3 sub-catchments agreed % to have RPP/SMP/NMP and/or MMP completed & implemented.
WEST	16	To raise awareness of catchment sensitive farming in the target area, to encourage follow-

CORNWALL CATCHMENTS		up activity and implement improvements. Agreed % holdings in each sub-catchment to be aware of the need to reduce diffuse pollution with an agreed % of those holdings in each sub-catchment to participate in follow up activity and to have RPP/SMP/NMP and/or MMP completed & implemented.
YEALM AND ERME ESTUARIES	38	90% holdings in the catchment to be aware of catchment sensitive farming, to encourage follow up activity and implement improvements in target areas. 40% holdings to have prepared a RPP, 20% to have begun implementing. 90% holdings to receive advice on livestock in water courses, 40% of those to have excluded livestock from water courses. 40% holdings to have begun implementing advice on slurry/dirty water/run-off.
SLAPTON LEY, SALCOMBE TO KINGSBRIDGE	13	90% holdings in the catchment to be aware of catchment sensitive farming, to encourage follow up activity and implement improvements in target areas. 40% holdings to have prepared a RPP, 20% to have begun implementing. 90% holdings to receive advice on livestock in water courses, 60% of those to have excluded livestock from water courses. 50% holdings to have begun implementing advice on slurry/dirty water/run-off.
PEAK DISTRICT DALES	30	To provide a reactive service for farmers needing advice outside targeted areas. To reduce losses of nutrients from fields and farm yards. To reduce risk of sheep dip pollution. Targeted communications campaign to raise awareness with dairy farmers, sheep farmers & contractors. 20 holdings to complete WFA. High risk sheep fields targeted for advice.
LINCOLNSHIRE COAST RIVERS	14	To raise awareness of CSF and the need to reduce diffuse pollution. To ensure that farmers in high risk areas, intensive pig, poultry & field veg industry are under catchment sensitive farming management. 70 pig/poultry farmers advised, agreed targets for implementing improvements. 45 farmers in field veg growing areas and arable advised, agreed targets for implementing improvements. 10 high risk farms advised.
RIVER EYE	39	All land owners to be aware of CSF and the need to reduce DWPA. Reduce soil erosion and nutrient loss from farmland and improve livestock management near watercourses through best practice and management plans. 100% farmers to receive information about CSF. Agreed targeted advice campaign including farm advisors. 8000 ha of farmland with SMP. 50 farms to have soil sampling and complete NMP/SMP. Major riparian landowners to have adopted best practice and commenced improvement works.
RIVERS	33	To improve impacts from soil erosion, livestock access & high risk crops in target areas.

LAMBOURN AND KENNET THE STOUR	37	Encourage farmers to complete SMP, review location of gates/roads, livestock access to river and uptake of ELS/HLS. Provide support in alleviating problems of diffuse pollution by addressing farming requirements within target areas, implementing changes and targeting capital grants. Agreed % farmers in target area to be audited, receive comprehensive advice package & demonstration with agreed targets for completion of SMP/NMP and/or MMP and implementation of improvements. Review 80% existing management plans. 80% to be in ELS.
RIVER TEST	29	To identify and help address farming issues to CSF in target areas. To promote good practice in soil, nutrient & livestock management. To provide education and support mechanisms to land managers & holdings. Agreed % holdings in target areas to receive advice and attend specialist events. 80% target farms to have management plans, 70% of target farms to be implementing management plans. 60% of target livestock holdings to implement improvement measures. Review 80% existing management plans.
RIVER ITCHEN	29	To identify and help address farming issues to CSF in target areas. To promote good practice in soil, nutrient & livestock management. Agreed % holdings in target areas to receive advice and attend specialist events. 80% target farms to have management plans, 70% of target farms to be implementing management plans. 60% of target livestock holdings to implement improvement measures. All dairy holdings to implement improvements. Review 80% existing management plans.
EASTERN ROTHER	35	To identify and help address farming issues to CSF and deliver advice to all farmers in target area, implementing changes and targeting capital grants. Agreed % holdings & farmers to receive advice with agreed targets for completion and implementation of SMP and/or NMP. Review 80% existing management plans. 80% to be in ELS.
PEVENSEY	40	To identify and help address farming issues to CSF and deliver advice to all farmers in target area, implementing changes and targeting capital grants. Agreed % holdings & farmers to receive advice with agreed targets for completion of SMP/NMP and/or MMP and implementation of improvements. Review 80% existing management plans. 80% to be in ELS.

## Summary of Other Engagement Approaches

<b>Partnerships</b>	<b>Stakeholder Networking</b>	<b>Innovative Methods of Engagement</b>
Water Companies	Food Manufacturers	Use of Biobeds
Local Authorities	Environmental Trusts	Precision Farming
Research Centres	Levy Bodies	Use of ESF
Conservation Groups	Farming Associations.	Multi Agronomists
Government Depts.	Government Agencies	Breakfast Meetings
Environmental Trusts	Local Agronomists	New Technology Use
Government Agencies	Industry Bodies	Local Press
National Parks	Local colleges	Market Drop-Ins
Universities	Water Companies	Fishing Passports
Voluntary Initiatives	Conservation Groups	Soil Sampling
NDPBs	Fishing Associations	Shooting Meets
AONBs	NDPBs	Equestrian Mgmt.
Local Environment Groups	Government Depts.	Sediment Finger
County Councils	Local Dairy Groups	Printing
	Local Vets	Local BBC Networks
	Local Environment Groups	Tenancy Agreement Workshops
		Fertiliser Spreader Calibration
		Foliage & Sulphur Testing

## Farmer surveys

### Survey 1 – January/February 2007

This survey was undertaken between 8 January and 10 February 2007 with a random sample of 1000 farms of over 10 ha from the forty catchments covered by the ECSFDI. The survey covered arable (39%), livestock (53%) and mixed farms (8%), and comprised 20% cereal farms and 19% dairy farms. 36% of farms were between 10 and 50 ha in size, 27% between 51 and 100 ha, 20% between 101 and 200 ha and 16% of farms were over 200 ha. 17% of farms were from Anglian region, 15% from Midlands, 17% from North East, 11% from North West, 13% from Southern and 27% from South West.

Some key results:

Farmers acknowledged that agriculture in general contributes to water pollution but 81% believed the contribution from agriculture is minor. Only 16% admitted agriculture contributes a great deal or fair amount.

98% of farmers thought that agricultural activity on their own farms contributes little or not at all to water pollution in their catchment. Only 2% considered that their farms contribute a great deal or fair amount.

74% favoured a voluntary (as opposed to regulatory) approach for tackling water pollution from agriculture.

51% said they have made changes to reduce diffuse pollution in the last 2 years. The main changes made are reduced usage of chemicals/fertilisers/pesticides (18%); better slurry management (15%); buffer zones around waterways (13%) and cultivation techniques (12%).

ELS and HLS were mentioned by 19% of farmers as having prompted them to make changes on their farms. Other influences mentioned were cross compliance and single payment scheme (10%) and NVZ rules (4%).

21% of farmers were considering making any (more) changes to reduce water pollution (only 12% for smaller farms). The most likely changes were better management of dirty water/reducing run-off/separating clean and dirty water (14%); reducing inputs (12%) reducing stocking rates (8%); different cultivation practices (8%). Changes are likely to be made within the six months (30%) and twelve months (56%).

21% of farmers thought that changing the way organic manures and slurry are used and stored on their farms would reduce pollution the most. It was 21% also for the way inorganic nutrients or fertilisers are applied; 19% for both the controlled disposal of waste water and for the use and storage of pesticides and control of spillages.

Only 19% of all farmers felt they could do more to reduce water pollution in their catchment (79% did not). Dairy farmers (30%), larger farms of 200 + ha (25%) and

farms in the South West (23%) felt they could do even more. Of farmers who had already made changes 25% felt they could do more. Only 13% of those who had not made any changes felt they could do more.

71% of farmers claimed there are no obstacles preventing them from doing more to minimise water pollution. 28% said there are obstacles and of those 74% cited financial constraints. The figures were higher for dairy farmers: 50% felt were obstacles and 84% of them cited financial constraints.

25% of farmers had heard of the ECSFDI (34% for largest farms).

Only 8% of farmers had met their CSFO. Of those farmers who had not met a CSFO 60% were very or fairly willing to meet them whilst 16% were not very willing and 21% were not at all willing.

83% of farmers felt that using working farmers who are supportive and knowledgeable about the ECSFDI would be the most effective way to give credible advice to others.

## **Survey 2 – November 2007**

This survey was undertaken between 5 and 30 November 2007 with a random sample of 524 farms plus 476 farms that had received advice of over 10 ha from the forty catchments covered by the ECSFDI. The random sample of 524 farms covered arable (36%), livestock (53%) and mixed farms (10%), and comprised 20% cereal farms and 19% dairy farms. 34% of farms were between 10 and 50 ha in size, 29% between 51 and 100 ha, 20% between 101 and 200 ha and 17% of farms were over 200 ha. 19% of farms were from Anglian region, 15% from Midlands, 15% from North East, 9% from North West, 15% from Southern and 28% from South West.

Some key results:

84% of farmers indicated that their knowledge of water pollution had improved. For farming practices of key importance for control of DWPA, the figures were: soil management (75%); nutrient management (73%); waste management (72%); manure management (69%), and pesticide management (45%).

With this improved understanding of DWPA, there was also some greater acceptance that agriculture makes “a little” contribution to water pollution; 74% overall recognised this in the second survey, compared to 69% in the baseline survey. Similarly, farmers were more likely to recognise the contribution of activities on their own farm (58% compared to 50% in the baseline survey).

However, the majority of farmers (including those that engaged with the ECSFDI) remain unconvinced that agriculture makes a significant contribution to water pollution and they are even less convinced that the contribution from their own farming activities is significant. 16% of farmers across the Priority Catchments thought agriculture contributes a great deal or a fair amount and only 1% indicated this for their own farming activities (these figures showed no significant change between the baseline and second surveys).

Farmers were even more likely to believe that DWPA is best controlled on a voluntary basis; 82% indicated this compared to 76% across the Priority Catchments as a whole.

Across the Priority Catchments, the proportion of farmers citing the ECSFDI as a source of advice for control of DWPA rose from 3% to 16%.

Farmers continued to think slurry / organic matter (28%) and inorganic nutrients / fertilisers (20%) are most important. Following interaction with the ECSFDI there is, however, greater recognition of other “less obvious” types of pollution, including dirty water run-off, soil erosion and sedimentation.

Farmers receiving ECSFDI advice are better informed about how to adapt their farming practices to control water pollution; 43% receiving advice indicated they are ‘very well informed’ compared with 35% in the baseline survey. In addition, 75% receiving one-to-one advice indicated they were aware which control measures were priorities for their farm and 19% indicated that ‘on the whole’ they were aware.

Farmers that have engaged with the ECSFDI are also more likely to think that a wide range of control measures will help reduce DWPA. These include: the way inorganic nutrients and fertilisers are applied (21%); the way organic manure and slurry are used and stored (25%); the controlled disposal of waste water (19%); changes to cultivation planning and soil management (18%); the way livestock are managed and housed (16%); and controlling livestock access to watercourses (17%).

Of those farmers that engaged with the ECSFDI, 81% said they had taken or intended taking action to reduce water pollution; 78% had or intended taking action on waste management; 71% on nutrient and soil management; 67% on manure management; and 44% on pesticide management.

31% of farmers felt there were obstacles preventing them from taking (more) action to reduce DWPA. Amongst those that engaged with the ECSFDI, the figure was significantly higher (46%). Of those indicating there were obstacles, financial constraints were cited by 85% receiving advice and 76% across the Priority Catchments as a whole.

Of those farmers that have changed their practices within the last two years, 26% receiving one-to-one advice and 22% attending events indicated they were prompted to do so through the ECSFDI. Across the wider Priority Catchments, the figure was 5% (compared to just 1% in the baseline survey).

## Associate CSF projects

No	River Basin (Catchment)	Name	Main Contractors	Summary of Outputs	Total Cost £
1	North East (Coquet)	Improving Water Quality in the Coquet Catchment	ADAS	3 events 18 visits producing NMPs and reviewing spray filler areas	32,241
2	North West (Outside Priority areas in Cumbria)	CSF in West and South Cumbria	CREA	11 Farm demos 63 general 1 : 1 visits Farmers toolkit to calculate fertiliser requirements	64,717
3	North West (Lancashire Uplands and beyond)	Protecting Surface and Ground Waters from the use of Sheep Dip	Environment Agency	14 Meetings 115 mart attended 20 one to one visits 12,000 information cards distributed	26,120
4	North West (Lune/Ribble)	Good Farming Practice for CSF - Lancashire	Myerscough College, FWAG	16 farmer events Production and distribution of workbooks	39,997
5	Humber (Esk, and coastal waters)	Sustainable Land and Livestock – Esk Valley & North Yorks Coast	ADAS	7 farm events 2 farms received soil tests and review	40,772
6	Humber (Ingbirchworth Reservoir)	Nutrient Management in the Ingbirchworth Catchment	University of Leeds	5 farmer events 10 1 : 1 specialist soil/ nutrients visits	40,000
7	Humber (Trent - Poulter)	Poulter CSF Project	National Trust, FWAG	8 farmer events 45 General Farm visits	41,712
8	Humber (Trent - MMB)	Mercaston and Markeaton Brooks CSF Project	National Trust, FWAG	5 farmer events General public event 26 general farm visits 11 wetland	54,305

				creation plans 2 entire soil/Nutrient mgt plans 3 infrastructure audits	
9	Severn (Tern)	Tern Catchment and Environmental Partnership	Environment Agency	3 farmer events 48 specialist farm visits 13 slurry drop-in clinics at markets	43,033
10	Humber (Trent - Blythe)	Reducing Pesticides in the Blythe Catchment – Practical demonstrations	ADAS	7 Events Demonstration site for biobeds established	27,038
11	Humber (Trent)	Mease, Blythe, Ankor and Tame Catchment Project	FWAG	5 farmer events 14 general farm visits	32,479
12	Humber (Trent - Charnwood)	Charnwood Reservoirs CSF Project	FWAG	5 farmer events 14 first farm visits 20 Management Plans 2 rounds of newsletters	49,790
13	Thames (Cherwell)	Upper Cherwell Landcare Project	Environment Agency	VI weather texts 2 Agronomist Training events Technical advice cards (2 sets) 9 Farmer meetings/ events 40 1 : 1 general visits	45,000
14	Greater Ouse	Colworth Demonstration Farm Project	ADAS	Newsletters sent 4 Farmer events 10 1 : 1 specialist SMP visits	33,308
15	Thames (Loddon)	Loddon CSF Project	Hampshire Wildlife Trust	3 workshops 14 General 1 to 1 visits 10 Resource Mgt Plans	39,418

				Webpage, monthly newsletter and CAB cards to 105 farmers Study and advice on target sub catchment	
16	Thames (Medway - Beult)	Beult Farm Advice Project	Environment Agency, FWAG	Newsletter Catchment appraisal 5 farmer events 14 general farm visits, including soil testing	28,415
17	South West (Taw)	Practical and safe use of manures	Creedy Associates	10 workshops 4 newsletters 5 follow up group meetings 10 farm visits including NMPs Simple manual for using manures	48,174
18	South West (Torrige)	Associate Project Funding for the River Torrige	Environment Agency	2 workshops 3 Farm walks 10 Farmer champion workshops 31 farm visits (14 wfp) Before and after survey	53,682
19	South West (Fowey)	Reducing sediment and nutrients using farmer champions	West Country Rivers Trust	Unsuccessful in recruiting farmer champions 4 workshops – 52 farmers review the 55 previous visits done in Fowey	18,054
20	South West (Devon Avon)	Soil and water protection through whole farm planning	South Devon AONB, FWAG	1 Workshop Farm Walk 26 general 1 : 1 visits 5 specialist visits Demo farm Facilitated 4 CGS funded by AONB	22,000

## 2007-2008 Capital Grant Scheme Eligible Items and Grant Rates

Code	Capital items	Payment Per unit (£)
<b>Fences and gates</b>		
CSF001	Relocation of gates (per gate)	£136.00
CSF002	Water gates (per gate)	£120.00
CSF003	Water course fencing	
	A: sheep netting (per m)	£1.80
	B: high tensile (per m)	£1.25
	C: post and wire (per m)	£1.20
CSF004	Fencing for buffer strips, marshes, wet grassland, wet woodland, ponds	
	A: sheep netting (per m)	£1.80
	B: high tensile (per m)	£1.25
CSF005	Solar powered electric fence kits for seasonal fencing (per unit)	£40.00
<b>Water provision for grazing livestock</b>		
CSF006	Livestock drinking bays (per unit)	£300.00
CSF007	Livestock drinkers and feeders with hard bases	
	A: livestock drinkers with hard base (per unit)	£85.00
	B: livestock feeders with hard base (per unit)	£120.00
CSF008	Pasture pumps and associated pipe work (per unit)	£195.00
CSF009	Ram pumps and associated pipe work (per unit)	£1850.00
CSF010	Livestock troughs with associated pipe work (as an alternative to livestock drinking from watercourses) (per unit)	£85.00
<b>Management of run-off and drainage water, dirty water and sediments</b>		
SF011	Cross drains under farm tracks (per unit)	£139.00
CSF012	Sediment ponds and traps (per m <sup>2</sup> )	£6.00
CSF013	Swales with check dams	
	A: swales (per m <sup>2</sup> )	£6.00
	B: check dams (per unit)	£120.00
CSF014	Yard works for clean and dirty water separation	
	A: underground drainage pipework (per m)	£6.00
	B: inspection pit (per unit)	£190.00
	C: concrete yard renewal (per m <sup>2</sup> )	£30.00
CSF015	Installation of culverts in ditches (per unit)	£153.00
CSF016	Resurfacing gateways (per gate)	£50.00
CSF017	Rainwater storage tanks and first flush rainwater diverters / down pipe filters	
	A: storage tanks underground (per m <sup>3</sup> )	£350.00
	B: above ground tank (per m <sup>3</sup> )	£120.00

	C: rainwater diverters/ down pipe filters (per unit)	£80.00
<b>Sheep dips</b>		
CSF018	Relocation of sheep dips (per unit)	£3500.00
CSF019	Sheep dip drainage aprons with residue sumps (per m2)	£24.00
CSF020	Installation of livestock drinking troughs in draining pens for freshly dipped sheep (per unit)	£60.00
<b>Others</b>		
CSF021	Cattle tracks/farm access	
	A: cattle tracks (per m)	£15.00
	B: farm access tracks (per m)	£25.00
CSF022	Biobeds (per unit)	£2850.00
CSF023	Roofing of manure storage and stock gathering areas (per m2)	£45.00
CSF024	Watercourse crossings (per unit)	£360.00
CSF025	Tree planting alongside watercourses (per tree)	£1.60
CSF026	Roofs for slurry and silage stores	
	A: cover for slurry store on a portal frame (per m2)	£50.00
	B: self supporting cover for a circular above ground slurry store (per m2)	£20.00
	C: floating cover for circular above ground slurry store (per m2)	£7.00
	D: floating cover for lagoon (per m2)	£4.00

## Case Studies

### Business case studies

- Protection of sensitive watercourses: Owley Farm
- Arable: Pound Farm
- Potatoes: Amberley Court Farm
- Crop establishment: Hall Farm
- Maize: Town Barton Farm
- Slurry management: Town Barton farm
- Intensive grazing: Boode farm
- Management of water in farmyards and farm buildings: Taylor's Down farm
- Outdoor pigs: Bramford, Suffolk
- Uplands: Aston Hill farm
- Management tips

### Case studies

- Lambourn Farm Discussion Group
- Middle Farm, Kingcombe, Dorset
- Greenwell Farm, Oxford, Suffolk
- Steanbow Farm, Somerset
- Bayfield Estate, Glandford, North Norfolk
- Two Pig Units in the Gipping and Orwell Catchments
- Timely Interventions, Little Ouse, Suffolk
- Frogmary Green Farm, South Petherton, Somerset
- Greenway Farm, Ilminster, Somerset
- Ilton Castle Farm, Salcombe, Devon
- Grange farm, Tichbourne, Hampshire
- Kennet pig farm
- South Stream, Sandwich, Kent
- Bossington Estate, Stockbridge, Hampshire
- Church Farm, Hindolveston, Norfolk
- River Wyre catchment
- Bassenthwaite Lake
- Re-introducing freshwater pearl mussels to the River Clun
- Penans Farm, Grampound, Cornwall
- East Wick Farm, Hampshire
- Lower Aunemouth Farm, Kingsbridge, Devon (Avon Associate CSF Project)
- Anat Royd Farm, Thurlstone, Yorkshire (Ingbirchworth Associate CSF Project)
- Higher Gorhuish Farm, Devon (Avon Associate CSF Project)
- Sheep farm, Howgill, Cumbria (Lancashire Uplands Sheepdip Associates Project)
- North Lodge, Kendal, Cumbria (Lancashire Uplands Sheepdip Associates Project)
- Small Shaw Farm, South Yorkshire (Ingbirchworth Associate CSF Project)

These case studies are published in full on the ECSFDI Website<sup>2</sup>.

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<sup>2</sup> <http://www.defra.gov.uk/farm/environment/water/csf/delivery-initiative.htm>