

**EVALUATION OF THE PILOT ENTRY LEVEL AGRICULTURE
ENVIRONMENT SCHEME**

FINAL REPORT

N D Boatman

C Deppe

D Garthwaite

S Gregory

N E Jones

Central Science Laboratory

Sand Hutton, York,

YO41 1LZ

February 2004



CONTENTS

Contents	2
Executive Summary	5
Introduction.....	5
Socio-economic module.....	5
Environmental modelling module.....	6
Outcomes in relation to success criteria.....	8
I Delivers environmental benefits	8
II Achieve satisfactory uptake	8
III Demonstrate acceptability to farmers, partners and the wider community	8
IV Successful administration	8
V The evaluation.....	8
Targets and indicators for a national scheme.....	8
Evaluation methodology	9
Conclusion & recommendations.....	9
1 Introduction & context.....	10
2 Socio-economic module: Analysis of uptake data.....	12
Analysis of scheme uptake.....	12
Analysis of option uptake	12
3 Socio-economic module: questionnaire surveys.....	15
Introduction and methods	15
Results – Farmer questionnaires	15
Background of participants and non-participants	15
Opinions on the Scheme	15
Impact of the scheme	16
Participants’ reasons for not choosing options	17
Process of application	17
Support for farmers	18
Recommendations.....	18
Results – stakeholder questionnaire.....	18
4 Environmental module.....	20
Methods.....	20
Indicator matrix.....	20

Scoring maps.....	20
Field surveys	20
Weighting scores.....	20
Modelling environmental outcomes	20
Partner surveys.....	21
Results.....	21
Environmental modelling.....	21
Map assessments	23
Field surveys	24
Partner surveys.....	25
5 Outcomes in relation to success criteria.....	27
I. Deliver environmental benefits.	27
Pattern of uptake of environmental management options.....	27
Pilot delivers additionality across all farm sizes and types.....	27
Quality of implementation of environmental management	27
Farmer awareness.....	28
II Achieve satisfactory uptake	28
III Demonstrate acceptability to farmers, partners and the wider community	28
IV Successful administration	28
V The evaluation.....	28
6 Targets and indicators for a national scheme.....	29
Targets.....	29
Indicators.....	29
7 Evaluation methodology	31
Socio-economic module.....	31
Analysis of uptake data.....	31
Questionnaire survey	31
Environmental module.....	31
Indicator matrix.....	31
Scoring for location and quality.....	33
Benchmarking scores	34
Scoring for landscape.....	34
Partner surveys.....	35
Conclusion	35

8	Recommendations.....	36
	Balance of options.....	36
	Changes to options.....	36
	New options	36
	Changes to scheme literature	37
	Advice and guidance.....	37
	Conclusion	37
	Acknowledgements.....	38
	Appendix 1: Evaluation surveys (Table prepared by Defra, summer 2003)	39
	Appendix 2: Maps of pilot areas	42
	Appendix 3. Distribution maps showing predicted environmental value per km ² by county	43

EXECUTIVE SUMMARY

Introduction

1. Central Science Laboratory was contracted by Defra to undertake an evaluation of the pilot scheme during 2003. This final report summarises the results of the evaluation. More detailed information was provided in the second interim report and appendices.

Socio-economic module

2. The majority (96%) of participants and 63% of non-participants supported the scheme. The most common reasons given for supporting the scheme were linked to environmental issues. The most important reason stated for applying to the scheme was the financial incentive (30% of agreement holders), but environmental reasons were also important. Overall, 61% of participants reported no difficulty in reaching their points target, although rates varied between pilot areas. No participants in the Tiverton area had any difficulty in reaching their points target, but in the Market Deeping area, the points target proved more challenging, because of the nature of the options available to farmers in this region.
3. Over 40% of participants felt that the environmental benefits were the most positive aspect of the scheme, and 32% liked the flexibility or simplicity of the scheme. Twenty percent of participants felt that bureaucracy was the most negative aspect of the ELS, but 12% felt there were no negative aspects to the scheme. Overall, a much larger proportion of participants made positive rather than negative comments about the scheme.
4. Farmers generally selected only a relatively narrow range of the options available to them (typically between 4 and 7 of the total of 55, although those available varied with farm type). The most frequently selected were management of boundary features (hedges, stone walls) and in-field trees, especially on grassland. Uptake of hedgerow management was affected by farm type and presence of a Countryside Stewardship agreement. Ditch management was more likely to be taken up on cropped farms. Large farms (>100 ha) were more likely to take up protection of in-field trees on grassland. Maintenance of traditional buildings was also frequently selected, especially on general cropping or horticulture farms, but was less popular on cereals, dairy and cattle/sheep farms.
5. Options with low uptake were those related to archaeological features, uncropped cultivated margins, buffer strips on intensive grassland, beetle banks, skylark plots, conservation headlands, forage crop management options, options to encourage diversity of crop type, taking field corners out of management on grassland, management of rush pastures, and grassland management options for LFA land < 15 ha.
6. Archaeological features were usually not chosen because they were not present, but some farmers were unaware of features that were present. Farmers asked why they did not select the options in paragraph 5 said that they already had enough points, the options were not appropriate, too difficult/inconvenient or suitable land was not available.
7. The most common reason cited for not entering the scheme (26%) was the payment rate, though 30% did not apply because either the scheme or the application forms were too complicated. In Market Deeping, 39% of non-participants found the points target too demanding, compared to 17% across all areas.

8. Over 70% of farmers thought that the scheme would be important or very important for wildlife, and over 40% thought it would be important for landscape. The majority of participants had not practised the management defined by the ELS before, but thought that they would maintain ELS management prescriptions even if they chose to leave the scheme. Despite this, more than half of farmers thought that their ELS agreement would have little effect on (or not require a significant change to) their basic farming system. This is probably because farmers interpreted this question in terms of their ability to continue to farm in a productive manner, as indicated by the responses of a few who thought it would result in more extensive grazing or increased weediness/untidiness.
9. Information about the scheme was most commonly obtained from Defra sources, with Pilot Area Co-ordinators being the source of help most used. Most sections of the scheme booklet were considered useful, marking of archaeological sites on base maps proved to be valuable and farmers particularly liked the example application map. Most participants were enthusiastic about the range of options available.
10. Comments by regional stakeholders were wide ranging and individual, and hence difficult to summarise. A number of specific improvements were suggested by most respondents, such as provision of advice and support, improvements to certain guidance and adjustment of the points system.

Environmental modelling module

11. This module provided an evaluation of the likely environmental impact of the pilot scheme, based on assessments by CSL and partner organisations.
12. In examining the potential benefits of the scheme for various environmental categories, the highest potential benefits were found for historic environment, landscape, and invertebrate indicators. Market Deeping and Mortimer tended to have higher potential scores. Lower potential benefits were found for arable plants, cereal field margins, moorland, dormice, water voles, woodland, upland birds and waders. To evaluate actual value for pilot areas in relation to the potential, actual scores were expressed as a percentage of benchmark scores, derived from a simulation model based on patterns of option uptake. Indicators with low potential scores tended to have high actual percentage scores, particularly in the pilot areas most suited to them. This suggests that take-up of options favourable to these indicators was, on average, greater than expected.
13. Environmental benefits were scaled up to national level on the basis of farm type. At a national level, high benefits among biodiversity indicators were recorded for all invertebrate indicators, amphibians and bats. Arable plants, upland birds and waders had low potential benefits. Uptake of suitable options for arable plants was low, and they were not appropriate in grassland dominated areas. There were few suitable options for upland birds, and these were only available to a small proportion of farmers. Relatively low benefits were recorded for dormouse, hare and water vole. Few options were relevant to dormice (a woodland species not typical of farmland) and uptake of options suitable for water voles was low.
14. Among individual bird species, barn owl, kestrel, linnet, tree sparrow, yellowhammer, and song thrush showed high benefits nationally. Low benefits were recorded for the upland species black grouse, ring ousel and twite, and fairly low benefits for the waders

curlew, redshank, snipe and lapwing, also skylark, stock dove, turtle dove and woodpigeon.

15. The highest overall benefits nationally were recorded for landscape and historic environment, and outcomes were also good for historic buildings and pollution reduction. Low benefits for cereal field margins, woodlands and, in particular, moorland, resulted from low uptake (cereal field margins), low availability (moorland) or both (woodland), of suitable options.
16. At the end of the evaluation, some additional environmental modelling was carried out to predict the effect of increasing points available for less popular options and reducing points allocations for the most popular options. Most pilot area scores changed relatively little, but greater benefits were suggested for some indicators. These included some for which the original scheme indicated low benefits, such as arable plants and cereal field margins.
17. At national level, the revised model showed enhanced benefits for some indicators which had lowest scores in the original evaluation, such as arable plants, upland and wading birds and moorland, plus a number of others. Overall, mean benefits for indicator groups were higher than in the original evaluation, suggesting a general improvement in environmental benefits. The only indicators showing reduced benefits at national level were dormice and water voles, which probably suffered from reductions in points for hedge and ditch options respectively (however, farmland is a marginal habitat for these species).
18. The appropriateness of buffer strip location varied between pilot areas. Sixty percent were next to watercourses in Market Deeping, 30% in Mortimer, but only 4% in Barnard Castle. Most hedges, in-field trees and woodlands entered into the scheme had medium or high ecological value. Ditches varied between pilot areas. The majority of ditches had vegetation classified as “unimproved” in Mortimer and Tiverton; in contrast, most ditch sides were “improved” in Barnard Castle.
19. Forty-five percent of options J4 & K2, was classified as unimproved, but only 11-12% of grassland in options J1, J3 & K1. In addition, 36% of J1, 61% of J3 & K1, and 25% of J4 & K2 were semi-improved. Of permanent grassland options, 5% of option J1, 24% of J3, K1 and 12% of J4, K2 were on archaeological sites.
20. During field surveys, most (86%) options were assessed as beneficial for landscape. The location of buffer strips could have been improved to reduce pollution and runoff.
21. Partner organisations supported the scheme and thought it had potential. They felt that the scheme could be improved by encouraging farmers to chose a wider range of options. Several recommendations were given for modifying existing options and creating new options, and a few suggestions were made for removing options. Several organisations suggested that there is a need for more advice and guidance for farmers, including help with location of options, assessing suitability of options in relation to the landscape, and assessing soil erosion risk.

Outcomes in relation to success criteria

I Delivers environmental benefits

Pattern of uptake of environmental management options

22. A range of benefits has arisen from the pilot scheme, but option choice was limited in certain pilot areas.

Pilot area delivers additionality across all farm sizes and types

23. There was evidence of additionality for many options, e.g. hedge, ditch and arable options. The few exceptions included stone walls, woodland fences and rides, and permanent grassland.

Quality of implementation of environmental management

24. Environmental outcomes were mainly positive in terms of quality of implementation, e.g. in terms of hedgerow species richness, ditch vegetation, woodland flora, landscape and historic buildings. However, a fairly high proportion of permanent grassland was classified as improved, and buffer strips could have been better placed in some pilot areas.

Farmer awareness

25. Most farmers felt that the descriptions in the scheme booklet were clear. There were a few instances where more guidance was needed, e.g. buffer strips, archaeological features and soil erosion.

II Achieve satisfactory uptake

26. More than the target 200 farmers entered the scheme, and sample sizes of both participants and non-participants were more than adequate. There were at least 50 agreements in all pilot areas, and considerably more in three of the four areas.

III Demonstrate acceptability to farmers, partners and the wider community

27. Most participants said they would renew their agreement. All partner organisations expressed support for the scheme, and five organisations carried out specialist field surveys.

IV Successful administration

28. There were few problems with the administration process, but a small minority of farmers found some difficulty with mapping their agreements, e.g. scale of maps, definitions of some features.

V The evaluation

29. The data gathered during the evaluation were considered sufficient to address the relevant issues.

Targets and indicators for a national scheme

30. Expert groups found it impossible to set meaningful targets for landscape, historic environment and resource protection issues, but some targets were set for birds and mammal indicators. Some preliminary suggestions for indicators and monitoring are proposed. Further work is recommended to develop them, depending on the precise objectives framed for the monitoring process. Some comparative monitoring between

farms within and outside the scheme would be required to confirm the effects of the scheme.

Evaluation methodology

31. In general, it is felt that the evaluation methodology worked well. The main area of innovation was the environmental modelling. This produced useful results, but in the light of experience it is felt that certain improvements could be made to further enhance the value of the technique in future evaluations. It is recommended that an evaluation of the national scheme should not rely entirely on modelling based on expert scores. If used, they should be backed up by field monitoring to calibrate the method and test the modelled outcomes.

Conclusion & recommendations

32. The over-riding message is that the scheme has met its success criteria, has had a high level of support and is capable of delivering its objectives. Modelling of the environmental outcome of the scheme has indicated that substantial benefits are possible.

33. The main recommendation is that incentives should be revised to encourage applicants to improve the benefits of their applications by selecting a wider range of options. Some options involved little change in existing management and so offered less value for money than others. It is suggested that, if these options are retained, a limit be placed on the proportion of the points requirement which they can fulfil.

34. It is suggested that option J1 (maintenance of permanent grassland) be removed, and guidance for options for permanent grassland with low or very low inputs should encourage applications for unimproved fields which have historically received low levels of inputs. Consideration should be given to lowering the number of points, and restricting the proportion of points which can be achieved, through stone wall maintenance, or the amount of wall supported by the scheme per hectare. It is proposed that the option for maintenance of woodland fences should only apply to fields which are regularly grazed, next to woods which are within the control of the agreement holder. In addition, several new options have been suggested.

35. Proposals for providing advice and guidance in a national scheme included providing access to advisers, adopting some good practitioners as demonstration farms, and providing supporting literature in the form of leaflets targeted towards specific regions, farm types or environmental issues. Suggested changes to scheme literature include clarification of guidance on soil assessment of soil erosion risk and supplements for grassland on archaeological features, better guidance on management plans, and clarification of the definitions of some features. More guidance on choosing the location of options to optimise benefits would be helpful, particularly for buffer strips, but also for other options.

36. In conclusion, the pilot scheme has shown that a national entry level scheme is logistically feasible, and has majority support within the farming and stakeholder communities. The challenge in any national scheme will be to encourage uptake of a wider range of options and improve guidance for the scheme to increase the environmental benefits at an affordable cost.

1 INTRODUCTION & CONTEXT

- 1.1 The Pilot Entry Level Scheme (ELS) was designed to test the concept and operation of a new agri-environment scheme, which aimed to encourage a large number of farmers to deliver simple yet effective environmental management across a wide area of farmland. Environmental issues addressed by the scheme included biodiversity, landscape, the historic environment and diffuse pollution. The scheme differed from current and previous schemes in several ways. Key characteristics of the scheme were as follows:
- 1.2 The scheme was non-competitive and open to all farmers and landowners who had possession of the land for five years.
- 1.3 A menu of options was available from which entrants could choose, each of which was worth a certain number of “points”. In order to enter the scheme, the applicant had to develop a plan delivering a target number of points, determined by the area of the holding (30 points per hectare (ha) for non-LFA (less-favoured area) land or LFA land in parcels of less than 15 ha; 15 points per ha for LFA land in parcels of 15 ha or more).
- 1.4 In addition to the application form, applicants had to complete and submit a map showing features and areas of environmental interest already present on the farm, plus a map showing the type and position of their chosen options. Potential applicants were provided with an information map showing any Sites of Special Scientific Interest (SSSIs), Scheduled Ancient Monuments (SAMs) or Less Favoured Areas (LFAs) on their land.
- 1.5 Agreement holders received a flat-rate payment of £30 per ha of their holding for land outside LFAs or LFA land in parcels of less than 15 ha, and £15 per ha for LFA land in parcels of 15 ha or more.
- 1.6 The ELS was piloted by Defra in 2003 in four areas, chosen to represent four different English farming types:

Area	Farming type
Tiverton, Devon	grassland
Market Deeping, Lincolnshire	arable
Barnard Castle, Durham	upland
Mortimer, Berkshire	mixed

- 1.7 Based on the degree of success of the pilot scheme, the ELS could be rolled out across the whole of England in 2005. At the same time, the existing Countryside Stewardship Scheme and Environmentally Sensitive areas would be incorporated into a new Higher Level Scheme which would form part of the same scheme as the ELS, for farmers who want to take their environmental management to a higher level.

- 1.8 The Central Science Laboratory was contracted by Defra to undertake an evaluation of the pilot scheme during 2003. The outcome of the evaluation would inform the decision on whether to roll out the scheme nationally.
- 1.9 This report summarises the results of the evaluation. It provides an analysis of uptake data, describes the results of questionnaire surveys of participants, non-participants and stakeholders in the pilot areas, presents modelled environmental values for indicators at pilot area and national level, gives output from map scoring and field surveys, and summarises reports of expert field surveys carried out by partner organisations. The report concludes with an overview of the evaluation results and consideration of the implications for a national scheme. Appendices 1 to 3 include a summary of the surveys which formed part of the 2003 work, maps of the pilot areas and the predicted environmental benefits of a national scheme. More detailed information is provided in a separate, unpublished, second interim report.

2 SOCIO-ECONOMIC MODULE: ANALYSIS OF UPTAKE DATA

Analysis of scheme uptake

- 2.1 Scheme uptake was analysed in relation to farm size, farm type, ownership, presence or absence of a non-agricultural commercial enterprise on the farm, and presence or absence of a Countryside Stewardship agreement. Farm types included in the analysis were: cereals; general cropping/horticulture; mixed; dairy; cattle and sheep; and pigs, poultry or “other”.
- 2.2 The highest proportion requesting a base-map were dairy farmers, however, around a fifth of these did not apply to enter the scheme. High proportions of mixed and cereal-dominated farms also applied. The lowest response was from the group comprising pig, poultry and “other” farmers.
- 2.3 There was a tendency for a higher proportion of farms with mixed ownership to request a base-map or apply for the scheme, and for fewer wholly-owned farms to respond to the scheme. There was no significant effect of the presence of either Countryside Stewardship Scheme agreements or non-agricultural commercial enterprises on the proportion of farmers applying for a base-map entering the scheme.
- 2.4 Logistic regression analysis was carried out to investigate the effect of the factors listed above on (i) the probability of a farm requesting a base-map, and (ii) the probability of a farm applying for the scheme. Both data sets, for farmers requesting a base-map and those applying to join the scheme, gave similar results. When all variables were included in the analysis, only farm type and farm size had statistically significant effects in both cases.
- 2.5 The probability of farmers requesting a base-map or applying to the scheme increased with farm size. The proportions of farmers with different types of farm applying to the scheme were in the order: dairy > cattle and sheep > mixed > cereals > pigs, poultry and other > general cropping/horticulture.

Analysis of option uptake

- 2.6 Analysis of option uptake was carried out in relation to the availability of each option on each farm. For each farm, the options which could have been chosen were calculated, on the basis of specified criteria.
- 2.7 Because the uptake of many options was low, the sample size was not sufficient for meaningful statistical analysis. Therefore, options were grouped for analysis. Where there were sufficient farms choosing an individual option to give an adequate sample size, this option was also analysed separately.
- 2.8 Option uptake was analysed in relation to pilot area, farm size, farm type, ownership, and presence or absence of a Countryside Stewardship agreement.
- 2.9 Farmers generally selected only a narrow range of the options which were available to them. Most popular were options for management of field boundaries (especially hedges and stone walls) and in-field trees (especially on grassland). Maintenance of traditional buildings was also frequently selected.

- 2.10 Options with little take-up were those related to archaeological features, uncropped cultivated margins, buffer strips on intensive grassland, beetle banks, skylark plots, conservation headlands, forage crop management options, options to encourage diversity of crop type, taking field corners out of management on grassland, management of rush pastures, and grassland management options for LFA land < 15 ha.
- 2.11 The take-up of option B1 (Hedgerow management on both sides) was significantly affected by farm type. The greatest proportion of farms selecting this option were dairy and cereal farms (56.3 and 60.5% respectively), whilst only 20.7% of general cropping and horticulture farms took up this option.
- 2.12 The take-up of option B2 (Hedgerow management on one side only) was affected by both farm type and the presence or absence of a Countryside Stewardship Scheme (CSS) agreement on the farm. The probability of uptake was considerably higher on farms with a CSS agreement.
- 2.13 Farm type and CSS agreement also affected take-up of option B3 (Enhanced hedgerow management on both sides). Once again, probability of take-up was higher where a CSS agreement was present, but the ranking of farm types was different. For B3, the greatest probability of uptake was among general cropping and horticulture farms, whereas this farm type had the lowest predicted uptake for option B1.
- 2.14 When take-up of all three hedgerow options together was considered, once again effects of farm type and presence of CSS agreement were significant. Where a CSS agreement was present, proportions of farms with one or more of options B1-B3 was over 89% for all farm types. Even where there was no CSS agreement, take-up was over 50% for all farm types except pigs, poultry and “other”, and over 75% for cereal, general cropping/horticulture, and dairy farms.
- 2.15 The only significant factor affecting the selection of option B4 (Ditch management) was farm type. The greatest proportion of farms with this option (>70%) was among the general cropping/horticulture and cereals farm types. Cattle and sheep, and pigs/poultry/other farm types had the lowest uptake.
- 2.16 There was an effect of farm size category on the proportion of farms taking up option B7 (Protection of in-field trees on grassland). Large farms (with area greater than 100 ha) were less likely to adopt this option than small or medium farms
- 2.17 Adoption of option C1 (Maintenance of traditional buildings) was influenced by farm type. Farms with general cropping and/or horticulture had the highest proportional take-up, at 77.8%, compared to 50% for mixed farms and pigs/poultry/other farm types, and less than 35% cereals, dairy and cattle/sheep farms.
- 2.18 Farm type also affected the take-up of ‘D’ options (Buffer strips). These were most popular on farms with crops: cereals (55.1%), general cropping and/or horticulture (46.4%), and mixed (23.1%). The various types of stock farms all had predicted uptakes of less than 20%.
- 2.19 There was a marginally significant effect of farm ownership on the selection of option J1 (Maintenance of permanent grassland). There was a higher proportional take-up among farmers who rented their farms than among those who owned part or all of their farms.

- 2.20 There was a significant effect of farm size, on uptake of option J3 (Permanent grassland with low inputs, outside Less Favoured Areas (LFAs)). The probability of uptake decreased with farm size. There was also a significant effect ($P=0.008$) of farm size as a categorical variable on the uptake of option J4 (Permanent grassland with very low inputs, outside LFAs). In this case, it appeared that medium-sized farms were less likely to take up this option than small or large farms.
- 2.21 Farm type had a significant effect on the uptake of J3 or K1 (Permanent grassland with low inputs, inside and outside LFAs). Farms with stock, particularly dairy and cattle/sheep farms, were more likely to take up this option.

3 SOCIO-ECONOMIC MODULE: QUESTIONNAIRE SURVEYS

Introduction and methods

- 3.1 This section summarises responses to questionnaires sent to participants, non-participants (both those who requested a base map but did not subsequently apply, and those who did not request a base map), and regionally based stakeholders and partner organisations.
- 3.2 Results of an interview with a subset of 95 participants to collect more details on individual options (chosen or not chosen) are also presented.
- 3.3 A total of 109 responses were received from non-participants, 199 postal returns from participants and 95 agreement holders were visited. A few holdings were excluded from the analysis where their returns arrived after the deadline, or if the quality of the responses was unsuitable for analysis. Generally, responses were fairly evenly distributed between pilot areas, except for Mortimer where only 32 participant responses were returned (uptake was lower in this pilot area however). The response to the stakeholder survey was disappointing with only 21 questionnaires returned from a total of 75 which were sent out. In contrast to the regional survey, the response of stakeholders at national level (direct to Defra and via partner survey reports) was very good.

Results – Farmer questionnaires

Background of participants and non-participants

- 3.4 The questionnaire surveys supported the initial analysis of uptake data, which highlighted the fact that fewer wholly-owned farms than tenanted or mixed ownership farms applied to enter the scheme. Overall non-participants were less likely to use contractors (68%) than participants (83%).
- 3.5 In all pilot areas, participant farmers were more likely to be part of crop/livestock assurance schemes (mean 57% participants; 38% non-participants). Apart from the Tiverton area, participants were also more likely to be already involved with other agri-environment schemes (mean 25% participants; 18% non-participants). Approximately 25% of participant holdings already had agri-environment schemes on their land.
- 3.6 Similar proportions of participants and non-participants were members of farming organisations. More participants than non-participants were involved in field sports in all areas except Barnard Castle.

Opinions on the Scheme

- 3.7 Most participants (96%) supported the scheme: also, more than 60% of farmers who did not apply for the scheme were still supportive of the ELS in principle. The most common reasons cited for supporting the scheme were linked to environmental issues (42% of participants and 19% of non-participants, with financial reasons being the second most important).
- 3.8 The most common reason (26% overall) cited for not entering the scheme, particularly in Market Deeping (39%), was the payment rate. Overall 30% of non-participants said that they did not apply because either the scheme itself or the application forms were

too complicated. In Market Deeping 39% of non-participants found the points target too demanding (compared to 17% across all areas). Seventeen percent felt that the period of agreement was too long.

- 3.9 The financial incentive, was the most important reason stated (30%) for applying to the scheme. A further 24% of farmers cited financial reasons in support of environmental gain and 7% stated that they applied simply for environmental reasons. It is interesting to note that, when asked why they supported the idea of Defra introducing an Entry Level scheme, environmental issues were most commonly mentioned (paragraph 3.7), but the financial incentive was the most common reason for farmers entering the scheme. This reflects farmers contrasting views of the scheme as a member of the public, and in relation to their own farm.
- 3.10 Overall, 15% of farmers applied because they could enter with little change to their farming system, but this was rare in the Market Deeping area where the points target proved much more challenging. If the majority of farmers needed to make changes to their farming system to enter the scheme, this implies that the scheme was delivering additionality in these cases.
- 3.11 Most farmers were reasonably happy with the length of agreement. Nearly 80% of participants said they were likely to renew their agreement at the end of the five years, and only 1% thought they would not renew their agreement.
- 3.12 Over 40% of participants felt that the environmental benefits were the most positive aspect of the scheme, and 32% liked the lack of restriction placed on them, the flexibility or the simplicity of the scheme.
- 3.13 Twenty percent of participants felt that bureaucracy was considered to be the most negative aspect of the ELS. However, 12% felt there were no negative aspects to the scheme, or at least had not found any yet, and most participants made positive comments about the scheme.
- 3.14 Over 60% of participants reported no difficulty in reaching their points target, but there were regional differences. No participants in the Tiverton area had any difficulty in reaching their points target, but a number of participants in Market Deeping found it difficult to meet the requirements of the scheme, because of the nature of the options available to farmers in this region.

Impact of the Scheme

- 3.15 In all pilot areas, participants considered that wildlife would gain more than other environmental issues from the ELS. It was also considered important for landscape, particularly in the Barnard Castle area. Participants felt that historic features were much less likely to benefit, and relatively few participants thought that the scheme would prevent pollution.
- 3.16 More than half of farmers thought that their ELS agreement would have little effect on their farming system. Many participants had not practised the management defined by the ELS before, but thought that, now they had changed their management, they would maintain ELS management prescriptions even if they chose to leave the scheme. Although this appears to imply low additionality (farmers would continue to manage under scheme guidelines if they left the scheme), they would probably not have

changed their management if they had not entered the scheme, therefore the implication is that the scheme was changing farmers attitudes to management in a positive manner.

Participants' reasons for not choosing options

- 3.17 Participants who were visited were asked about their reasons for not choosing 29 options for which uptake across the scheme was particularly low.
- 3.18 Option B10 was usually not chosen because there were none on the farm. Generally, farmers did not choose options C2-C4 because they did not have archaeological features on their land or had no cultivated land over archaeological features. However, a few farmers who were visited and nearly 20% of participants overall (Appendix 1, Table 18) were unaware of historic features on their land.
- 3.19 Farmers quoted a wide range of reasons for not choosing options D4-D6. twenty-seven percent already had enough points, but a further 40% felt that it was not appropriate, too difficult, there was no cultivated land on the farm or margins were in another scheme. Most farmers questioned about options D7-D9 had no intensive grassland on the farm and a further 14% already had enough points. Otherwise, farmers did not choose buffer strips because they did not want to take areas out of production.
- 3.20 Over one third of farmers did not consider arable (E) options because they already had enough points. Nearly 20% felt that the management involved was too difficult or too inconvenient. Nearly all farmers questioned about options F1-F3 had no forage crops on the farm or felt that these management options were inappropriate. Similarly, most farmers did not take up options H1-H3 because they felt that these options were inappropriate for their land.
- 3.21 About 40% of farmers did not choose option J2 because they had already achieved their points total. Some felt that this option did not attract enough points or was too difficult, several were put off by the need for fencing, and 10% did not want to take areas out of production.
- 3.22 Most farmers did not choose options J5 or K5 because they had no rush pastures on the farm, or not enough rush cover in individual fields, but 10 to 15% felt they had enough points already.

Process of application

- 3.23 Most participants found the application process straightforward, though the section on soil erosion risk caused serious confusion, and approximately 10% of participants had some difficulty completing their record of environmental features. Eighty-four percent of farmers filled in the forms themselves.
- 3.24 Although mapping features/options was generally found to be easy, nearly 30% had varying degrees of difficulty in marking the map. Many applicants did not have a suitable range of colours available. The scale of maps was criticised, and definitions of some features also caused confusion. For example, confusion between bushes and trees, whether ridge and furrow should be included as an archaeological feature, whether small shelter belts should be classified as woodland or hedgerows, whether lines of trees should be considered to be hedgerows, groups of trees or neither, and what constituted a 'group' of trees.

- 3.25 The amount of time taken to complete the application varied from less than half a day (c. 50%) to several days. Mapping and measuring features took the greatest length of time. Farmers tended to take longer in Market Deeping and Barnard Castle; only 38% and 34% respectively completed the form in less than four hours, compared to 63% for Mortimer and 61% for Tiverton.

Support for farmers

- 3.26 Defra sources were the most common means of obtaining information about the scheme. About half the applicants sought help with some aspects of the application, with Pilot Area Co-ordinators being the most common source of help.
- 3.27 Marking of archaeological sites on base maps proved to be valuable and influenced many farmers in their choice of options. Most sections of the scheme booklet were considered useful and farmers particularly liked the example application map. Descriptions of options were generally considered to be clear, though there were some exceptions.

Recommendations

- 3.28 Most participants were enthusiastic about the wide range of options available, but the arable options were generally unattractive to participants, and several suggested that higher points allocation was required for these options.
- 3.29 Better guidance on what is required might increase uptake of management plans.
- 3.30 Several participants would have liked payments for capital items plus more options for woodland management, ponds, riverside management, and a specific hedge + ditch management option.

Results – stakeholder questionnaire

- 3.31 This section reports on the responses to questionnaires addressed to regional stakeholders. Some national partner responses are included in partner reports (see Environmental module, paragraphs 5.42-5.50), and others have been provided direct to Defra. In addition to local representatives of Government Agencies, responses were received from farmers organisations, county councils, Devon FWAG and Devon Wildlife Trust.
- 3.32 Most stakeholders who responded to this questionnaire were generally positive about the scheme, although there were concerns both at a strategic level and relating to the detail of scheme implementation.
- 3.33 Comments were wide ranging and individual, and hence difficult to summarise. General issues raised included option choice and additionality, raising awareness of environmental issues among farmers, levels of advice needed, advantages of open entry and scheme simplicity, points system and points allocations, the need for regional/local targeting, and relative benefits of the scheme for different environmental issues (historic environment, biodiversity, landscape, erosion risk).
- 3.34 Advice and support were felt to be important by most respondents. The role of the Pilot Area Co-ordinators was highlighted by several organisations; other sources of information and advice put forward included workshops, farm walks and leaflets. The

Scheme website and radio were considered least useful. Most organisations were prepared to contribute to the provision of future publicity and advice.

- 3.35 A number of specific improvements were suggested, including changes of improvements to the guidance booklet and adjustments to the points system. A range of option-specific comments were made. These generally reinforced comments made by national stakeholder organisations in the partner reports.

4 ENVIRONMENTAL MODULE

- 4.1 This module provided an evaluation of the likely environmental impact of the pilot scheme, based on the uptake of measures plus expert assessment of the potential of individual options and field evaluation of their placement within actual agreements.

Methods

Indicator matrix

- 4.2 An “indicator matrix” was developed, with selected indicators heading columns and scheme options as rows. Scores were given on a 0-3 scale, a score of 0 indicating no benefit, 1 a minor benefit, 2 an intermediate, and 3 a major benefit. The matrix was submitted to an expert panel for validation and approval.

Scoring maps

- 4.3 Maps from 50 applications in each pilot area, obtained from the Rural Payments Agency in the form of scanned images, were selected and scored for option location according to pre-determined criteria.

Field surveys

- 4.4 Twenty farms were selected from each pilot area, using a stratified random sampling method, to take account of farm size. Each farm was visited and sites identified for implementation of options assessed according to the field evaluation criteria previously agreed with the expert panel. In addition, an area of 50 ha was selected on each farm visited and surveyed in detail to assess accuracy of mapping and possible lost opportunities.

Weighting scores

- 4.5 Weighting scores were applied to the matrix scores to reflect spatial location (from agreement maps), and quality criteria assessments (from farm visits). They take the form of multipliers with values between 0 and 2, 1 being neutral (no effect), values less than 1 indicating a reduced benefit, and values greater than 1 indicating an enhanced benefit.

Modelling environmental outcomes

- 4.6 The method of modelling environmental outcomes takes into account both the number of options selected and the amount of each option implemented by each agreement holder. Because the different options have different units, the proportion of the points requirement for a holding accounted for by an option was used as a measure of the amount of that option. The environmental outcome for each farm was determined by multiplying actual and benchmark uptake patterns by scores from the indicator matrix to give a scheme value for each environmental indicator on each farm. In order to estimate the potential for take-up and implementation of options on each farm, the number and amount of options implemented by the 95th percentile of agreement holders was a benchmark for comparison.
- 4.7 Originally, the benchmark was defined in relation to the options available for each farm, but it was felt that this did not reflect the original philosophy of the scheme, which was to provide potential applicants with a choice from a range of options which

might be implemented on their farm. The revised method however does not identify which options from those available should be selected. Because the options differed in popularity of uptake and amount of implementation, simulation modelling was used to derive probabilities of uptake and amount in deriving benchmarks.

- 4.8 The process was as follows. To calculate the benchmark number of options, 10,000 samples, of a size equivalent to the number of options implemented by the 95th percentile of agreement holders, were taken for each farm from the total available options for that farm. The environmental scores for each sample of options were calculated for each indicator, using the indicator matrix. For each sample the scores were added, and the mean of all the samples was then used as the benchmark score for that farm. This was repeated for each farm and each environmental indicator. Ten thousand samples were taken for each farm, since the overall measure over farms was sufficiently stable for this sample size.
- 4.9 In order to take account of the amount of each option selected, a measure was derived as the number of points for that option divided by the points requirement for that farm. Once again, simulation modelling was used to determine the benchmark. For each selected option in the sample of options selected, the points were re-sampled from the distribution of points for each option in relation to number of points required. In this way, an actual and a benchmark value were obtained for each environmental indicator on each farm. Farm results were combined to give values for pilot areas.
- 4.10 Weightings from map scoring and field visits were averaged over assessment criteria and indicator, and then multiplied by the scores from the indicator matrix. These weighted scores were then substituted for the matrix scores in the calculations described above to give a revised value reflecting the way in which the options were implemented. Comparison of the original and weighted figures gives an estimate of “added value” from option implementation.
- 4.11 Results from the pilot areas were scaled up to a national level on the basis of the relative proportions of the different farm types by area, derived from June Census data. Maps were also produced showing outcomes per square kilometre at county level, i.e. mean environmental values weighted according to the proportion of each farm type in the county.

Partner surveys

- 4.12 Five partner organisations carried out field surveys of selected farms in each pilot area. These were: the Countryside Agency (CA), English Heritage (EH), English Nature (EN), Environment Agency (EA), and the Royal Society for the Protection of Birds (RSPB). The aims of these surveys were to assess the choice of options and whether any additional management options might be added.

Results

Environmental modelling

Potential (“benchmark”) scores

- 4.13 Among biodiversity indicators, low potential scores were found for arable plants, dormice, water voles, upland birds and waders. High potential scores were found for invertebrate indicators.

- 4.14 Among habitat indicators, low potential scores were found for cereal field margins, moorland, and woodland.
- 4.15 High potential scores were found for historic environment and landscape. Market Deeping and Mortimer tended to have higher potential scores.

Actual scores

- 4.16 To evaluate actual value in relation to potential, actual scores were expressed as a percentage of the benchmark scores. Indicators with low potential scores tended to have high actual percentage scores, particularly in the pilot areas most suited to them (e.g. Market Deeping for arable indicators, Barnard Castle for moorland and upland birds). This suggests that take-up of options favourable to these indicators was greater than expected on average. Other indicators with relatively high percentage scores were bats and landscape in Barnard Castle and Tiverton, and hedgerows and invertebrates in Tiverton.

Map weightings

- 4.17 Among bird species, high ratios were recorded for corn bunting, grey partridge, turtle dove, whitethroat and yellow wagtail in Market Deeping, and curlew in Market Deeping and Mortimer. Low ratios were observed for arable plants.
- 4.18 High added values from map weightings were recorded for woodland in Market Deeping, Tiverton and Mortimer, stone walls in Market Deeping and Mortimer, and cereal field margins in Market Deeping, Tiverton and Barnard Castle.
- 4.19 Low ratios were observed for landscape and historic indicators.

Field scores

- 4.20 With reference to field scores among biodiversity indicators, butterflies, reptiles, water vole and upland + wading birds had high added values in Tiverton, reptiles, dormouse and water vole in Mortimer, and dormouse in Market Deeping. In Tiverton, lapwing, reed bunting, skylark, curlew, redshank, twite and song thrush had relatively high added values, as did linnet, turtle dove, whitethroat and song thrush in Mortimer. However, all three upland bird species (black grouse, ring ouzel, and twite) had low added values in Barnard Castle.
- 4.21 Among habitat indicators, wetlands showed a high ratio in Tiverton, and woodland had high added value in Barnard Castle, Mortimer and Tiverton.
- 4.22 Added values for landscape were high in Market Deeping and Tiverton. However, added values were low for historic indicators in all pilot areas. Added values for landscape were high in Market Deeping and Tiverton, but were low for historic indicators in all pilot areas.

National level scores

- 4.23 At a national level, high relative values were recorded for all invertebrate indicators, amphibians, and bats. Arable plants and upland birds + waders had low values. In the case of arable plants, uptake of suitable options was low, and they were not appropriate in grassland dominated areas. Few options were available for upland birds, and those that were could only be adopted by a small proportion of farmers. Relatively low values were recorded for dormouse, hare and water vole. There were few options

relevant to dormouse (which are in any case generally a woodland species not typical of farmland) and uptake of options suitable for water voles was low.

- 4.24 Among individual bird species, barn owl, kestrel, linnet, tree sparrow, yellowhammer, house sparrow and song thrush had high national scores. Very low scores were recorded for the upland species black grouse, ring ousel and twite, and relatively low scores for the waders curlew, redshank, snipe, and lapwing.
- 4.25 Among habitat indicators, cereal field margins, woodlands and, in particular, moorland showed low scores. Once again, these reflect low uptake (cereal field margins), low availability (moorland) or both (woodland), of suitable options.
- 4.26 The highest overall values were recorded for landscape and historic environment. Outcomes were also good for historic buildings and pollution reduction.
- 4.27 At the end of the evaluation, some additional environmental modelling was carried out to reflect the possible effect of adjusting the allocations of points for certain options. Full details are given in Appendix 10 of the second interim report.
- 4.28 Most pilot area scores changed relatively little, but greater benefits were suggested for some indicators, including arable plants, cereal field margins, lapwing, rook, skylark, curlew, redshank and snipe. Reduced benefits within pilot areas were implied for dormouse, water vole, , linnet, turtle dove, whitethroat and woodland.
- 4.29 At national level, enhanced benefits were found for arable plants, upland and wading birds (including lapwing), rook and skylark among biodiversity indicators, and also grassland, moorland, historic buildings and field monuments. Overall mean benefits for indicator groups were higher than originally, suggesting an overall improvement in environmental benefits. The only indicators showing reduced benefits at national level were dormice and water voles, which probably suffered from reductions in points for hedge and ditch options respectively. However, farmland is a marginal habitat for both these species, which are mainly dependent on woodland (dormice) and waterways (water voles), so the potential for a farm-based scheme to provide major benefits for them is likely to be limited.

Map assessments

- 4.30 This section describes the main conclusions arising from these assessments, in terms of biodiversity and historic value. Landscape and resource protection values were only assessed on field visits.
- 4.31 Overall, 42% of hedges managed as options B1-B3 were connected to other hedges. Small proportions of hedges were connected to woods, watercourses or ditches, but nearly 50% of hedges did not link other habitats. Nearly 45% and 40% of ditches (B4) connected other ditches in Market Deeping and Mortimer respectively; in the other pilot areas the figures were lower. Most stone walls (B5) (>98%) did not link other habitats.
- 4.32 Only 9% of hedges (B1-B3) were next to ditches and 6% were next to woods, with 68% not adjacent to any other habitat. Most woods managed under options B8-B10 were less than 5 ha.
- 4.33 The appropriateness of buffer strip (D1-D9) location varied between pilot areas. For example, few were next to hedges or watercourses in Barnard Castle, but in Market

Deeping, 60% were next to watercourses, and 16% next to archaeological features. In Mortimer, 36% were next to watercourses, 26% next to hedges and 20% next to woods. Less than half of field corners (E1, J2, K2), wild bird seeds mixtures (E2, H2) and pollen and nectar mixtures (E3, H3) were next to watercourses, hedges or woods. For permanent grassland options (J2-J4, K1-K2), around 23-35% of boundaries were hedges, 17-18% watercourses, and 13-18% were woods.

Field surveys

- 4.34 Field visits gave an opportunity to assess the quality of the habitats to be managed under the scheme, or the adjacent habitats.
- 4.35 The number of species in hedges managed under options B1-B3 were recorded in three categories: “few”, “intermediate” or “many” species (the definitions of these categories varied between areas, see second interim report). The majority (71%) had many species, the remainder (27%) being intermediate.
- 4.36 The variation in height of hedges in options B1-B3 was assessed as “uniform” “some variation in height”, or “varied” (see second interim report for more detail). The varied category is considered best for biodiversity. The ideal category for landscape depends on the landscape character area. The majority of farms had hedgerows in the “intermediate” category (44%); 36% were “uniform”, and only 20% were “varied”.
- 4.37 Eighty-six percent of hedges assessed had no ancient boundary trees, 10% had one or two, and only 4% had more than two. Only 4 B1-B3 hedges (1%) were in green lanes.
- 4.38 Types of ditch vegetation varied between pilot areas. Reeds were almost entirely confined to Market Deeping (22%), the remainder being improved (37%) or semi-improved (41%). The majority were classified as unimproved in Mortimer (63%) and Tiverton (79%), but most ditch sides in Barnard Castle were classified as improved (65%).
- 4.39 Most (95%) of in-field trees managed under options B6 and B7 were native species. Seventy-eight percent were classified as “mature”, but 21% were “old” and less than 1% were “young”.
- 4.40 The majority of woodlands entered into options B8-B10 were in the most valuable categories; 50% were mixed or deciduous plantations with a mixed age stand and species-rich ground flora, and 39% were mature semi-natural woodland.
- 4.41 Grassland on archaeological sites (C4, C5) was mostly semi-improved. Fifty-two percent of grassland in option J1 was classified as improved, with 36% semi-improved and only 12% unimproved. Twenty-eight percent of options J3 & K1 was improved, 61% semi-improved, and only 11% unimproved. Forty-five percent of options J4 & K2 was unimproved, compared to 25% semi-improved and 30% improved.
- 4.42 Seventy percent of buffer zones adjacent to hedges were next to hedges with few species; 23% were next to hedges with many species. Only 19 buffer strips were next to woodland, but 17 of these were next to the two most valuable categories.
- 4.43 In Market Deeping, 19 of 33 buffer strips adjacent to watercourses were next to large ditches (>2m wide), but in Mortimer, 14 of 25 buffer strips were next to streams (<2m wide). Tiverton and Barnard Castle had few or no buffer strips next to watercourses.

- 4.44 Overall, 86% of options were assessed as beneficial, 19% as neutral, and less than 2% as detrimental to the landscape.
- 4.45 For option C1, 53 out of 67 buildings assessed were next to other historic buildings. Less than 1% of buffer strips (D1-D9) assessed during field visits were on archaeological sites, but 5% of permanent grassland (J1), 24% of permanent grassland with low inputs (J3, K1) and 12% of permanent grassland with very low inputs (J4, K2) were on archaeological sites.
- 4.46 Of hedges (B1-B3) assessed during the field surveys, 72% had no associated watercourse and for a further 22%, the watercourse was above the hedge; only 6% had a watercourse below, across the direction of slope, for which the presence of the hedge could have reduced pollution and runoff. For buffer strips (D1-D9), 45% were not next to a watercourse, 33% had a watercourse above, and only 22% were in the most beneficial category. For the various permanent grassland options (J1, J3/K1, J4/K2), 45% had no associated watercourse, 33% had a watercourse above, and 22% had a watercourse running across the direction of slope.
- 4.47 Of the eighty farms visited by field surveyors, 45 had accurately mapped the 50 ha area surveyed for accuracy of mapping, and 35 had one or more inaccuracies. Some habitats were omitted, and others were incorrectly marked. Twenty farms were identified as having habitats or features which could have been entered into the scheme but were not.

Partner surveys

- 4.48 Partner organisations supported the scheme and thought it had potential. The main points emerging from the partner reports are summarised below.

Option choice

- 4.49 Partners felt that points were too easily achieved through field boundary or grassland options, resulting in the uptake of an insufficient range of options. A number of missed opportunities were identified in the pilot areas in terms of options not taken up or taken up inappropriately. Partners felt that the scheme could be improved by encouraging uptake of a wider and more balanced range of options.

Option location

- 4.50 A few options were in inappropriate places (e.g. horse paddocks, *Leylandii* hedges), and options to protect archaeological features were not necessarily located on the most valuable sites. More buffer strips should be next to watercourses.

Changes to options

- 4.51 It was suggested that points allocations for boundary options should be reduced in favour of in-field options. Also, it should be compulsory to select at least one mid-field option. A number of specific recommendations were made for changes to individual options, either in terms of the management, wording of the guidance document, or points allocation.
- 4.52 Several recommendations were given for new options, including hedgerow trees, enhanced ditch management, a combined hedge/ditch option, pollution from point sources, maintenance of traditional orchards, management of ponds, creation of wet areas, mixed cropping and mixed stocking in upland areas, and feeding stations for birds.

Removal of options

4.53 A few suggestions were made for removing options, including woodland fence maintenance in the lowlands and maintenance of permanent pasture (option J1). Two metre wide grass strips could perhaps be covered by cross compliance.

Guidance literature

4.54 Information which could usefully be provided on base maps includes hedgerow trees, SMRs and rare arable flora. Guidance could be improved to help locate options in the most appropriate places, information could be provided on landscape character areas, and more help given on soil erosion risk assessment. Better definition of some terms, e.g. “rough grazing”, “in-field” trees, was recommended. C5 supplement points were not always claimed so it was recommended that the guidance for the relevant grassland options should draw attention to the supplement.

Scheme organisation

4.55 Several organisations suggested that there is a need for more advice for farmers, including regional guidance. In general, partners felt that the scheme had potential, but there was room for improvement to reduce the number of missed opportunities, by encouraging a wider range of options to be taken up.

5 OUTCOMES IN RELATION TO SUCCESS CRITERIA

I. Deliver environmental benefits.

Pattern of uptake of environmental management options

- 5.1 The environmental evaluation suggests that a range of benefits has arisen from the pilot scheme. However, option choice was often restricted to too few options, with many farmers choosing the options which involved least change to their management. It is instructive to note that the environmental evaluation indicated greater potential benefits in the Market Deeping area, where farmers found it most difficult to achieve their points targets. In contrast, in the Tiverton area, where no participants found difficulty in reaching their points target, environmental outcomes were less satisfactory and partner surveys also suggested that the scheme had not achieved its potential. To achieve the full potential benefits, it is recommended that a widening of the range of options chosen is needed, e.g. achieved by adjusting the points allocations, or by grouping options and requiring that at least one is chosen from each group.

Pilot delivers additionality across all farm sizes and types

- 5.2 Many participants who were questioned about their past management of features during visits, had not practised the management defined by the ELS before, e.g. indicating that the pilot scheme was delivering additionality. Two thirds of farmers entering hedges and ditches into the ELS had never carried out this type of management for these features and would not have applied the management if they had not entered the scheme. Current ditch management generally involved more frequent clearing and cutting and cultivations closer to the ditch than specified under the ELS. None of the participants with 2 or 4 m buffer strips on intensive grassland would continue with this management if they left the scheme. Farmers undertaking arable options generally would not have done so outside the scheme.
- 5.3 However, some management changed little with entry into the ELS, e.g. management of stone walls, woodland fences and rides, permanent grassland. Overall, more than 50% of farmers would not have carried out the management if they had not entered the scheme for 19 options, and less than 50% for 22 options (exactly 50% would/would not for two options).

Quality of implementation of environmental management

- 5.4 When environmental indicator values were expressed as proportions of maximum potential values, these proportions were often high for indicators with low scheme potential overall. Results from the CSL field survey also indicate generally positive outcomes in terms of quality of implementation, e.g. in terms of hedgerow species richness, ditch vegetation, woodland flora, landscape, historic buildings. Not all indications concerning quality of implementation were positive however. In particular, much permanent grassland entered into options J1, J3, J4, K1 and K2 was classified as improved, and buffer strips were often not used to full advantage.
- 5.5 To improve quality and value for money in a national scheme, it is suggested that the grassland options should be reviewed. Option J1 provides poor value for money and should be removed. Guidance for options J3, J4, K1 and K2 could be changed to encourage application to grassland which has been extensively managed prior to

entering the scheme, except where there are significant benefits for landscape or resource management. There also appears to be a need for further guidance on the location of options D1-9 (buffer strips), particularly in relation to resource protection.

Farmer awareness

- 5.6 Most farmers felt that the descriptions of options in the scheme booklet were clear. However, there were some instances in which farmers did not appear to have sufficient understanding of the reasons for management specified, for example in location of buffer strips (see previous paragraph). Archaeological features on grassland caused some confusion because farmers were not always sure which features could be included (e.g. ridge and furrow) and several were unclear about combining this option with grassland options. Many farmers did not understand the section on identifying high soil erosion risk fields and requested better definitions and guidance. There was a general feeling among partners and stakeholders that participants would benefit from greater access to advice and information about how to implement prescriptions.

II Achieve satisfactory uptake

- 5.7 More than the target 200 farmers entered the scheme, and sample sizes of both participants and non-participants were more than adequate to assess the reasons for non-participation. There were at least 50 agreements in all pilot areas, and considerably more in three of the four areas. The most common reason cited for not entering the scheme was the payment rate, though some found the forms too difficult, the point targets too demanding (especially in Market Deeping), or the agreement period too long.

III Demonstrate acceptability to farmers, partners and the wider community

- 5.8 Most participants (96%) and 63% of non-participants were supportive of the scheme. Most participants said they would renew their agreement. All partner organisations expressed support for the scheme, and five organisations contributed substantially to the evaluation by carrying out and reporting on specialist field surveys.

IV Successful administration

- 5.9 The administration process appeared to run relatively smoothly apart from the mapping element, which caused problems for around 20% of farmers. A number of applicants did not have a suitable range of colours available. A few farmers said the scale of maps was too small, and definitions of some features also caused confusion. Most participants found the application process straightforward.

V The evaluation

- 5.10 The data gathered during the evaluation were considered sufficient to address the relevant issues (see next section).

6 TARGETS AND INDICATORS FOR A NATIONAL SCHEME

Targets

- 6.1 Potential targets for a national scheme were discussed at a meeting of an expert panel. The expert focus groups discussing landscape, historic environment and resource protection issues found it impossible to set meaningful targets. However, some targets were set for birds and mammal indicators. Most of these were qualitative rather than quantitative, though some of the bird targets were specific.
- 6.2 Estimates of the time required for changes to become apparent ranged from five years for resource protection impacts to ten or fifteen years for birds and mammals. The year 2010 was set as a date for target achievement for many birds and also the brown hare, because this date appears in many Biodiversity Action Plans (BAPs).

Indicators

- 6.3 If the scheme is rolled out on a national basis, the intention is that the majority of farmers will participate. Environmental impacts of the scheme would therefore be expected to be reflected in national level effects, e.g. on wildlife populations. However, for some environmental issues, measurement at regional or local level may be more appropriate or convenient.
- 6.4 Some preliminary suggestions for indicators and monitoring are put forward below. Further work is needed to develop these, depending on the level of information required and resources available to fund data collection.
- 6.5 For lowland biodiversity, the Farmland Bird Index provides a suitable indicator. It is already widely used as a government Quality of Life headline indicator, and is updated annually. Mammals are now recorded by surveyors carrying out the Breeding Bird Survey, and it is suggested that the brown hare could provide an additional indicator. It is a BAP species which is widespread, dependent on farmland and has declined in at least the western parts of the country in recent years. It is also relatively easy to observe and survey, and baseline data is available.
- 6.6 For invertebrates, the group which is best recorded is the butterflies. Butterfly Conservation are developing a butterfly monitoring scheme for agri-environment schemes, under Defra contracts BD1427 and BD1446.
- 6.7 For uplands, datasets on birds, mammals and invertebrates are less readily available, and further work would be needed to develop a suitable indicator.
- 6.8 The Countryside Survey, carried out every 8-10 years, provides an inventory of the vegetation across the country, and analyses changes across a range of habitats. Changes in habitats relevant to farmland could be used as an indicator of large scale effects on vegetation. There is already a Government Quality of Life indicator of trends in plant diversity which could possibly be adapted to assess changes brought about by an Entry Level Scheme. However, sample surveys might be needed in between the main surveys to provide interim data.

- 6.9 The Countryside Survey also provides measures of landscape variables, such as hedgerows, field margins, stone walls and ponds, which are already used as a Quality of Life indicator.
- 6.10 For resource protection, measurement of water quality in rural catchments might provide a suitable indicator. Such data are already obtained by the Environment Agency, and could potentially be linked to the area under agreement within different catchments.
- 6.11 A measure of success for archaeological sites could be the number or proportion of SAMs and SMRs on farmland which are protected under the scheme, if this information is available from agreement records.
- 6.12 All these indicators (apart from the last) will only provide measures of national trends. Although it would be expected that these would reflect the impact of the Entry Level Scheme, if the majority of farmland was entered in the scheme, the only way to confirm the effects of the scheme would be to carry out comparative monitoring between farms within and outside the scheme. For this purpose, indicators which are affected at the individual farm scale are most appropriate, such as plants and sedentary birds, mammals and invertebrates for biodiversity.
- 6.13 Landscape evaluations on agreement and non-agreement farms could be linked to local landscape assessments and targets at county, character area, district or parish level, where available. For archaeological features, the proportions protected on agreement and non-agreement farms could be assessed.
- 6.14 An assessment of the value of the location of options relevant to resource protection could be made in a similar manner to the assessments made during the field visits in this evaluation. Water quality could be measured in watercourses running through agreement farms which have undertaken appropriate options. Measurements taken upstream and downstream of fields in which appropriate options had been implemented could be compared.

7 EVALUATION METHODOLOGY

- 7.1 This section records CSL's views of the evaluation process as a result of our experience of using the methodology, and the implications for evaluation of a national scheme.

Socio-economic module

Analysis of uptake data

- 7.2 Few difficulties were experienced with this aspect. Due to the limited time available before submission of the first interim report, the dataset available for analysis was not the final version, and hence did not represent the final agreements for some farms. However, the number of changes made after the analysis was small, and we believe that the impact of using the earlier dataset on the conclusions of the evaluation was insignificant.

Questionnaire survey

- 7.3 Once the survey forms were designed, few problems were experienced with the farmer surveys. For some questions, it was felt that there were too many choices for tick boxes. Replacing five choices by three would have made the analysis easier and results clearer in some cases.
- 7.4 The response to the Regional Stakeholder surveys was poor, and they were difficult to analyse because of the open nature of the questions and wide variation in responses. It is suggested that in a similar situation, a regional survey should be restricted to organisations which are not represented in national level consultations, and questionnaires should be shorter and more focussed to encourage a greater response. Although the use of some open questions is probably unavoidable in this type of survey, more use could probably have been made of pre-specified choices. Where open questions are used, they should be carefully worded to minimise analytical difficulties.

Environmental module

Indicator matrix

- 7.5 Because of the short timescale available for the evaluation, it was not possible to carry out direct assessments of the environmental outcomes of the scheme. A modelling process was therefore employed based on an option/indicator matrix of environmental value scores determined by expert opinion. Although this provides a cost-effective way of integrating existing knowledge concerning the different indicators to predict likely benefits from the scheme, there are some difficulties inherent in this approach:
- i.) The results of the modelling process are completely dependent on the accuracy of the original scores in the matrix. This is a function of the amount of information available on the indicator concerned, and the level of expertise of the panel members in relation to that indicator.
 - ii.) Mathematical calculations based on the scoring system employed incorporated implicit assumptions as to the relative value of options which may not have been justified, and indeed the experts assigning the scores may not have been aware of them at the time. For example, use of a 0-3 scoring system implies that an

option scoring 2 has twice the value of an option scoring 1, and an option scoring 3 has three times the value.

- iii.) Because no justifications are given for matrix scores, it is not possible to check their accuracy.
- iv.) For some indicators, options may only produce beneficial outcomes under certain circumstances. One example is the implementation of options intended to assist with resource protection, where the benefits are location-specific. This could only be assessed in the field, but it was not logistically possible to carry out field surveys of all holdings with agreements in the pilot evaluation.
- v.) In the case of biodiversity, benefits will accrue only where options enhance the limiting resource for the species concerned. For example, a bird species which is limited by winter food supply is unlikely to respond to the management of its hedgerow nesting habitat in the absence of enhanced food availability in winter.

7.6 To address these issues in any future use of this type of approach, the following suggestions are made:

- i.) Fewer indicators should be used. These should be carefully selected on the following criteria: (a) a good understanding exists of the limiting factors relevant to the indicator, underpinned where appropriate by sound research; (b) experts are available with specific knowledge of the indicator, including the research background; (c) in the case of biodiversity indicators, they are if possible representative of a group or guild of conservation interest.
- ii.) A revised scoring system is proposed under which scores for different options would be more meaningfully related. For each indicator, options would be scored on a 1-10 scale. A score of 10 would represent maximum value for the indicator concerned, lower scores would reflect the proportion of the maximum value adjudged to be appropriate.
- iii.) Ideally, the expert setting the scores should provide notes explaining the reasoning for the choice of score. Where an expert panel assigns scores, the reasons as well as the scores should be agreed and recorded. This would allow the scores to be revisited at a later date and, if necessary, amended in the light of new information.
- iv.) There is an argument that indicators which are location specific should not be included in a general model but only scored where a site visit is possible. Alternatively, where visits are logistically impractical and previous data are available on the proportion of implementation sites fulfilling the relevant criteria, the scores could be weighted accordingly. This however has the disadvantage that it does not allow for changes in farmer behaviour, e.g. in response to advisory literature, so site visits are preferable.
- v.) Where combinations of options are known to be beneficial (e.g. combinations of nesting cover, summer and winter feeding habitat), “bonus points” could be awarded for approved combinations of options to reflect the added value accrued. It is suggested that these are not added to the basic score, but recorded separately to preserve transparency in the scoring process.

7.7 The changes recommended above would provide a system in which there could be greater confidence that the modelled outcomes bore a real and quantitative relationship with the likely benefits of the scheme. It could also help with setting targets, a process the expert panel found difficult in the pilot area evaluation.

Scoring for location and quality

7.8 Some options, such as those providing resource protection, only have value in certain locations. For many options, they will provide some value in most circumstances, but the value may vary according to the location. This was assessed in two ways during the pilot area evaluation. Firstly, certain options were given location scores from the application maps, for 50 agreements in each pilot area. Secondly, a subset of 20 farms in each pilot area was visited and location scores assigned on the ground. Farm visits also allowed some assessments of the quality of a habitat or feature to be managed.

7.9 The process of scoring the maps was beset by a number of difficulties:

i.) The attributes relating to location which could be determined from the maps were fairly limited, and mostly related to spatial relationships between options, e.g. whether they were next to or connected to each other. Only a limited set of options could be scored from the maps.

ii.) In order to delimit linear features, a rather complex set of rules had to be developed and tested for deciding what constituted the start and end of an individual hedge, ditch or wall. This took some time to develop and resulted in numerous queries from staff scoring the maps until they had got used to the system.

iii.) Applicants were only required to record features on their own holdings. It was not therefore possible to take into account features on adjacent holdings, yet for small or narrow farms, these could have a significant effect.

iv.) It took longer than anticipated to scan the maps, and some maps were incomplete when received, necessitating requests for amended copies.

7.10 With hindsight, it is felt that the time and effort involved in scoring the application maps was probably not justified by the results produced, and would probably have been better spent on increasing the number of field visits, where a much greater amount of information could be obtained.

7.11 Scores for location derived from maps and field visits were converted to weightings which were then used as multipliers for the values obtained from the indicator matrix. Two problems were found with this approach. Firstly, the weightings were applied to all indicators, yet in practice, the location might be more important for, or have a different effect on, one indicator than another. Secondly, the results were difficult to interpret because of the lack of transparency in the final scores.

7.12 To overcome the first difficulty, if a smaller set of well-chosen indicators were used (as suggested in paragraph 7.6 i.), it would be possible to apply different location or quality scores for an option to different indicators. This was impractical in the pilot area evaluation because of the number of indicator-option combinations involved.

7.13 It is felt that the use of weightings was not wholly successful and separate reporting of location and quality scores or categories would aid interpretation by the evaluator and

comprehension by the reader. In the current exercise, both were done and the second was considered to be more valuable.

Benchmarking scores

- 7.14 It is relatively straightforward to obtain a value for an indicator resulting from a scheme based on an environmental scoring system, but it is difficult to ascribe a meaning to the value without some sort of benchmark against which it can be judged as “good” or “bad”. Originally, scores were only applied according to a binary variate (0,1) representing option uptake (yes, no), and the benchmark used related to the potential available options for that farm. This method is relatively simple to understand, but was criticised because (a) it was felt unreasonable to expect an applicant to adopt all the options available to him (the ability to exercise choice being a key attribute of the scheme); (b) the method does not take any account of the amount of each option implemented.
- 7.15 A revised method was developed to take account of these reservations, but this involved some complex simulation modelling to derive benchmark comparisons, making the outcomes more difficult to understand for the general reader. However, it is felt that the advantages conferred by the revised system outweighed the disadvantages arising from the greater complexity involved.
- 7.16 One difficulty encountered in devising the revised method was that options are not all measured in the same units. Some are measured by area, some by length. Furthermore, even for options with the same unit, it would not necessarily be valid to assume that equal areas or lengths of different options had equivalent values.
- 7.17 The solution eventually settled upon was to use points allocations as units of options adopted, to provide a common currency. Different options have different points allocations per hectare, 100 metres etc., calculated to reflect profit foregone. As a rule of thumb however, it seems reasonable to relate the profit foregone to the environmental value per unit area or length of option. For example, a hectare of land entirely devoted to environmental benefit (e.g. a buffer strip, wild bird cover) provides more resources, habitat value, protection for neighbouring habitats etc. than a hectare of land retained within the farming system but managed slightly differently (e.g. retained stubbles, grassland with lower inputs). These latter are “broad acre” options, more likely to be implemented as fields than as strips or small blocks. Where there is further expenditure to provide specific resources (as in sowing a wild bird cover or pollen/nectar strip), the environmental value is further enhanced. The use of points as units was therefore considered to give the best available measure of environmental value in the context of the evaluation process.

Scoring for landscape

- 7.18 In order to interpret the results of the landscape assessments, it is important to understand the way the assessments were done. CSL surveyors assessed the landscape value of each option *as implemented at a particular location*. In contrast, the Countryside Agency considered whether the best options or mix of options in terms of potential landscape enhancement had been adopted. As a result, the conclusions were apparently conflicting, but this was entirely due to the fact that two different aspects were being assessed.

Partner surveys

7.19 The reports arising from partner assessment visits were most valuable in adding to the overall evaluation. Some effort was put into attempting to develop a common scoring system and reporting template for partners, but with hindsight it is felt that the benefits resulting did not repay the effort. One partner did not wish to use scores, another used a different system, and in the end, the scores applied by the partners did not appear to greatly influence the conclusions reached. The reports mainly comprised a series of comments on various aspects of the scheme arising from the field visits, with the scores appended. In a similar future exercise, it is doubtful whether it would be worth specifying a scoring system, a simple report outline and maximum length would probably suffice and allow partners to use the methodology best suited to their area of expertise.

Conclusion

7.20 In general, it is felt that the evaluation methodology worked well. The main area of innovation was the environmental modelling. This produced useful results, but in the light of experience it is felt that certain improvements could be made to further enhance the value of the technique. It is recommended that changes along the lines proposed (paragraphs 7.5-7.7) be adopted, should a similar approach be used in future evaluations.

7.21 It is recommended that an evaluation of the national scheme should not rely entirely on modelling based on expert scores. If this approach is used, it should be backed up by field monitoring to calibrate the method and test the modelled outcomes. A combined approach could offer the most cost-effective strategy.

8 RECOMMENDATIONS

Balance of options

- 8.1 A consistently recurring message from the evaluation is that applicants could achieve their points requirements too easily by selecting options which involved little change in management. Two approaches are available to counter this. Point allocations could be adjusted, and/or farmers could be required to select one or more options from certain groups. The main reason for not undertaking an unpopular option was that the applicant already had enough points. This suggests that farmers might be prepared to tackle a wider range of options if it were necessary to gain the required number of points.

Changes to options

- 8.2 Some options involved little change in existing management and so offered questionable value for money. It is suggested that, if these options are retained, a limit be placed on the proportion of the points requirement which they can fulfil.
- 8.3 There is a case for removing option J1 from the scheme. In areas dominated by grassland the replacement of some improved grassland by arable would be more beneficial than paying for grassland retention, provided it was not in a location vulnerable to diffuse pollution or on an archaeological feature, and the sward was not species rich. There is a mounting body of evidence that declines in biodiversity (e.g. granivorous birds, brown hare) in the grass dominated west of the country are at least partly due to the loss of arable and forage crops from these areas. However, it is important to ensure that floristically valuable grassland is not ploughed. As a rough guide, fields which have been reseeded within the last twenty years or regularly received more than 200 kg/ha of nitrogen fertiliser are unlikely to have much botanical value
- 8.4 The value of options for permanent grassland with low or very low inputs will be greatest where inputs have been low in the past. It is suggested that guidance for these options should encourage their application only to unimproved fields which already receive low levels of inputs, except where there are significant benefits for landscape or resource management.
- 8.5 Consideration should be given to lowering the number of points, and restricting the proportion of points which can be achieved, through stone wall maintenance, or the amount of wall supported by the scheme per hectare.
- 8.6 There is some doubt as to whether maintenance of woodland fences is always good value for money. It is proposed that this option should only apply to fields which are regularly grazed, next to woods which are within the control of the agreement holder .

New options

- 8.7 Upland birds and waders fared poorly in the environmental evaluation. Consideration of a heather management option, wet grassland options, upland mixed cropping and stocking and whole farm stocking options could help these species. Other possible new options include management of ponds, traditional orchards, ancient boundary trees, a combined hedge and ditch option, and an option specifying that buffer strips should be linked to watercourses.

Changes to scheme literature

- 8.8 Suggested changes to scheme literature include clarification of guidance on soil assessment of soil erosion risk, supplements for grassland on archaeological features, and management plans. More guidance on choosing location of options to optimise benefits would be helpful. This is particularly relevant for buffer strips, but also applies to other options. In addition, a number of possible improvements to the mapping process have been put forward.
- 8.9 It is suggested that standard pens should be supplied. This could help to avoid confusion between colours which can occur when farmers choose their own pens. For the same reason, recommended colours need to be chosen carefully, for example, severely disadvantaged areas can be confused with SAMs and SMRs.
- 8.10 It would be useful to be able to distinguish between traditional farm buildings and archaeological features. Hatching is not appropriate for linear features, and hatching in different directions is confusing as a method of distinguishing between habitats. We found it impossible to reliably distinguish orchards from woods on application maps.

Advice and guidance

- 8.11 Farmers were generally happy with the advice they received. Pilot Area Co-ordinators were the main source of advice, and it would be useful to retain the equivalent of Pilot Area co-ordinators in a national scheme. There were many partner and stakeholder comments on the need for more information and advice. Adopting some good practitioners as demonstration farms, possibly with some low-level support for the costs of running open days, could be a cost-effective method of providing information. In addition, supporting literature could be provided in the form of leaflets targeted towards specific regions, farm types or environmental issues.

Conclusion

- 8.12 The results of this evaluation show that the Pilot Entry Level scheme fulfilled the success criteria within the remit of the exercise. Modelling of environmental outcomes of the scheme has indicated that substantial benefits are possible, particularly if appropriate adjustments can be made to encourage uptake of a wider range of options, and this has been supported by field surveys carried out by CSL and partner organisations. A number of recommendations for change in a future scheme have been put forward. The pilot scheme has shown that a national entry-level scheme is logistically possible and has majority support within the farming and stakeholder communities. The challenge in any national scheme will be to encourage uptake of a wider range of options and improve guidance for the scheme to increase the environmental benefits at an affordable cost.

ACKNOWLEDGEMENTS

The authors of this report would like to offer their thanks to the staff of the Central Science Laboratory who helped with the evaluation: Julie Bishop, Pete Haynes, Harriet Dennison, Debbie Carruthers, Vicky Jackson, Alistair Murray, Gillian Parish, Linda Smith, Aimee Dawson, Edward Jones and Amy Martindale. We would also like to thank Sarah Escott, Sarah Wilson, Geoff Radley, John Osmond, Claire Lewis, Naomi Matthiesson and David Cawley of Defra for their help and support throughout the project. We are grateful to Robert Hibell and his staff at the Rural Payments Agency for providing uptake data, agreement maps and copies of agreement forms, and to Liz Lucas of the Defra Geographical Information Unit for GIS information. Many thanks also to the Pilot Area Co-ordinators Cara Courage, Ruth Garner, Mike Izzard and David Jackson for their help with the farmer surveys.

The partner organisation surveys made a valuable contribution to the evaluation process. Thanks to Kate Fearn of English Heritage, Lucy Haskins of the RSPB, Kaley Hart of the Countryside Agency, Helen Taylor of the Environment Agency and Chris Reid of English Nature for co-ordinating the reports, and to the surveyors within these organisations for collecting the information on which they were based.

A considerable number of people from a wide range of organisations gave willingly of their time and expertise to attend the expert panel meeting in June 2003. We are very grateful for their help. Thanks particularly to Richard Bradbury (RSPB), Chris Stoate (Game Conservancy Trust), Heather Robertson (English Nature), Steve Trow and Vince Holyoak (English Heritage), Rebecca Barrett, David Glaves, Gill Travis and Roger Unwin (RDS), and David Hole, who provided further feedback after the meeting. We are particularly grateful to Gill Travis who gave up a day of her time to provide training in landscape assessment for our field surveyors.

Many other people have provided assistance in various ways with the evaluation. We are grateful to them all.

APPENDIX 1: EVALUATION SURVEYS (TABLE PREPARED BY DEFRA, SUMMER 2003)

Who	Action	When	How many people involved?	Module	Organised by	Reporting timetable
CSL	<p>Questionnaire of participants & non-participants.</p> <p>Can be completed by farmer & returned by post (in SAE). If no response CSL will follow up with a phone call.</p>	<p><i>Participants:</i> questionnaires sent out asap after agreement letters.</p> <p><i>Non-participants:</i> questionnaires sent out in first week of July.</p> <p>Follow-up telephone calls of both later in July and may extend into August.</p>	<p><i>Participants:</i> about 270 split across the four pilot areas. Hoping for at least 50 responses from each.</p> <p><i>Non participants:</i> about 50 who had no contact with Defra and, where possible, about 20 who requested base maps (only 5 in Mortimer). per pilot area.</p> <p>Hoping for at least 25 responses from each pilot area.</p>	<p>Socio-economic</p> <p>Purpose: The survey will cover such issues as attitude to the overall objectives of the scheme, attitudes to individual management options, attitudes to the application process and reasons for participation or non-participation.</p>	<p>Letter sent out by CSL but comes from PACs (separate letters for participants & non-participants)</p>	<p>Findings included in CSL's October report</p>
CSL	<p>Farm visit - field survey of options chosen and their locations.</p> <p>They will also be asked extra questions (field survey and extra questions not necessarily at the same time).</p>	<p>July – August</p>	<p>20 randomly selected agreements per pilot area (all will receive the above participant questionnaire).</p>	<p>Environmental</p> <p>Purpose: to assess the potential environmental benefits of ELS options, using quality & location criteria.</p> <p>Socio-economic: additional socio-economic survey</p>	<p>Mentioned in participant letter from PACs.</p> <p>CSL will call farmers to arrange visit dates.</p>	<p>Findings included in CSL's October report</p>

Who	Action	When	How many people involved?	Module	Organised by	Reporting timetable
Partners ¹	Farm visit (will not involve an interview with farmers)	July/ August, with reporting in early September.	5 per pilot area per partner. (From pool of all participants, not just those who responded to the questionnaire). Partners to specify their sampling requirements to CSL and they will draw the sample. CSL will provide copies of agreement maps & contact details.	Environmental Purpose: Partners assess delivery of environmental benefits in their particular area of expertise - partners come up with their own criteria to do this.	Mentioned in participants letter from PACs. Partners will call farmers to arrange specific visit dates.	Reports to CSL by 19 September. Each partner will summarise their findings and score the site between -1 and 4. The partner lead contact will be responsible for interpreting their data, not CSL. Findings included in CSL's October report
FWAG	Farm visit	July	15 farmers (5 small, 5 medium, 5 large farms) in each pilot area. (From pool of all participants, not just those who responded to the questionnaire). RPA provided the sample to FWAG in June.	Separate Strand Purpose: To assess the additional value of an advisory visit in the ELS application process	Letter sent from FWAG, but comes from PACs FWAG advisers will contact the farmer to arrange a visit.	FWAG will draft a report to CMD by 15 August.

¹ Countryside Agency, English Nature, RSPB, Environment Agency, English Heritage/ALGAO

Who	Action	When	How many people involved?	Module	Organised by	Reporting timetable
CSL	Postal questionnaire to local partners, including representatives of agronomists & land agents.	July	To 10 partner organisations per pilot area (total of 40). Hoping for 30 responses.	Socio-economic Purpose: survey to assess local partner attitudes to the ELS scheme	Letter comes from PACs, but sent out by CSL.	Findings will be included in CSL's October report.
CMD	CMD will write to national partners, a copy of the CSL local partner questionnaire will be included for them to complete if they wish.	July	To working group members and other organisations such as NT, FC etc.	Socio-economic Purpose: survey to assess national partner attitudes to the ELS scheme	Letter comes from CMD (to be drafted by CMD shortly).	
CSL	Questionnaire for PACs	August /September, after completion of PAC report (15 August)	PACs	Socio-economic Purpose: survey to assess PAC views of ELS scheme & application process (picking up anything not covered by the PAC report).	D Garthwaite, CSL	Findings will be included in CSL's October report.
CSL	Questionnaire for RPA	August /September, after completion of RPA report (15 August)	RPA	Socio-economic Purpose: survey to assess RPA views of ELS scheme application process (picking up anything not covered by the RPA report).	D Garthwaite, CSL	Findings will be included in CSL's October report.

APPENDIX 2: MAPS OF PILOT AREAS

**APPENDIX 3: DISTRIBUTION MAPS SHOWING PREDICTED
ENVIRONMENTAL VALUE PER KM² BY COUNTY**