ENGLISH NATURE

The effectiveness of the floodplain ESA schemes in the maintenance and enhancement of biodiversity

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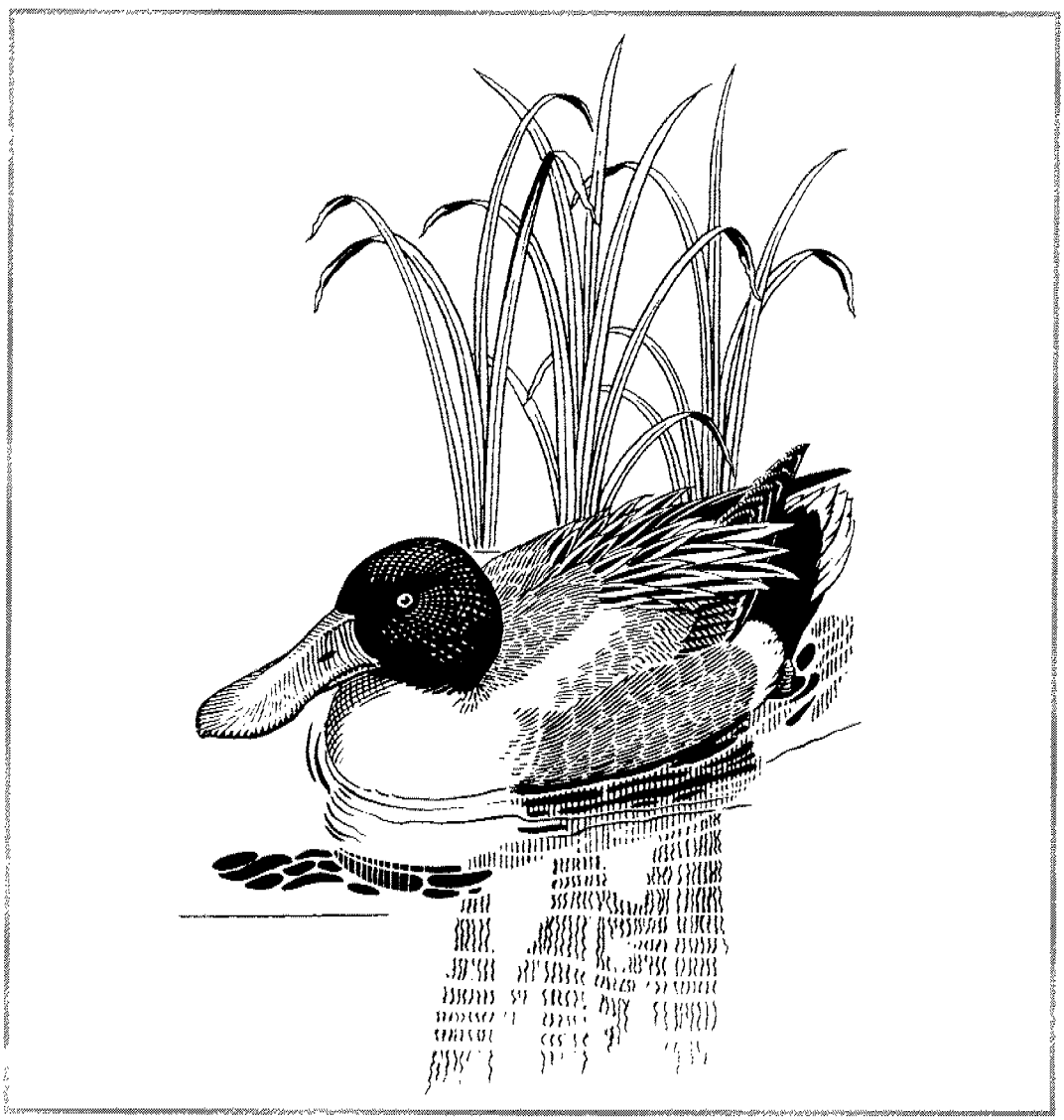

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English Nature Research Reports

Number 364

The Effectiveness of the Floodplain ESA Schemes in the Maintenance and Enhancement of Biodiversity

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Contents

Executive Summary

English Nature commissioned Risk & Policy Analysts Ltd (RPA) to carry out a study of the effectiveness of six river floodplain Environmentally Sensitive Areas (ESAs) in stemming losses to wildlife and contributing to Biodiversity Action Plan targets and wildlife objectives. The study involved a literature review, followed by structured interviews with English Nature (EN) and Farming and Rural Conservation Agency (FRCA) staff in the 6 floodplain ESAs..

The ESA scheme was started in 1987 to encourage farmers to help safeguard areas of the countryside where the landscape, wildlife or historic interest is of national importance. Floodplains contain several important habitat types, including grazing marshes, fens and reedbeds. Floodplains have been subject to drainage and increasing arable cultivation, a trend driven by subsidies available to farmers through the Common Agricultural Policy, which has resulted in significant loss of these habitats and declines in the species which they support. In 1994, the UK Biodiversity Action Plan (BAP) was published, and subsequently, specific Costed Habitat Action Plan targets have been produced to address these declines. EN looks to ESAs to contribute significantly to many of the action plan targets.

The strengths of the ESA scheme lie in it being relatively simple to administer. In each ESA, there are several tiers of management prescriptions, each of which aim to create or conserve a particular habitat. If the majority of landowners within the ESA boundaries enter into agreements, the potential for enhancing larger continuous habitats is high. However, the benefits are only realised where a significant area at higher tiers is created in an appropriate geographical location. Most of the land under agreement is in Tier 1, which is essentially keeping existing grassland as it is. This tier has most impact in preserving landscape because each agreement prevents further arable cultivation. However, in terms of nature conservation, the value of this land can be relatively low. The biodiversity value of land only starts to increase in Tiers 2 and 3, as a result of extensive grazing and higher water levels. Uptake of agreements in these tiers is however relatively small. There has been a strong emphasis within ESAs in securing as many agreements as possible, with the perceived priority being quantity rather than quality. In response to EN concerns, FRCA are now considering a period of consolidation and a drive to secure agreements for higher tiers.

Farmers make predominantly economic decisions on land use and whether or not to enter the ESA Scheme. In many cases, higher tiers are adopted by landowners whose prime interest is nature conservation, such as RSPB and Wildlife Trusts. There is therefore much unrealised potential within floodplain ESAs for enhancing biodiversity. Attempts have been made to address this problem by FRCA, by implementing site specific management prescriptions for a smaller number of agreement holders in order to gain optimum habitat quality on important sites. These are drafted with a particular biodiversity target in mind, and are prepared in consultation with both the farmer and a conservation body such as RSPB. These have the potential to achieve high habitat quality in some areas, and reflects the approach of site specific agreements under the Countryside Stewardship Scheme. Countryside Stewardship has the advantage over the ESA in this respect, being more flexible and better targeted. It is also a resource intensive approach which may be difficult to achieve throughout large ESAs such as the Broads, where there are over a thousand agreement holders. Nevertheless targeted prescriptions with biodiversity targets, appear to be the most effective approach.

Most biodiversity within a floodplain is found on the wetland sites, and thus higher tiers depend

on achieving higher water levels. Effective implementation of Water Level Management Plans (WLMPs) is required to ensure that there is sufficient water available. Whilst there is liaison with the Environment Agency and, where relevant, Internal Drainage Boards, WLMPs need to developed further to take biodiversity priorities and targets into account. However, those priorities firstly need to be clearly identified for each floodplain so that they can feed into each scheme. There is a clear need for a more integrated approach.

This study concludes that the potential of floodplain ESAs in contributing to meeting BAP targets is not being fulfilled. There are a number of reasons for this. Firstly, there does not appear to be effective translation of national Habitat and Species Action Plans into local plans. Secondly, the biodiversity priorities for the floodplain are not clearly reflected in either the ESA objectives, or the WLMPs on which higher tiers depend for raised water levels. Thirdly, little specific BAP monitoring is carried out within the ESA, so it is not possible to measure the performance of ESAs in meeting BAP targets. Previous emphasis has been given to breeding waders and surveys show that no substantial increases in populations have been gained in ESAs. The highest ESA tiers have been shown to be beneficial to waders but tier 1 has shown no benefits at all in this respect. More scientific research is required to determine the management prescriptions needed to achieve increased wader numbers.

Based on the findings of this study, a number of recommendations have been made. Biodiversity priorities need to be identified more clearly for each floodplain ESA. It is necessary to develop a vision for each floodplain which sets out what is required from the countryside in terms of creation and conservation of important habitats wildlife, and landscape and also allowing the rural economy to thrive. The vision must reflect clearly the overall contribution of the area in meeting national BAP targets. A more strategic approach will identify areas within each ESA where resource input would result in higher biodiversity gains. There is a need to agree which habitats have priority in particular areas, and thus allow the appropriate management decisions to be made.

Natural Area Profiles offer the most suitable starting point for this, and the use of GIS to assist planning and management is recommended, based on the positive experience of its use in two floodplain ESAs. This strategic approach will allow a more integrated approach to be taken, incorporating the biodiversity objectives and targets into ESA and Countryside Stewardship Schemes, flood defence and WLMPs. The emphasis of ESA objectives and targets need to be changed to make them more biodiversity related. Whilst it is acknowledged that the ESA aims to deliver both landscape and biodiversity, the assumption that if the landscape is enhanced, biodiversity will follow, cannot be supported. Management prescriptions will need to be altered to reflect the biodiversity objectives, and it will be necessary to adopt a more flexible approach on a site by site basis to meet particular targets. Such changes to prescriptions will need to be based on conservation priority setting within each ESA, and an assessment of whether uptake by landowners would be affected.

Once an overall vision has been prepared, it is then possible to design and implement appropriate monitoring regimes to measure progress towards BAP targets. Monitoring may involve assessment of the condition of SSSIs and the choice of appropriate indicator species should also be considered. Finally, it is clear that the achievement of BAP targets, through the implementation of the recommendations made in this study will require more EN and FRCA officer time and resources.

Abbreviations

BAP	Biodiversity Action Plan
CAP	Common Agricultural Policy
CHaMP	Coastal Habitat Management Plan
CLA	Country Landowners Association
EA	Environment Agency
EN	English Nature
ESA	Environmentally Sensitive Area
FRCA	Farming and Rural Conservation Agency
FWAG	Farming and Wildlife Advisory Group
GIS	Geographical Information System
HAP	Habitat Action Plan
IDB	Internal Drainage Board
LEAP	Local Environment Agency Plan
MAFF	Ministry of Agriculture, Fisheries and Food
NFU	National Farmers Union
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SAP	Species Action Plan
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WES	Wildlife Enhancement Scheme
WLMP	Water Level Management Plan

1. Introduction

1.1 Background to the Study

English Nature (EN) wishes to review the effectiveness of the Environmentally Sensitive Areas (ESAs) established in six river floodplains in stemming losses to wildlife, and in meeting Biodiversity Action Plan (BAP) targets and wildlife objectives. River floodplains represent an important zone for biodiversity, comprising a range of important habitats, including grazing marshes, reedbeds, fens and meadows, each of which support characteristic communities of species.

Over the last 50 years there has been a significant decline in habitats and associated wildlife species in many areas of the UK, including within river floodplains. For example, the creeping marshwort *Apium repens* occurred in permanent pasture subject to winter flooding in five English counties and is now restricted to only one site in Oxfordshire. In this case, and also for many other declining species, the cause is principally because of agricultural intensification and urban development, facilitated by changes in river corridor management such as flow control, flood defence and drainage.

When the significance of the decline in wildlife and habitats and a corresponding decline in landscape quality became apparent in the early 1980s, it was believed that traditional farming practices should be supported in these areas as they played a key role in maintaining distinctive landscape features and wildlife habitats. The need to preserve archaeological and historical features was also identified.

This led to the establishment of ESAs which aim to maintain and enhance the landscape, wildlife and historic value of designated areas. The scheme was introduced by the Ministry of Agriculture, Fisheries and Food (MAFF) under the Agriculture Act 1986 and allows farmers and agricultural land managers to be paid for the implementation of agricultural management practices which address various conservation needs. In England, 22 ESAs have been designated, and specific management objectives and associated management prescriptions identified for each. Farmers and landowners participate in the scheme on a voluntary basis, and payments are made per hectare, depending on the tier and associated management prescriptions adopted. This scheme incurs substantial costs, but is considered an effective way of achieving the objectives of protecting and enhancing the habitats and wildlife in the designated areas.

Floodplain ESAs also rely on effective water level management. To some extent, this is the responsibility of farmers or landowners who have entered into ESA agreements, but authorities such as local drainage boards and the Environment Agency also play an important role. Guidance on the production of Water Level Management Plans (WLMPs) was published by MAFF in 1994. These Plans provide a means by which the water level requirements for agriculture, flood defence and conservation can be balanced and integrated. Water level requirements of selected plants and animals was published by English Nature in 1997 to assist those preparing WLMPs. This was an important contribution to enabling ESAs and WLMPs together to address species' specific water needs in river floodplains.

In 1994, the Government published the UK Biodiversity Action Plan (BAP), in accordance with Article 6a of the Convention on Biological Diversity, which required each contracting party to

develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. Species Action Plans have been published with the objective of reversing significant population declines, including plans for many species which exist in floodplains. Action Plans have also been published for floodplain habitats, such as reedbeds, fens and coastal and floodplain grazing marsh. The costed action plan objectives for grazing marshes include the rehabilitation of 5,000ha within existing ESAs and an additional 5,000ha outside these areas which have become too dry, and the creation of an additional 2,500ha, all by 2000. This was considered achievable provided it is carefully targeted at core areas.

Despite the BAP and the floodplain ESAs, there is considerable concern about the future of wetlands and breeding wader populations. A Silver Meadows Conference was convened in March 1999 to discuss the urgent action needed to save these internationally important habitats.

The success of the BAP requires the effective collaboration between the statutory, voluntary, agriculture and other sectors. The statutory conservation agencies are charged with taking forward most of the actions in the BAP, but no new legislation has been brought into force specifically to enforce its implementation. Hence, the ESA scheme currently provides the key instrument for achieving biodiversity targets in the 22 designated areas in England. English Nature is fully supportive of ESAs in this respect, and one of the main objectives of this study is to evaluate how effective the floodplain ESAs have been at maintaining and enhancing biodiversity.

1.2 Scope of the Study

The key objectives of the study are as follows:

- to evaluate how effective the floodplain ESAs have been in stemming the losses of wildlife since their creation;
- to evaluate how effective the objectives of the present ESAs and their prescriptions are in the delivery of BAP targets and wildlife objectives; and
- to consider ways in which the objectives of present ESAs and their prescriptions could be modified so as to make them more effective in the delivery of BAP targets and objectives.

1.3 Format for the Report

This study was carried out in two stages. Firstly, a literature review was undertaken to obtain essential background information on the ESAs and local BAPs. This information formed the basis for a series of structured interviews with EN and FRCA staff in each floodplain ESA. The format of this Report reflects this approach. Section 2 outlines the information gathered in the literature review, describing the essential background about floodplain ESAs and the UK Biodiversity Action Plan. Sections 3 to 7 describe the interviews carried out in each ESA. The main issues identified in the interviews are summarised in Section 8 and the study's conclusions and recommendations for action are set out in Section 9.

2. Literature Review

2.1 Introduction

In undertaking the literature review, a number of sources of information were identified and followed up. The information sources used are listed in Box 2.1.

Box 2.1: Information Sources

Floodplain ESAs:

1. MAFF ESA Guidelines for Farmers
2. ESA maps with areas under different agreements (provided by FRCA)
3. Payment rates and total costs for ESAs (provided by FRCA)
4. Management prescriptions and recent changes to prescriptions (provided by FRCA)
5. Interviews with EN/FRCA officers

Species and Habitat Action Plans and Species Requirements:

INTERVIEWS WITH EN OFFICERS
BIODIVERSITY: THE UK STEERING GROUP REPORT
LOCAL BIODIVERSITY ACTION PLANS
NATURAL AREA PROFILES
DETAILED INDIVIDUAL SPECIES ACTION PLANS E.G.: RSPB
RSPB FARMING AND WILDLIFE HANDBOOK

Species and Habitat Trends:

1. Interviews with EN/FRCA officers
2. ESA Monitoring reports
3. RSPB/BTO birds data
4. Other sources of information e.g. Wildlife Trusts

A complete list of documents used is provided in Section 10. The following sections outline the main issues relating to the floodplain ESAs and BAPs.

2.2 Environmentally Sensitive Areas

The ESA scheme was introduced in 1987 by MAFF to encourage farmers to help safeguard areas of the countryside where the landscape, wildlife or historic interest is of national importance. Areas have been designated under Statutory Instruments which also set out the terms and conditions of the management agreements for each designated area. Areas of national importance were designated in four stages, in 1987, 1988 and 1994. The designation of the floodplain ESAs is summarised in Table 2.1. The boundaries of each ESA have been drawn to include areas of wildlife, landscape and historic importance; where possible these follow clear physical features such as roads, hedge lines, etc.

Table 2.1: Floodplain ESA Designations

ESA	Stage	Year Designated
The Broads	I	1987
Somerset Levels	I	1987
Avon Valley	II	1988
Test Valley	II	1988
Suffolk River Valleys	III	1988
Upper Thames Tributaries	IV	1994

The ESA scheme is entirely voluntary, although its framework is set out in Section 18 of the Agriculture Act 1986. Landowners may enter into a management agreement with FRCA which will last for 10 years, with a 5 year break clause. Under this agreement the landowner will receive an annual payment for each hectare of land entered into the scheme, and where appropriate, a capital payment for conservation plan works.

The overall objective of the floodplain ESAs is to preserve and enhance landscape, wildlife and historical features. This is reflected in the objectives of the various tiers of management prescriptions. These objectives are summarised in Table 2.2.

Table 2.2: Summary of Aims and Objectives of each Floodplain ESA

Objectives	Avon Valley	Suffolk River	Upper Thames	Test Valley	Broads	Somerset Levels
To maintain and/or enhance the wildlife, and/or nature conservation, and/or landscape, and/or historic interest of the ESA	✔	✔	✔	✔	✔	✔
To enhance the ecological interest of grassland		✔			✔	✔
To protect and enhance the wildlife value of wet grassland, particularly its suitability for over-wintering and breeding birds	✔		✔			
To further enhance the ecological interest of wet grassland by creating marshland or wet winter and spring conditions		✔			✔	✔
To revert arable land to permanent grassland	✔	✔	✔	✔	✔	
To revert arable land to wet grassland for increased benefit to wildlife			✔			
To introduce a grassland margin on the edges of arable fields where they adjoin an open channel, e.g. a ditch or watercourse					✔	

2.3 Tiers and Management Prescriptions

Within each ESA there are a number of tiers of entry. Each tier requires different agricultural practices which landowners will be expected to follow. Each floodplain ESA has a different combination of tiers, which have been established after consultation with conservation and other local bodies, taking into account local circumstances. The agricultural practices for each tier are set out as management prescriptions. Full details of the tiers and associated management prescriptions for each floodplain ESA are in Annex 1 of this report. Whilst the agreements with each landowner last ten years, the management prescriptions are reviewed every five years. Prescriptions are modified in the light of experience, and taking into account new concerns about landscape or wildlife. Annex 2 provides details of the changes that have been made to management prescriptions in each ESA.

For example, the basic tier requires simply that improved grassland is retained at its present status. This may be regarded as a 'consolidation tier', which prevents the land being cultivated and converted to arable agriculture. Due to the fact that agreements are for ten years this tier has an important role in protecting landscape. As a basic tier, it also acts as a relatively easy entry in to ESAs for new agreement holders. However, the biodiversity benefits resulting from this tier are limited, but it could be argued that if widespread intensive arable agriculture had been allowed to continue in the absence of an ESA, wildlife would have continued to decline at a rapid rate. Higher tiers require more extensive grazing, reduced fertilizer inputs, and set minimum water level prescriptions, thus managing the land in a way that is more likely to support a range of BAP species. It is known that the wet grasslands will deliver more in terms of biodiversity. Tiers also exist to convert arable land into grassland, and to sustain fen habitats. The management of fen plays an extremely important role in enhancing biodiversity within ESAs, and contributes directly to habitat action plans prepared within the overall UK Biodiversity Action Plan (1994).

Different areas within a landowner's boundaries of ownership may be entered into different tiers, but only one tier and payment level may apply to a particular area at any time. Table 2.3 sets out the range of tiers and additional supplements which have been established in each of the floodplain ESAs being compared in this study. Payment rates for each tier are reviewed biennially. If ESAs are to contribute more fully to meeting BAP targets, it is necessary to succeed in gaining more agreements under the higher tiers. Typically, because the higher tiers require more stringent management for greater environmental benefits, payments per hectare need to be higher. Table 2.4 compares payment rates for each tier in each ESA, and it shows that payment levels are generally greater for higher tiers in order to attract entry, and to reflect the greater input of management required by the landowner. As it will be shown in Section 4, the uptake of these higher tiers is relatively low compared to the basic tier, despite these higher payments.

Table 2.3: Tiers and Supplements in Floodplain ESAs

Tier	Avon Valley & Test Valley	Broads	Somerset Levels and Moors	Suffolk River Valleys	Upper Thames Tributaries
Improved Permanent Grassland	1A Low Fertilizer & Breeding Wader	1	1 Buffer Strip, All-Year Penning & Raised Water Level Area	1 Buffer Strip & Hedge Restoration	1A Unfertilised Headland & Hedge Restoration
Extensive Permanent Grassland	1B Breeding Wader	2 Water Level	1A Buffer Strip & All-Year Penning	2 Water Level & Hedge Restoration	1B Stock Exclusion, Hay Making & Hedge Restoration
Wet Permanent Grassland/ Marshland	1C	3 Water Level	2 Buffer Strip, All-Year Penning & Raised Water Level Area	2A Water Level & Hedge Restoration	2 Hedge Restoration
Permanent Grassland Raised Water Level Areas			3		
Arable Reversion to Permanent Grassland	2A	4A		3 Buffer Strip & Hedge Restoration	3A Stock Exclusion, Hay Making & Hedge Restoration
Reversion of Arable Land to Wet Grassland					3B
Buffer Strips/ Arable Grassland Margins	2B	4B			3C
Woodland Tier	✓			✓	
Public Access Tier	✓	✓	✓	✓	✓
Fen Tier		✓		✓	

Table 2.4: Tiers and Payment Rates in Floodplain ESAs (£ per ha)

Tier	Avon Valley & Test Valley	Broads	Somerset Levels and Moors	Suffolk River Valleys	Upper Thames Tributaries
Improved Permanent Grassland	25	135	130	75	30
Extensive Permanent Grassland	110	225	200	190	105
Wet Permanent Grassland/ Marshland	295	310	230	50 (Supplement) (240-Total)	270
Permanent Grassland Raised Water Level Areas			430		
Arable Reversion to Permanent Grassland	265	260		270	290
Reversion of Arable Land to Wet Grassland					435
Buffer Strips/Arable Grassland Margins	400	500			400
Woodland Tier	17			17	
Public Access Tier	170	170	170	170	170
Fen Tier		130		130	

Table 2.4 shows some interesting trends. Firstly, payment rates are set according to local circumstances, reflecting income foregone, extra costs and an incentive element for the higher tiers. Payments are agreed, taking into account the recommendations of bodies who were consulted during the review process. Payments rates for the basic improved grassland are very much higher in the Somerset Levels and Moors and the Broads ESAs compared to other ESAs. This may reflect the national importance of these two floodplains; they were also the first to be designated (see Table 2.1). Payments start to become more comparable in the wet grassland tiers. This means that the payment differential is smaller in the Somerset Levels and Moors and the Broads compared to the other floodplain ESAs. Payment rates are crucial in influencing uptake by landowners. Details of land under agreement, payment rates and total expenditure for each tier in each ESA for 1996-1998 are set out in Annex 3 of this report.

Table 2.5 shows the total land within each floodplain ESA which is under agreement. This table shows that there is a difference between each ESA in terms of uptake of agreements. The factors influencing uptake are likely to be complex. One factor may be historical, for example, the fate of the silver meadows in Somerset has had a relatively high political and media profile. The way that the land has been farmed, comprising of small fields, has also encouraged uptake, together with the relatively high payment levels. The importance of this landscape and wildlife is perhaps reflected by the high degree of regular co-operation between EN and FRCA. Uptake is also relatively high in the Broads. This may be because it is a National Park, or that the Tier 1 payment level is relatively high. Landowners within the ESA may be more conservation aware because of the efforts of the Broads Conservation Officers.

Table 2.5: Total Areas of Floodplain ESAs and Areas Under Agreement (1998)

Tier	Avon Valley	Broads	Somerset Levels and Moors	Suffolk River Valleys	Test Valley	Upper Thames Tributaries
Total Area of ESA	5,200	36,820	27,717	43,780	4,800	27,700
Area Under Agreement	1,707	17,964	17,086	10,063	1,841	5,746
Percentage of Total Area under Agreement	32.8%	48.8%	61.6%	23.0%	38.4%	20.7%

At the other extreme, the Upper Thames Tributaries ESA may not have as much uptake because it was the last floodplain ESA to be designated, so there has been less time for the FRCA to secure as many agreements. In the interviews with FRCA officers, it was reported that it is a slow process to gain agreements, but once landowners start to gain more knowledge and confidence with a new scheme, the rate of uptake starts to increase.

Table 2.6 compares the areas under different tiers of agreement in each ESA. It can be observed that there is considerable uptake of the improved permanent grassland tier (mean of 53.9% land under agreement) but relatively little uptake of the wet grassland tier (mean of 6% of land under agreement). Again, the highest percentage uptake of the wet grassland tiers was the Somerset Levels and Moors (total of 22.2%). These figures indicate that whilst the ESAs are consolidating the amount of land used for pasture, they are not securing significant areas of land of conservation or biodiversity value. Indeed, it was commented during the interviews that many landowners who have entered into wet grassland tiers are those who are managing the land for conservation and would have implemented the wet grassland regime anyway. This may not be simply a matter of payment rates being insufficient to attract landowners into the higher tiers, although this is likely to be a factor. Uptake may be restricted by the topography of the land and the availability of water, and linked to the ability of WLMPs to raise water levels high enough for landowners to enter this tier and meet prescribed water levels. This issue was discussed in the interviews and is covered in more detail in the following sections.

Supplements are also available for work within each ESA tier. These have been introduced in each ESA on an ad-hoc basis at the five yearly review stages, taking into account the experiences gained. The objectives of these supplements are to encourage landowners to protect and enhance particular features which are essential to the character or wildlife habitats in each ESA. These extra supplements are only available if the land has been entered into the appropriate tier. They have the potential to increase the biodiversity value of land which has not been entered into the higher tiers. Table 2.7 sets out the supplements available in each ESA and the payment rates.

Table 2.6: Areas Under Agreement by ESA Tier (ha) and Percentage of Total Agreement Area (1998)

Tier	Avon Valley	Broads	Somerset Levels and Moors	Suffolk River Valleys	Test Valley	Upper Thames Tributaries
Total Area Under Agreement	1,707	17,964	17,086	10,063	1,841	5,746
Improved Permanent Grassland	841 *(49.3%)*	9,042 *(50.3%)*	12,754 *(74.6%)*	7,405 *(73.6%)*	534 *(29.0%)*	2,684 *(46.7%)*
Extensive Permanent Grassland	711 *(41.7%)*	7,344 *(40.9%)*	531 *(3.1%)*	1,536 *(15.3%)*	1,087 *(59.0%)*	1,892 *(32.9%)*
Wet Permanent Grassland/Marshland	77 *(4.5%)*	631 *(3.5%)*	2,785 *(16.3%)*	440 *(4.4%)*	0 *(0.0%)*	417 *(7.3%)*
Permanent Grassland Raised Water Level Areas			1,015 *(5.9%)*			
Arable Reversion to Permanent Grassland	52 *(3.0%)*	445 *(2.5%)*		593 *(5.9%)*	192 *(10.4%)*	646 *(11.2%)*
Reversion of Arable Land to Wet Grassland						105 *(1.8%)*
Buffer Strips/Arable Grassland Margins	11 *(0.6%)*	27 *(0.2%)*			11 *(0.6%)*	0 *(0.0%)*
Woodland Tier	15 *(0.9%)*			30 *(0.3%)*	17 *(0.9%)*	
Public Access Tier	0 *(0.0%)*	10 *(0.1%)*	1 *(0.0%)*	5 *(0.0%)*	0 *(0.0%)*	2 *(0.0%)*
Fen Tier		465 *(2.6%)*		54 *(0.5%)*		

Table 2.7: Supplements and Payment Rates in Floodplain ESAs (£ per ha)

Supplement	Avon Valley & Test Valley	Broads	Somerset Levels and Moors	Suffolk River Valleys	Upper Thames Tributaries
Low Fertilizer	45				
Breeding Wader	35				
Water Level		50	80	50	
All-Year Penning on Peat Soils			18		
Buffer Strip			190	55	
Hedge Restoration (£ per metre)				4	7
Hay Making					55
Stock Exclusion					50
Headland					20

Whilst the main focus of the agreements for each of the ESAs is on grassland, landowners who have entered into ESA agreements may also be eligible for additional payments for conservation plans to enhance the quality of other habitat types. The conservation plan eligible items for each ESA are listed in Table 2.8. Conservation plans are generally agreed with EN as well as FRCA before being implemented. EN will also pay for additional works under the Wildlife Enhancement Scheme, especially in SSSIs. Landowners are not eligible for additional payments under the Countryside Stewardship Scheme for the areas which are under an ESA agreement.

Having considered the objectives of the different tiers, the payment rates and the uptake by landowners, some consideration needs to be given to the total cost of ESA payments in each floodplain. Table 2.9 compares the total costs for each tier (not including supplements and conservation plans) for 1997 and 1998 (based on figures provided by FRCA - see Annex3). The table shows that a considerable amount of money is spent on each floodplain ESA. An increase in uptake (and any resulting increase in expenditure) would need to be based on a demonstration that an increase in uptake of particular tiers would result in biodiversity returns. This, in turn, would need to be linked to existing BAP targets, and an assessment of the importance of the ESA in delivering these targets compared to other schemes. Payment and budgeting requires a level of monitoring to assess effectiveness to justify continued operation of any scheme. To date, MAFF has monitored the effectiveness of ESAs through specific studies carried out by ADAS, which are described in Section 2.5.

Table 2.8: Conservation Plan Eligible Items by ESA

	Avon Valley	Suffolk River	Upper Thames	Test Valley	Broads	Somerset Levels
Planting, gapping, laying or coppicing of hedgerows	✔	✔	✔	✔	✔	✔
Tree planting					✔	✔
Reintroduction of pollarding management			✔			✔
Construction of bunds or sluices or other works to control water levels	✔	✔	✔		✔	✔
Construction of culverts						✔
Restoration of stone walls			✔			
Restoration of traditional farm buildings			✔	✔		
Restoration of ditches and dykes	✔	✔	✔		✔	✔
Restoration/creation of ponds	✔	✔	✔	✔	✔	✔
Creation or improvement of herb rich meadows		✔			✔	✔
Restoration/creation of reedbeds, sedgebeds and fen habitats		✔	✔	✔	✔	✔
Restoration of marsh hay and litter marshes					✔	✔
Control of scrub, reedbeds or small groups of trees	✔	✔		✔	✔	✔
Control of bracken		✔				
Provision of fencing to protect the wildlife interest in and around ditches	✔			✔		
Provision of water supplies and fencing associated with the reintroduction of grazing		✔	✔	✔		
Removal of fencing						✔
Works to protect historic and archaeological features	✔	✔	✔	✔	✔	✔
Provision and restoration of facilities for public access	✔	✔	✔	✔		✔
Creation of scrapes					✔	✔
The provision of wooden gates and associated wing fencing					✔	✔
Provision of liggers					✔	✔
Conversion of arable to grassland						✔
Re-creation of shelter belts						✔

Table 2.9: Area Under Agreement (ha) and Payments Due for Floodplain ESA Tiers

ESA	Year	Improved Permanent Grassland	Extensive Permanent Grassland	Wet Permanent Grassland / Marshland	Permanent Grassland - Raised Water Levels	Arable Reversion to Permanent Grassland	Buffer Strips/ Margins	Total
Avon Valley	1997	882 *£114,660*		141 *£25,353*		61 *£16,165*		**1,084** ***£156,178***
	1998	841 *£87,595*	711 *£78,210*	77 *£15,000*		52 *£13,780*	11 *£4,400*	**1,692** ***£198,985***
Broads	1997	9,058 *£1,313,410*	7,075 *£1,591,875*	574 *£172,200*		362 *£94,120*	14 *£4,620*	**17,083** ***£3,176,225***
	1998	9,042 *£1,220,670*	7,344 *£1,652,400*	631 *£195,610*		445 *£115,700*	27 *£13,500*	**17,489** ***£3,197,880***
Somerset Levels and Moors	1997	12,106 *£1,573,780*	171 *£33,345*	979 *£406,285*				**13,256** ***£2,013,410***
	1998	12,754 *£1,658,020*	531 *£106,200*	2,785 *£640,550*	1,015 £436,450			**17,085** ***£2,841,220***
Suffolk River Valleys	1997	7,328 *£1,001,960*	1,838 *£356,220*			590 *£159,300*		**9,756** ***£1,517,480***
	1998	7,405 *£1,010,210*	1,536 *£300,940*	440 *£22,000*		593 *£160,110*		**9,974** ***£1,493,260***
Test Valley	1997	356 *£7,127*	850 *£110,527*			153 *£40,640*		**1,359** ***£158,294***
	1998	534 *£11,735*	1,087 *£131,130*	0 *£0*		192 *£50,880*	11 *£4,400*	**1,824** ***£198,145***
Upper Thames Tribs	1997	2,462 *£73,860*	1,651 *£173,355*	415 *£64,325*		467 *£135,395*	0 *£0*	**4,995** ***£446,935***
	1998	2,684 *£80,520*	1,892 *£198,660*	417 *£64,635*		646 *£187,340*	0 *£0*	**5,639** ***£531,155***
Total	**1997**	**32,192** ***£4,084,797***	**11,585** ***£2,265,322***	**2,109** ***£668,163***		**1,633** ***£445,620***	**14** ***£4,620***	**47,533** ***£7,468,552***
	1998	**33,260** ***£4,068,750***	**13,101** ***£2,467,540***	**4,350** ***£937,795***	**1,015** ***£436,450***	**1,928** ***£527,810***	**49** ***£22,300***	**53,703** ***£8,460,645***