

The Anglian Region Habitat Creation Programme:

**its role in
the Suffolk SMP2
and compliance with
the
Habitats Regulations**

1. INTRODUCTION

- 1.1 The second generation Shoreline Management Plan (SMP2) has been prepared in a partnership between Suffolk Coastal District Council, Waveney District Council and the Environment Agency. It identifies high level policy for coastal flood and erosion risk management over the next 100 years.
- 1.2 There are a number of sites of international nature conservation importance along the Suffolk Coast. A Habitats Regulations Assessment has therefore been completed. The assessment concluded that there may be adverse effects on the Benacre to Easton Bavents SPA, and the Minsmere-Walberswick SPA and Ramsar site. A Statement of Case has therefore been developed. It identifies:
- the reasons why there are no feasible alternatives;
 - the imperative reasons of overriding public interest; and
 - the compensation measures that will be taken.
- 1.3 The Statement of Case confirms that the compensation habitat requirements arising from the SMP2 will be delivered by the Environment Agency's Anglian Region Habitat Creation Programme (ARHCP).
- 1.4 The structure of this report is as follows:
- Section 2 is a review of habitat losses predicted in the SMP2 and the compensation requirements arising
 - Section 3 describes the role of the ARHCP in delivering new habitats, and section 4 provides background on how the ARHCP works
 - Section 5 identifies the sites where the ARHCP has created new freshwater habitats to date.
 - Section 6 explains how the ARHCP has undertaken the search for sites to provide compensation habitats for the SMP2, and which sites are currently being developed.
 - Section 7 considers the risk to the ARHCP achieving the requirements of the SMP2 in the required timescale.
 - Section 8 presents the conclusions of the report.

2. HABITAT LOSSES ARISING FROM THE SUFFOLK SMP2

Benacre to Easton Bavents SPA

- 2.1 The Benacre to Easton Bavents SPA comprises a series of coastal lagoons. The key habitats are freshwater reedbeds, saline lagoons and coastal shingle banks.
- 2.2 The assessment concluded that the preferred policies within the SMP2 will lead to a loss of reedbed in the SPA at Benacre, Covehithe and Easton Broads. The loss of reedbed would have an adverse affect on over wintering and breeding bittern, and breeding marsh harriers through the loss of the reedbed habitat and habitat deterioration due to increasingly saline conditions. Compensatory habitat will therefore need to provide equivalent habitat for bittern and marsh harrier.
- 2.3 The area and timing of the habitat compensation requirement for Easton Broad will be determined when the Easton Broad scheme is completed. At present it is envisaged that 50ha of reedbed are likely to be lost/degraded by the end of Epoch 2, and the remaining 130ha of reedbed would be lost by the end of Epoch 3. Approximately 21ha of reedbed at Covehithe Broad and 87ha at Benacre Broad will be lost by the end of Epoch 3. This is summarised in Table 1.

Table 1: Predicted losses of habitats within the Benacre to Easton Bavents SPA affecting qualifying bird species

Location	Habitat type	Area of habitats likely to be lost during Epoch 1 (first 20 years) in hectares	Area of habitats likely to be lost during Epoch 2 (50 years time) in hectares	Area of habitats lost by the end of Epoch 3 (100 years time) in hectares
Easton Broad	Reedbed	Short term measures to prevent deterioration before compensatory habitat is in place. 50 ha will be lost after this time.		130
Covehithe Broad	Reedbed	Gradual roll back and loss of reedbed over epochs 21ha		
Benacre Broad	Reedbed	Gradual roll back and loss of reedbed over epochs 87ha		
Totals	Reedbed	50		238

Minsmere-Walberswick SPA and Ramsar site

- 2.4 The Minsmere-Walberswick SPA and Ramsar sites contain a complex mix of habitats, notably areas of grazing marsh with dykes, extensive reedbeds, mudflats, lagoons, shingle, woodland and areas of lowland heath.
- 2.5 The Assessment concluded that the preferred policies within the SMP2 would have an adverse effect on the following:
SPA interest features:
 - Breeding and wintering Bittern
 - Breeding Marsh Harrier

- Avocet

Ramsar Features:

- Breeding Bearded Tit, Marsh Harrier, Bittern, Gadwall, Avocet, and Shoveler (breeding bird assemblage features)
- The mosaic of transitional habitats

2.6 The SMP concludes that these bird species would be affected by the loss of large areas of reedbed habitat (and some grazing marsh) due to inundation by the sea by the end of the 100 year period. The exact timing of losses is uncertain, but likely losses within Epoch 1 (i.e. the first 20 years) have been assessed through development of Environment Agency strategies. The total predicted losses of habitat across all three epochs are shown for each of the main areas of habitat in Table 2.

Table 2: Predicted losses of habitats within the Minsmere-Walberswick SPA and Ramsar site affecting qualifying bird species

Location	Habitat type	Area of habitats likely to be lost during Epoch 1 (first 20 years) in hectares	Area of habitats likely to be lost during Epoch 2 (50 years time) in hectares	Additional area of habitats lost by the end of Epoch 3 (100 years time) in hectares
Blyth Estuary (Hen reedbed)	Reedbed	40	0	0
	Grazing marsh	23	0	0
Blyth Estuary (Tinkers Marsh)	Grazing marsh	Short term measures to avoid deterioration	40	
East Hill and Point Marsh	Reedbed	Short term measures to prevent deterioration before compensatory habitat is in place. 33 ha will be lost after this time.		0
Westwood Marsh	Reedbed	0	0	153
Minsmere North Marsh	Reedbed	Short term measures to prevent deterioration before compensatory habitat is in place. 28 ha will be lost after this time.		0
Minsmere levels (remaining area)	Reedbed	0	0	178
	Grazing marsh	0	0	40
Totals	Reedbed	101	0	331
	Grazing marsh	23	40	40

- 2.7 Assuming a compensation ratio of 1:1, the total habitat compensation requirements arising from the two Natura 2000/Ramsar sites combined are as set out in Table 3. Where losses are shown as potentially taking place over Epochs 1 and 2 a worst case assumption of total loss in Epoch 1 has been assumed.

Table 3: Total compensation habitat requirement arising from the Suffolk SMP2 (in hectares)

Habitat type	Epoch 1 (first 20 years)	Additional requirement by end of Epoch 3 (100 years time)
Reedbed	151	569
Grazing marsh	23	80

- 2.8 The ARHCP liaises closely with the individual projects affecting these areas of habitat, and is working to deliver the habitats within the appropriate time scale.

3. BACKGROUND TO THE ANGLIAN REGION HABITAT CREATION PROGRAMME (ARHCP)

- 3.1 Prior to the development of the SMP2 and coastal and estuary strategies, it was already apparent that new habitats would be needed to replace habitats that might be lost on the Suffolk Coast. The need to create new freshwater habitats to account for predicted losses was first identified in the Suffolk Coastal Habitat Management Plan (CHaMP), which was published in 2002. It estimated that, over the 100 years from 2002, there was a likely loss of 455ha of reedbed and 662 ha of wet grassland. This requirement to create habitats on a large scale in anticipation of losses was the main reason why the ARHCP was set up.
- 3.2 The role of the ARHCP is to coordinate habitat creation projects that are required through flood risk management activities in the Region. In line with Government Policy habitat creation is needed:
- To ensure compliance with the Habitats Regulations¹ by creating compensation habitats as required under Regulation 66, and to replace habitats that are being lost due to deterioration;
 - To provide a contribution to achieving favourable condition of Sites of Special Scientific Interest (SSSIs);
 - To contribute to Biodiversity Action Plan (BAP) targets; and
 - To allow flood and coastal risk management schemes to be adopted.
- 3.3 The ARHCP monitors habitat creation needs arising from its plans and projects, and coordinates searches for suitable land for habitat creation. Depending on the circumstances, land is either purchased or an agreement is drawn up with the land-owner to ensure habitats are created. The ARHCP then commissions a design and obtains planning permission for the habitat creation work. It normally partners with a nature conservation non-governmental organisation (NGO) to deliver and manage the required habitats.
- 3.4 Many of the flood defences we manage are in Natura 2000 sites, especially on the coast and in estuaries. A number of these sites are dependent upon flood risk management measures of flood defence or drainage in order to maintain the existing nature conservation interest. Due to on-going coastal processes they are coming under increasing pressure and becoming difficult to sustain in their present configuration.
- 3.5 In making decisions about the future of flood defences in Natura 2000 sites, the implications of sea level rise and ongoing coastal erosion also need to be considered. The main issue for the freshwater European features is withdrawal of maintenance or managed realignment from historically managed flood defences or drainage structures. This can result in increased tidal flooding and salinisation of designated features or habitats supporting features. Similarly the loss of drainage or water control structures can result in the loss of effective water level management to the detriment of designated features. These decisions will result in the loss of habitats and species that are protected by the Habitats Regulations, and as such they are likely to have an adverse effect on European site integrity.

¹ The Conservation of Habitats and Species Regulations (SI 2010/490). These regulations implement the requirements of the EC Habitats Directive (92/43/EEC) in the UK.

- 3.6 The Habitats Regulations state that activities such as flood management works should not be undertaken if they would adversely affect Natura 2000 sites. However in cases where there is an overriding public interest for such works, and there are no alternative solutions, then they may proceed on condition that compensatory measures are provided, usually in the form of replacement habitat. Therefore, we need to create new habitats in order to ensure that flood management works can continue in areas that are constrained by the Habitats Regulations.
- 3.7 Where deterioration occurs that is not the result of a plan or project under Regulation 61 of the Habitat Regulations, Article 6(2) of the Habitats Directive, and Article 4(4) of the Birds Directive, requires the Environment Agency, to take steps to avoid the deterioration of European sites. In cases where there are no measures that can be taken on site to protect features *in situ* this obligation is taken to include creating new freshwater replacement habitat.
- 3.8 In both of the above cases, new freshwater habitat of suitable quality will need to be provided. An important role of the ARHCP is to ensure that these habitats are created.
- 3.9 Wherever possible, compensation habitats should be in place in advance of losses. The likely timing of habitat losses is assessed in the Environment Agency strategies. However, there is an element of uncertainty because the timing of damaging storms and their effects on defences are unpredictable.

4. HOW THE ARHCP WORKS

- 4.1 The ARHCP is managed and run by the National Capital Programme Management Service (ncpms) on behalf of the Regional Flood and Coastal Risk Manager.
- 4.2 To ensure high level buy in, it also has a Steering Group, the members of which are Natural England, the RSPB, the County Wildlife Trusts, National Trust and the Wildfowl and Wetlands Trust.
- 4.3 The ARHCP maintains a database to record and update information on all the relevant strategies and projects within the FRM long-term plan and revenue works. The database is updated annually to ensure all needs are captured. This allows reprioritisation to take account of changes in strategies or particular events (e.g. the impact of storms).
- 4.4 A major element of the ARHCP project is identifying potential areas for creating new habitats. To help with this task, a GIS search tool has been developed to help identify suitable land. Suitable areas are visited by area staff that make contact with landowners and undertake initial site assessments.
- 4.5 To help in finding suitable areas, partnerships have been developed with landowners and conservation NGOs who are actively involved in developing habitat creation projects.
- 4.6 The ARHCP has an approved land acquisition strategy, which confirms the approach to purchasing land or otherwise acquiring the rights to habitat creation. Amongst other things, this seeks to ensure the most cost effective approach is taken to meeting requirements.
- 4.7 Land purchase is often necessary to meet compensation and replacement requirements in compliance with the Habitats Regulations, but the project works closely with Natural England and their Countryside Stewardship programme to fulfil BAP commitments.
- 4.8 The ARHCP budget forms part of the Agency's capital programme. Funds are bid for against the national Flood and Coastal Risk Management projects. Creation of some BAP habitat is funded through the Flood Defence Grant In Aid Revenue budget.
- 4.9 The current level of funding for the ARHCP generally allows for one new area to be secured each year, and for habitat development work to continue on all the sites within the programme. This is considered to be sufficient to develop the habitats required for this SMP.

5. ARHCP PROGRESS TO DATE

- 5.1 The ARHCP is already delivering new habitats for compensation. To meet obligations under the Habitats Regulations, it has funded land purchase and habitat creation at a number of sites for reedbed and wet grassland creation during the last five years (Table 4).
- 5.2 At each of these sites the Environment Agency either owns the land or has an Anglian Water Authority Act section 30 Agreement in place with the landowner to guarantee the perpetuity of habitats created.

Table 4: Sites where the ARHCP is already developing new freshwater wetland habitats to provide compensation for plans and strategies

Site	Area of habitat being created (ha)	Partner	Habitat to be created	Progress
Frampton, Lincs	94	RSPB	Coastal grazing marsh	Habitat creation completed on arable land
Welney, west Norfolk	38	WWT	Wet grassland	Habitat creation completed on arable land
Hilgay, west Norfolk	65	Norfolk Wildlife Trust	Reedbed, grazing marsh	Arable land purchased, planning approved and work started
Snape, Suffolk	89	RSPB	Reedbed and coastal grazing marsh	89 ha purchased. Physical work completed on half the site, and expected to start on remaining area in April 2011.

6. THE SEARCH FOR SITES TO REPLACE SUFFOLK WETLAND HABITATS

- 6.1 A storm surge in November 2006 caused significant damage to a number of Natura 2000 reedbed sites along the Suffolk coast. A further storm surge in November 2007 also caused damage. These events increased the urgency of the need to find sites to create replacement wetland habitats. In response to the 2006 event, the ARHCP drew up plans for an urgent, systematic search for suitable replacement sites to meet obligations arising from the Habitats Regulations on this section of the coast.
- 6.2 The starting point for the search was the joint Environment Agency/Natural England Technical Advisory Group (TAG) paper on location of compensation habitats. Whilst there is a strong presumption within the guidance to provide replacement habitat close to where it is to be lost, it is recognised that where a search confirms a lack of sites nearby, the search area can be widened.
- 6.3 In the first instance, the GIS tool was used to identify all areas that were likely to be suitable for creating reedbed within 50km of the Suffolk coast. This process identified about 30 possible areas. Consultation was then undertaken with people with knowledge of the local area to consider these sites and eliminate any that were known to be unsuitable. This involved consultation with the RSPB, Suffolk Wildlife Trust, Natural England and internal Environment Agency staff. The first stage was to rule out all areas in the coastal floodplain (including the estuaries), which are considered unsustainable in view of sea level rise. A total of 18 sites were identified as potentially suitable. ARHCP staff then undertook site visits and discussed habitat creation with landowners to help decide whether habitat creation was realistic. Many of the sites were in the ownership of people who were not interested in selling or reaching agreement with the Environment Agency to allow habitat creation. Some sites were eliminated for other reasons.
- 6.4 Through this process, two sites suitable for reedbed creation were identified in the coastal fringe of Suffolk where landowners were willing to work with the Environment Agency. At the site near Snape, the process of creating reedbed and grazing marsh has started. There is an additional 50ha site suitable for reedbed creation where negotiations with the landowner are continuing.
- 6.5 The conclusion of the review of opportunities in Suffolk was that the RHCP was likely to be able to create about 140 ha of new wetland habitats in Suffolk over the next few years. However, the total requirement is for 151 ha of new reedbed and 23 ha of grazing marsh in Epoch 1 (table 3). It was concluded that it is unlikely to be possible to create all the Epoch 1 compensation habitats in Suffolk.
- 6.6 In view of this conclusion, it was agreed with Natural England that the search should widen to include the nearer parts of Fenland and the Norfolk and Suffolk Broads. Some possible options have been eliminated, but the development of 65 ha of reedbed, open water and grazing marsh is being pursued at Hickling in the Norfolk Broads. This project has internal Environment Agency approval, and is currently at the detailed design stage. The project is due to start in summer 2011, subject to obtaining approvals and consents. Habitat created here will be allocated against predicted losses in Suffolk.
- 6.7 The ARHCP is continually considering new sites for development, and has sufficient budget allocation (see section 3.9) to achieve the requirements arising from this SMP2.

- 6.8 Table 5 summarises the progress being made to create compensation habitats to support the Suffolk SMP2.

Table 5: Sites being developed by the ARHCP to provide compensation for predicted losses within the Suffolk SMP2 area.

Location	Habitat type	Area to be created (ha)	Comments
1.Snape	Reedbed with some grazing marsh	89	Site works completed for phase 1
2.Additional Suffolk site	Reedbed	50	Negotiations with landowner continuing
3. Hickling	Reedbed with some open water and grazing marsh	65	Site works due to start summer 2011
4. Hilgay (Gills Farm)	Reedbed	20	Probably starting in 2012
Totals	Underway	89	
	Start 2011	65	
	Other possible projects	70	

- 6.9 Sites 1 has been purchased and habitat creation work is in progress. At site 3 work is due to start in 2011. At site 4 the purchase price has been agreed and is expected to be completed by April 2011, with work starting either in 2011 or 2012. Together, these sites will create 174 ha of new reedbed habitat with small areas of grazing land and open water. Section 6 below provides a risk assessment of the ability of the ARHCP to provide these and other compensation habitats required by the Suffolk SMP2.

7. RISK ASSESSMENT

- 7.1 This section considers the risks that the ARHCP may not be able to provide the appropriate compensation habitats, required by the Suffolk SMP2, within the timescale required to maintain the overall integrity of the Natura 2000 network..
- 7.2 Shoreline Management Plans identify anticipated losses of Natura 2000 and Ramsar site habitats. Losses are predicted over a 100 year period, based on three epochs. Epoch 1 is the first twenty years, Epoch 2 covers years 20-50, and Epoch 3 covers the period between 50 years and 100 years. The accuracy of predicted habitat losses decreases with time, so that the predictions are most accurate for Epoch 1. There are a number of reasons why this is the case, but most important is the uncertainty with regard to climate change and the future rate of sea level rise.
- 7.3 In view of the uncertainties about future climate change and processes affecting shoreline evolution, and also because Government policy changes over time, SMPs are reviewed approximately every 10 years. Hence it is envisaged that there will be two reviews of the Suffolk SMP prior to the end of Epoch 1.
- 7.4 Habitat compensation requirements will be reviewed to take account of the changes to the SMP in future. The longer term habitat requirements (i.e. beyond Epoch 1) are sufficiently uncertain at this stage that assessment of risks in achieving them has necessarily to be at a high level. However, a more detailed assessment of risks is possible for Epoch 1.

Epoch 1

- 7.5 Risks to achieving the target compensation habitats identified in section 6 within Epoch 1 are considered in Table 6. Sites in green are assessed as having a low risk of not being completed, sites in yellow have moderate risk, and sites in red are considered to be at high risk of not being completed within 20 years. No sites have been identified as being at high risk of not being completed.

Table 6: Risk assessment for existing sites within the ARHCP in Epoch 1

Site	Risks identified	Discussion and conclusions	Risk of not completing the site
1. Snape (89 ha)	a. failure to complete on-site works b. failure to develop appropriate habitats	Work on site is 50% complete. The remaining works are subject to planning application, but no significant issues are envisaged for obtaining planning consent. Habitat creation work follows best practice, and the site development will be monitored to ensure any necessary modifications are incorporated to create reedbed habitats suitable for breeding Bitterns and Marsh Harriers	Low

Site	Risks identified	Discussion and conclusions	Risk of not completing the site
2. Additional Suffolk site (50 ha)	<p>a. failure to agree purchase</p> <p>b. failure to complete on-site works</p> <p>c. failure to develop appropriate habitats</p>	<p>The landowner is willing, in principle, to sell, the land, but protracted discussions have not yet been concluded. There is considered to be a moderate risk that the site will not be obtained. The budget for works on site has not yet been allocated pending conclusion of the purchase agreement</p> <p>Subject to land purchase, Natural England has agreed the suitability of the site, and no significant issues are envisaged for obtaining planning consent</p> <p>Habitat creation work follows best practice, and the site development will be monitored to ensure any necessary modifications are incorporated to create reedbed habitats suitable for breeding Bitterns and Marsh Harriers</p>	Moderate
3. Hickling (65 ha)	<p>a. failure to agree purchase</p> <p>b. failure to complete on-site works</p> <p>c. failure to develop appropriate habitats</p>	<p>Discussions with the landowner are nearing conclusion. The ARHCP has set aside budget to complete this purchase within 2010-11.</p> <p>Subject to land purchase, Natural England has agreed the suitability of the site, and no significant issues are envisaged for obtaining planning consent. Proposals for habitat creation works on the site are well developed, and Environment Agency internal approval has been granted.</p> <p>Habitat creation work follows best practice, and the site development will be monitored to ensure any necessary modifications are incorporated to create reedbed habitats suitable for breeding Bitterns and Marsh Harriers</p>	Low

Site	Risks identified	Discussion and conclusions	Risk of not completing the site
4. Hilgay (Gills Farm extension, 20 ha)	<p>a. failure to agree purchase</p> <p>b. failure to complete on-site works</p> <p>c. failure to develop appropriate habitats</p>	<p>The landowner has agreed a price for sale of the land. Budget has been allocated for purchase in the current financial year.</p> <p>The site is adjacent to the existing Hilgay reedbed habitat creation project, where consents have been achieved and works are in progress. No significant problems envisaged in enlarging the project.</p> <p>Habitat creation work follows best practice, and the site development will be monitored to ensure any necessary modifications are incorporated to create reedbed habitats suitable for breeding Bitterns and Marsh Harriers</p>	Low

- 7.6 It is concluded that there is low risk associated with the creation of 174 ha of predominantly reedbed habitat to compensate for losses on the Suffolk coast in the next few years. At this stage it is concluded that there is moderate risk associated with one additional site.
- 7.7 None of the Natura 2000/Ramsar habitats on the Suffolk coast have been lost as yet, and loss is likely to occur only during significant North Sea storm surges. It is impossible to predict when such an event will happen. The storm surges in 2007 and 2008 caused some short-term damage, but according to Natural England, they have now recovered. The SMP2 considered the risks of habitats being lost, and concluded that under a worst case scenario 151 ha of reedbed and 23 ha of coastal grazing marsh would be lost in Epoch 1. This assessment concludes that 174 ha of habitat is likely to be created within the next few years. Given that additional sites are being investigated and there is sufficient annual budget to develop them, the probability that sufficient habitat to replace losses during Epoch 1 is therefore assessed as high.
- 7.8 A 1:1 ratio is considered acceptable where compensation habitats are provided in advance of losses, and where it can be shown that the habitat is functional in respect of the required features. Monitoring of progress in achieving the objectives for the required species will be undertaken, and the actions will be reviewed to seek to ensure the outcomes are achieved. Where monitoring demonstrates that this is not possible, additional habitat creation will be undertaken by the ARHCP to provide a higher ratio of compensation habitats.

Epochs 2 and 3

- 7.9 The Environment Agency recognises the benefit of securing land for compensation habitats in advance of losses. However, it is unrealistic to do so more than 20 years in advance of anticipated losses. At this stage, therefore, no attempt has been made to locate suitable sites for Epoch 2 and 3 losses. Nevertheless, judging from the current estimate of losses and the ARHCP's progress to date, there is no reason to believe that the required rate of compensation habitat cannot be achieved.
- 7.10 There is high confidence that 174 ha of compensation habitat will be created over the next few years. If it is assumed that this habitat is functioning in year 10, this represents a rate of progress of about 17 ha per year. Proceeding at the same rate over the three epochs (i.e. 80 years) an additional 1,360 ha of habitat would be produced. Since the total losses in this period (epochs 2 and 3) are currently expected to be about 650 ha, this would represent a compensation ratio greater than 2:1. Should monitoring and review confirm that the rate of progress is not sufficient, then the rate of delivery would need to be increased.

8. CONCLUSIONS

- 8.1 The SMP2 identifies a need to compensate for the loss of 151 ha of reedbed and 23 ha of grazing marsh in the first 20 years. The ARHCP is on course to complete site works for the creation of 174 ha of reedbed habitat with some grazing marsh within the next two years, and may be able to deliver a further 50 ha on a similar timescale. No loss of habitat has occurred to date, and the ARHCP is therefore likely to deliver the compensation habitats in advance of their loss.
- 8.2 In view of the good progress made so far in securing and developing compensation habitats in advance of losses, we are currently working on a compensation ratio of 1:1. This will be kept under review, in consultation with Natural England. Subject to any future changes in the rate of loss of habitats, the ratio may need to be increased, and this will be identified through the annual review process.
- 8.3 It is Government policy to review SMPs every ten years. The ARHCP undertakes an annual review of habitat creation requirements. The outcome of SMP reviews and other relevant documents such as Estuary and Coastal Flood Risk Management Strategies will be taken into account in these annual reviews. Any changes to the estimated timing and quantity of habitat losses will be incorporated into the ARHCP programme.
- 8.4 The timing of losses in Epochs 2 and 3 is uncertain, but given the current rate of progress of the ARHCP, there is reason to believe that it will be able to deliver the additional compensatory habitat required (c.650 ha) over a 100 year period.