



# Broadland Flood Alleviation Project

Protecting



Broadland

## Flood alleviation improvements for Long Dam Level, Aldeby Compartment 24

Public Consultation - July 2005

### Introduction

In May 2001 Broadland Environmental Services Limited (BESL) was awarded a long-term contract by the Environment Agency to improve and maintain flood defences in Broadland. The Agency's approach to flood alleviation in Broadland was adopted in the 1990's. It is based on a strategy consisting mainly of bank strengthening, erosion protection and reducing the risk of banks breaching. BESL updated this strategy and is now carrying out improvement works throughout 40 individual flood compartments in Broadland.

The major improvement works will be undertaken during the first 10 years of the Project. Thereafter the banks will be subject to regular condition monitoring and maintenance works as required.



*River Waveney*

### Consultation

This leaflet has been prepared as part of an ongoing process of consultation to inform you about BESL's proposals and to seek your views on them.

The purpose of this consultation document is to:

- Explain the range of flood defence options that BESL can consider;
- Outline our preferred flood defence proposals at this stage;
- Invite your views on these proposals;
- Ensure, from the responses we receive, that we are aware of any specific local issues that ought to be considered as we go on to develop the proposals in greater detail.

BESL will carefully consider any comments it receives, seeking clarification and incorporating changes before finalising its plans. The results of this consultation will play an important part in BESL's planning application for the proposals. General feedback on this consultation will be contained in the planning application documents.

A questionnaire is provided with this leaflet. If you have not received one, or if you would like an electronic copy of the questionnaire by email, please contact Helen Markwell at the address given at the end. Alternatively, all consultation documents produced by BESL can be downloaded from the BFAP project website ([www.bfap.org](http://www.bfap.org)).



## Need to improve existing flood defences

The existing flood defences along the north bank of the River Waveney at Long Dam Level (known as Compartment 24) comprise earth floodbanks with a mixture of reeded ronds and a small amount of metal piling.

A recent assessment of the floodbanks has shown that the marshes are likely to flood if improvement works are not carried out. The standard of the banks and piling have progressively reduced over time due to bank settlement and the combined effects of erosion and corrosion. There are also a large number of trees on the banks and rond (area between floodbank and river), which appear to have contributed to the loss of reed fringe and erosion of the rond. In some areas the floodbanks are too narrow and the banks too steep, making them vulnerable to breaching during very high tides when floodwater overtops them. The floodbanks should be able to cope with a certain amount of overtopping in extreme surge events. By carrying out flood defence works BESL aims to strengthen the banks to prevent breach, which could have long term adverse effects on the nature of the grazing marshes.

BESL has taken every effort to ensure that the solutions presented here are technically feasible, cost-effective, and environmentally sound. It is the combination of these principles for a 'sustainable' project that underpin BESL's detailed proposals here and across Broadland.



*Tree-Lined Floodbank*

## What options did BESL consider for improvement works in this compartment?

The range of flood alleviation solutions that BESL considered for these works follows the Environment Agency's and BESL's overall Strategy for flood alleviation in Broadland. The choice of technique follows the Strategy options for sustainable flood defences that are technically feasible; offer value for money; are environmentally sound; and acceptable to local communities. Specific solutions are based on up-to-date survey data (assessing the condition of the existing floodbank and erosion protection), an evaluation of the level of flood defence provided and local issues including environmental considerations.

The options BESL considered are illustrated and explained in the enclosed flyer. A brief outline of some of the decision criteria leading to a particular option as the preferred solution is also given. The preferred solution for Compartment 24 based on these criteria is outlined below and illustrated on page 3.

## What are BESL's specific proposals for the north bank of the River Waveney in Compartment 24?

The plan on page 3 shows the solutions that BESL are proposing for the floodbanks. These are based on the current best available information. Summary of these works is as follows:

Long Dam Level (Compartment 24)	
Proposed Works	Approximate Length (m)
Strengthen	4640
Setback and retain piles	39
Strengthen and install erosion protection	16
Strengthen, install erosion protection and remove piles	235*
Strengthen and maintain piles	159
Maintain	242

\* NB. The piling currently used as formal Broads Authority moorings will be retained.

BESL's proposals to improve the floodbanks comprises a mixture of maintenance, strengthening, setback, pile retention, pile removal and erosion protection. The majority of the improvements consist of strengthening because there are generally adequate ronds in front of the floodbank. The proposed areas of setback coincide with the Broads Authority 24 hour mooring to ensure floodbank security independent of other activities. The enclosed flyer details BESL's sequential approach to material sourcing.



*Cows on Grazing Marsh*



## What are the potential issues associated with this work?

The Strategic Environmental Framework (SEF) process, developed by BESL with extensive stakeholder input, sets out environmental standards for maintenance, flood defence improvements and first-time defences for undefended communities. The scheme details are consistent with these environmental standards.

A detailed survey carried out by BESL between June and August 2004 showed substantial tree and scrub cover in Compartment 24 on the floodbank, rond and folding (area between floodbank and soke dyke) in many sections along the river.

Some tree and scrub clearance will be required in order to carry out the necessary improvement works and BESL are working closely with the Broads Authority to agree acceptable clearance levels for these and other schemes in the Waveney Valley. BESL are further assisting the Broads Authority with the development of a suitable tree and scrub management strategy, which will be implemented on completion of the flood alleviation works.

Other specific issues that were raised during pre-consultation discussions with key stakeholders are summarised in the table below:

<p>What effects will the proposals have on Stanley and Alder Carrs SSSI, situated adjacent to compartment 24?</p>	<p>All potential impacts on designated sites in adjacent compartments will be evaluated as part of the environmental assessment. BESL have already undertaken hydraulic modelling for these proposals, in combination with other planned schemes, and demonstrated no impact on Stanley &amp; Alder Carrs SSSI.</p>
<p>How will the proposals affect flora and fauna throughout the compartment?</p>	<p>Surveys of water voles, bats, reptiles, scarce plants and dyke vegetation have been undertaken to identify specific requirements that need to be incorporated into the detailed design and work schedule. Issues associated with ecology and nature conservation will be addressed in the Environmental Statement that accompanies the planning application.</p>
<p>What changes to the local landscape will the work cause?</p>	<p>A number of changes to the view across the landscape are anticipated as a result of the proposed works. The majority of these, however, are temporary such as the view of bare ground until vegetation re-establishes on bank and folding. Others are long term, such as the loss of trees and scrub in some areas, which will open up views of the marshes from the river and floodbank. Completion of the flood alleviation works will provide long-term protection of the Broads landscape and its valuable habitats from the damaging effects of flooding.</p>
<p>To what extent will the proposed work affect navigation?</p>	<p>The majority of the construction works will be land-based. Any water-based work will be completed outside of the main holiday season and on weekdays only to limit effects on navigation. Temporary channel markers will be provided where necessary to mark any hazards arising during and immediately after construction work while vegetation re-establishes. Tree removal may improve sailing conditions in some river stretches by reducing the level of wind shading. BESL will work closely with the Broads Authority throughout the works.</p>
<p>What are the effects of the works on recreational activities within the compartment, such as walking and angling along the floodbank?</p>	<p>For Health and Safety reasons, sections of the permissive footpath that run along the floodbank will have to be closed during the construction works. BESL will provide footpath diversions onto the grazing marsh wherever possible. The completed scheme will provide improved conditions for walkers and anglers.</p>
<p>What are the implications for landowners within compartment 24 as a result of the proposed improvement works?</p>	<p>During the works there may be some loss of access and disruption to farming activities. On completion there will be a reduction in grazing marsh. BESL contact landowners and tenants early in the design process to ensure their requirements are taken into account.</p>
<p>Will flood defence works be carried out elsewhere in the Waveney Valley? What is the proposed timing of these works?</p>	<p>Flood defence works will commence this year in compartment 26 (Beccles Marshes). Compartments 27 (Barnby and North Cove Marshes) and 28 (Share and Carlton Marshes) are programmed to start in 2006 subject to planning permission. A consultation document for compartments 26, 27 &amp; 28 is available for downloading from the BFAP website or can be requested from BESL using the contact details outlined on page 6 of this document.</p>

## Alternatives BESL considered and discounted

Overall, the existing flood defences need improving. Where the existing erosion protection is failing (e.g. piling is in bad condition or the rond is too narrow), setback is usually the preferred solution to improve the level of flood protection. Where erosion protection is considered as adequate, or adjacent land use and/or poor ground conditions and material precludes setback, then floodbank strengthening is proposed instead.

The following were possible alternatives to BESL's preferred improvements for Compartment 24.

The "do minimum" alternative would involve 'maintenance only' to both the floodbank and existing erosion protection. Some parts of the existing flood defences within this compartment only require maintenance. However, large parts of the remaining floodbanks do not provide the level of protection required, as they are unstable due to small ronds, steep slopes and poor piling. If the proposed works are not undertaken, there would be an increased risk of overtopping and a greater likelihood of breach. BESL do not consider the consequence of this alternative acceptable.



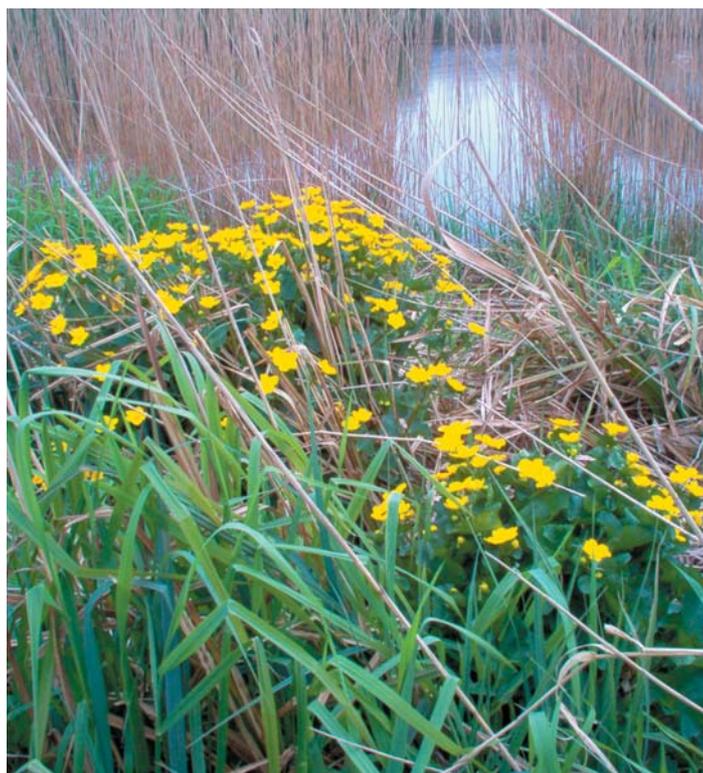
*Marsh dyke*



*View across grazing marsh*



*Floodbank, folding, rond and river*



*Marsh Marigold*

## What is the proposed timing of the works?

Tree and scrub clearance in this compartment is programmed for the 2005/2006 winter period. Flood alleviation works are proposed to start in 2006 and be completed in 2007.

Sections of the floodbank that are to be maintained will have their condition reassessed each year as part of BESL's ongoing maintenance programme.

## What are the next steps?

Thank you for taking the time to read through this information leaflet and answering the associated questions in the accompanying questionnaire. BESL is keen to find out your views of these proposals. We will collate your replies and will then consider all comments made, which will help to inform us as we develop the proposals in more detail. If you have any queries regarding either these proposals, or those elsewhere in the Waveney Valley, please contact Helen Markwell, (BESL Environmental Scientist) on:

**01603 226161**

If you wish to reply we would encourage you to email your reply to Helen Markwell at:

**Halcrow@edmund-nuttall.co.uk**

Please mark the subject line of your email with:

**Compartment 24 Consultation**

Alternatively, our freepost address is:

**Broadland Environmental Services Limited  
Freepost ANG20504  
Norwich  
NR1 1ZW**

Both the consultation document and accompanying questionnaire can be downloaded from the project website at:

**www.bfap.org**

Please ensure that all replies are received by

**18th August 2005**

NB. To reduce paper, BESL would like to email future consultation documents to as many stakeholders as possible. We would greatly appreciate it if you could provide us with an email address to send correspondence to in the future.

## Contact details:

Broadland Environmental Services Limited  
Third Floor, Grosvenor House  
112 – 114 Prince of Wales Road  
Norwich  
NR1 1NS



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**The Broadland Flood Alleviation Project is being delivered under the Public Private Partnership Programme by Broadland Environmental Services Limited on behalf of the Environment Agency.**

Broadland Environmental Services Limited is a joint venture company between Edmund Nuttall Ltd and Halcrow Group Ltd. BESL Registered office St James House, Knoll Road, Camberley, Surrey, GU15 3XW. Registered in England No. 03683242.

## List of consultees

In addition to landowners, this consultation document is being sent to the following list of public bodies and organisations:

- Aldeby Parish Council
- Anglers Consultative Association
- Beccles Amateur Sailing Club
- Beccles Angling Club
- British Dragonfly Society
- British Marine Federation
- Broads Angling Strategy Group
- Broads Authority
- Broads Hire Boat Federation
- Broads Reed and Sedge Cutters Association
- Broads Society
- Burgh St Peter with Wheatacre Parish Council
- Campaign to Protect Rural England (CPRE)
- Countryside Agency
- DEFRA – Rural Development Service East
- English Nature – Norfolk Team
- Environment Agency
- East of England Tourist Board
- National Association of Boat Owners
- Norfolk Area Ramblers
- Norfolk and Suffolk Boating Association
- Norfolk Anglers Conservation Association
- Norfolk Wildlife Trust
- River Cruiser Class
- Royal Norfolk and Suffolk Yacht Club
- RSPB (East Anglian Regional Office)
- Norfolk County Council
- Shrublands Angling Club
- South Norfolk District Council
- Waveney Anglers
- Waveney & Oulton Broad Yacht Club
- Waveney Internal Drainage Board
- Waveney Ramblers
- Waveney Regeneration Project
- Waveney River Tours
- Waveney Valley Canoe Club