

Rt. Hon. John Gummer MP  
House of Commons  
Westminster  
London  
SW1A 0AA

**Our ref:**  
**Your ref:**

**Date:** 29 November 2005

Dear Mr Gummer,

### **Blyth Estuary Strategy**

Thank you for chairing the evening consultation meeting with regard to the above. It was clear at the meeting that even though we are only at the stage of formulating a strategic way forward for the estuary, local people wish to know in some detail exactly what it means for them. We understand this and will certainly provide and consult on this information when we reach the stage of planning the implementation of the various parts of the strategy. However, the strategic approach that we are adopting should allow us to raise awareness and understanding through involvement of the local community of the benefits and constraints associated with the various strategic options. Only when we have agreed a strategic way forward, and secured funding, will we be able to work up the detailed plans for implementing that option and then to consult on that detail.

A strategic approach will aim to provide long-term sustainability for the estuary and ensure we obtain best value for money for the public funds that we are investing. Clearly we have to find a way of avoiding the confusion between a strategic option and a detailed plan. The suggestion of providing more information on 'maintaining the status quo' may help in this respect.

Before answering the detailed questions that were posed at the meeting, may I take this opportunity of explaining the main reasons why we believe that 'maintaining the status quo' by holding the existing defences in place (Hold the Line Option) is unsustainable, which in part explains why we did not have the detailed (particularly economic) information available for this option.

As we explained at the meeting, the main area of concern in terms of sustainability in the short term (0-20 years) is the channel between Tinkers and Reydon Marshes. The reasons for us believing that it is unsustainable to continue to maintain the status quo are as follows:

- > River flows between the two marshes are causing significant erosion to the flood defences of both marshes.

**Environment Agency**  
Eastern Area Office, Icen House, Cobham Road, Ipswich, Suffolk, IP3 9JD  
Tel: 08708 506506 Fax: 01473 724205

- > The river is trying to widen, to accommodate the flows. Therefore Tinkers and Reydon marshes cannot both be held in place even in the short term.
- > Sea level rise will increase these flows, hence accelerating erosion.
- > If Reydon Marsh failed, the effects down river (Southwold Harbour and Walberswick river frontage) would be rapid widening and erosion of existing river walls and defences. With the sill, erosion pressures could reduce in the channel between the Tinker's and Reydon marshes area by up to 75%. This would make the Reydon Marsh defence more sustainable in the medium term, which in turn would protect the harbour area.
- > To provide an alternative site to replace Tinker's Marsh will cost in the region of £2.5 million. To maintain the flood defence for Tinker's Marsh, even in the medium term, would cost in the order of £9m. This assumes that a conventional flood defence (on which these costings are based) would be adequate and there is significant doubt about this. Clearly any enhanced defence would cost more, and given the above figures, we believe that further investigation of retaining Tinkers Marsh is not worthwhile.

I now turn to the specific questions you posed in your summary at the conclusion of our meeting.

## **1 Status quo environmental impact and economics?**

### Environmental

Maintaining the status quo at Tinker's Marsh and Robinson's Marshes in the face of increasing erosion and sea level rise, would eventually lead to the need for heavy civil engineering structures such as steel piled and concrete walls. All the saltmarsh in front of these structures would erode and be lost, turning the river into a canal and giving the river landscape an industrial look. We believe that it would be impossible to get planning permission or statutory consents to do this sort of work on the estuary, whilst the change to landscape character is likely to be damaging to tourism. In addition, navigation would become increasingly difficult as sea level rises and the speed of the water flowing in and out of the estuary increases.

### Economics

We discarded 'Hold the Line' as an option for technical reasons, not due to budgetary constraints at the shortlisting stage, because the increased tidal velocities would require very extensive heavy duty piling to control the effects of erosion. As the option had been discarded on technical grounds, these costs were not developed further.

A preliminary estimate was undertaken giving additional costs in the order of 25% more than our preferred option costs to set the banks back on Tinkers and Robinson's Marshes.

Since the meeting in Southwold, we have costed 'Hold the Line' taking account of the additional analysis which has been undertaken since the shortlisting options stage.

Our strategy of 'Holding the Northern Line' is estimated at £47 million. If we were to retain the estuary shape but set back the banks on Tinkers and Robinson's marshes by 50 metres, this would cost £59 million, that is, 25% more than the Preferred Option. Both 'Hold the line' throughout the estuary and Option 5 (which is hold the line with a constriction or sill in the vicinity of the Bailey Bridge) would cost in excess of £100m to implement and maintain, because of the heavy engineering that would be needed over the 100 year Strategy period.

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## **2 Why are lock gates not an option?**

A barrage, a barrier and lock gates have been considered during the shortlisting option stage of the project when they were eliminated as viable options. Our reasoning was based on the following:

### Technical

A barrage, a permanent closure of the estuary, would lead to a complete change in the nature of the estuary and cause silting-up downstream of the structure and drainage problems upstream.

A barrier would normally be open, but would be closed to prevent storm surges from flooding areas upstream of the barrier. This would not manage the day to day erosion of the channel and flood banks.

A lock gate would either act as a barrage or barrier depending on how it is operated. What it cannot do is resolve the fundamental drawbacks of either a barrage or a barrier.

### Environmental

The estuary is designated for its saltmarsh and mudflats under SPA/SSSI designations. The installation of a barrage (with or without lock gates) would bring great changes to the estuary upstream, and would lead to a significant change in the habitats presently found on the estuary side of the flood embankments. Such impacts would be considered unacceptable under the laws that protect the special landscape quality and natural habitats of the Blyth Estuary, therefore a barrage has not been taken forward as a viable option.

Depending on location, the installation of a barrier could have a number of local impacts. Most notably it is likely to lead to a loss of moorings.

### Economic

The cost of a barrage or barrier option, including required works to the flood banks, would be of the order of £75 million. This makes any option including a barrier or barrage significantly less economic and hence very difficult to justify.

In summary, barriers, barrages and lock gates are unlikely to work as effectively as a sill option, are very costly and would not comply with environmental legislation.

## **3 Will setting back upstream defences bring more water into the estuary?**

Yes, the amount of water entering and leaving the estuary will increase due to both rising sea levels and any loss of the existing defences. The existing flood banks are already experiencing erosion as sea levels have risen since the present line of defences were built. This means that either the existing banks must be protected from this erosion or moved back.

The setting back of different defences has differing effects on the amount of water that can enter the estuary. Reydon Marshes is a very large area and much lower than any other

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defended area in the estuary and our studies have shown that the loss of the defences here will cause all the other defences downstream to fail.

The setting back of Tinker's Marsh has an entirely different consequence. Although realigning Tinker's Marsh will increase the amount of water entering and leaving the estuary it will have the following advantages:

- > Present day water levels throughout the estuary will be slightly reduced.
- > Actively managing the realignment of the defences on Tinker's Marshes will allow us to direct water away from the defences that protect Reydon Marshes by changing the direction of the river channel and by allowing it to widen.
- > In the longer term the channel will have to widen further to allow the estuary to adapt to the effects of predicted increases in sea level. Our assessment of the condition of the defences at Robinson's Marshes and the predicted rate of sea level rise have led us to conclude that these defences will need to be realigned in the Medium Term, ie 20 to 50 years, to accommodate how estuary processes will change over the coming decades.

#### **4 How have environmental factors been weighted?**

The impact of each of the options on the natural and human environment is considered as part of a Strategic Environmental Assessment (SEA). This is a process that we undertake in the development of all Flood Risk Management Strategies. This assessment ensures that statutory requirements are fulfilled and that in the development of a strategy any adverse impacts can either be avoided or minimised. The assessment of impacts on the human environment (for example navigation or footpaths) is given no lesser weighting than the assessment of impacts on the natural environment unless one or the other is a statutory requirement.

The SEA is being developed in close consultation with our statutory consultees and other people and groups with an interest in the estuary. The final SEA document will incorporate the key issues highlighted from all the consultation we will have undertaken.

The unique nature of the Blyth Estuary makes it a place of value for residents and tourists alike. Its beauty and value relates to the wildness of the estuary and the mix of mudflat, saltmarsh and grazing land. Much of the natural environment of the Blyth Estuary is protected by the 1994 Habitats Regulations. Our studies have shown that Tinkers Marsh, which is so protected, is unsustainable, a point confirmed by English Nature. Our assessments have therefore concluded that in order to protect the human assets within the estuary the Tinkers Marsh defences should be realigned for the greater public good. Under the requirements of the Habitats Regulations we will need to find suitable compensatory habitat for the loss of Tinkers Marsh.

#### **5 What is the timetable for strategy implementation?**

We are working to seeking approvals to the strategy in Summer 2006. We will then proceed with the detailed design, including further consultation, with the aim of starting construction in Spring 2007.

#### **6 Sill details**

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The sill level has been developed with the intention of minimising the impacts to boat users. For the study, its level has been set at -0.7m ODN and this equates to approximately 0.3m below mean low water spring level. Based on this level, the sill will be passable for canoes and shallow draught vessels (sailing dinghies) at all stages of the tide. Those with a deeper draught will however have to wait for the flood tide.

The sill works by reducing the amount of water flowing in and out of the estuary mouth so reducing current speeds upstream and hence erosion. Downstream of the sill, flow will be reduced slightly. This will not result in siltation of the harbour mouth.

The sill is a submerged structure, intended to exert an influence on day to day tidal flows. At times of surge tides (i.e. storms) it will not constrain the flow up the river, or affect water levels downstream of the structure.

I trust that the above answers the questions outstanding from the public consultation. I have copied this letter to both Southwold Town Council and Walberswick Parish Council for their information. My contact details are provided below should you require any further information.

Yours sincerely,

**BILL FORBES**  
**Area Manager – Eastern**

Direct dial: 01473 706024  
Email: bill.forbes@environment-agency.gov.uk

cc Southwold Town Council  
Walberswick Parish Council