

ALDE AND ORE ESTUARY STRATEGY SHORTLISTING OPTIONS PUBLIC EXHIBITION FACT SHEET

The Environment Agency is requesting comment from local stakeholders on the latest phase of development of its Flood Management Strategy for the Alde and Ore Estuary. The Environment Agency has recently published an “Options Shortlisting Consultation Document” which details work done to date to provide a range of 13 potential options for future management of the estuary from a possible 30,517,578,125 options. These 13 options will undergo further and more detailed assessment to produce a Preferred option for the future management of the estuary in the coming years. It is important to realise that the Environment Agency has not made a decision on the outcome of the strategy at this stage, and is reliant on comments from consultees as well as more detailed technical, economic and environmental assessment to identify the preferred strategy for the estuary.

The Environment Agency has received many constructive and useful responses during consultation since commencing the strategy. Several recent questions and queries have focussed on several key issues that are fundamental to the Strategy’s development and these are explained below.

Q. How are new flood defence schemes and flood defence maintenance paid for?

** money for flood defences is generated from the public purse*

- A. The majority, if not all, of existing flood defence maintenance and new flood defence works are paid for by the taxpayer through national and local taxes. The fixed budget of £570m has been allocated by the Chancellor for flood defence works in 2005-6. Over 75% of this is controlled by Defra to fund high priority schemes, which are focused on protecting people and property but may also bring benefits to or impact upon nature conservation, cultural heritage, landscape or socio-economic features.

Q. What role does the Environment Agency play in maintaining existing or delivering new flood defences?

** the Environment Agency has permissive powers for flood defence*

- A. The Environment Agency has executive powers for flood defence in England and Wales. This means that it is the main government body for implementing the maintenance and building of new flood defences. However, the legislation that gives the Environment Agency this power only gives “permissive” powers, meaning they must choose whether or not flood defence works (including maintenance) are required. In making this choice the Environment Agency must take in to account various factors including: what the defences will, or currently protect, how urgent and necessary they are and provide a score used to determine how this will compare with other flood defence needs across England and Wales. Defra will only provide funding for flood defence works of the highest priority nationally.

Q. Why do we need another strategy?

** sustainable, long-term plan for the Suffolk estuaries*

- A. The Government encourages operating bodies such as the Environment Agency to consider flood defences in an integrated and sustainable way by looking at the whole of each estuary rather than individual sections. Indeed, Defra require the Environment Agency to produce a strategy before any funds for flood defence will be released. This is so that schemes can be compared on a national basis so that the Government can make the best use of taxpayers money.

A long term plan, known as a flood management strategy is being developed for each of the three Suffolk estuaries (Blyth, Alde and Ore and Deben), which sets out the policy and objectives for flood defence taking into account a broad range of local interests and issues. Within this

framework we can make decisions about providing the most appropriate flood defences and this approach will allow us to manage the whole flood defence system more effectively. The Suffolk Estuarine Strategies follow on from previous work undertaken in the area, with a more detailed look at the estuary processes to ensure that the options that we are considering work with natural processes rather than against them. This will allow us to identify a more sustainable, long-term plan for the Suffolk estuaries.

Q. Has a preferred option for the Alde and Ore Estuary already been decided?

** the strategy study will result in the identification of the preferred option*

- A. No, the development of the strategy and the decisions made along the way have and will continue to be open and transparent. Information on how the scheme is progressing has been made fully available at each stage of consultation and remains so by means of the Project website – www.suffolkestuaries.co.uk.

From an early stage the Environment Agency has indicated that feasible options have and will be considered until they become unfeasible. An option may be considered to be unfeasible when it is found to provide no benefit for flood defence at present or for the predicted impacts of climate change, be unsustainable, not possible to construct, or unreasonably expensive.

The present consultation document shows the process of how the long list of options considered has been whittled down to a proposed short-list of options on which further assessment will be undertaken in order to produce a preferred strategy plan. From the studies undertaken to date, the Environment Agency has not decided that it will no longer hold the line of defences around the estuary; this option, along with the other short listed options proposed, will be considered in more detail in the next stage of the study.

It is important to remember that, although every effort will be made to deliver a strategy that reflects local objectives and interests, it is not always possible to deliver all requirements (for example, some local objectives will be conflicting in nature). The strategy must also achieve national objectives for flood and coastal defence as set down by Defra. Without achieving such national objectives, no money will be forthcoming for the implementation of the strategies.

Q. How can the Suffolk Estuarine Strategies produce a plan for flood management in the estuaries before the Thorpeness to Hollesley Coastal Strategy is completed?

** the two strategy team will work closely together to ensure an integrated approach to coastal and estuary flood management*

- A. The Thorpeness to Hollesley Coastal Strategy has been commissioned by the Environment Agency and Suffolk Coastal District Council to assess whether the existing coastal defences and shingle recycling that protect this stretch of the Suffolk Coast are sustainable in the long term.

Studies undertaken during the development of the Alde and Ore Estuary Strategy have shown that ongoing erosion of the river and sea walls at Slaughden Bend and the likely effects of sea level rise could lead to a breach of the defences by the sea at this point some time in the next 100 years. If a breach occurs at Slaughden it is more likely to have a major impact on coastal processes and hence the Estuary Strategy needs to work closely with the Thorpeness to Hollesley Coastal Strategy team in order to make sure the future plans for the estuary will work with the long term plans for the coast.

Q. Are we undertaking any maintenance works on the estuary?

** Suffolk Estuaries are being maintained*

- A. The Agency recognises that in moving from the existing approach to estuary management to a strategic approach, we need to maintain the system in the interim. The defences on the Suffolk Estuaries are being maintained. Many of the existing defences are, and have always been relatively low level, so there will always be a relatively high risk that a storm surge will cause flooding. This situation is not altered by the ongoing maintenance works. Flood bank erosion and loss of the saltmarsh are occurring due to natural change, i.e. the situation is getting worse



due to natural change rather than lack of care. The resulting increase in flood bank failure risk needs to be managed strategically, by managing the estuary processes. The Agency inspects the defences in the Alde and Ore Estuary regularly and from this develops a maintenance programme. The Agency is therefore always considering whether works are required to maintain the existing defences within the Alde and Ore Estuary. Works have been undertaken in the past to compensate for low spots caused by settlement and further works are planned for 2005. Due to the extensive environmental designations in the Alde and Ore Estuary, all maintenance works need to be evaluated for their potential impact before approvals can be obtained and works progressed.

Q. How will emergencies be dealt with?

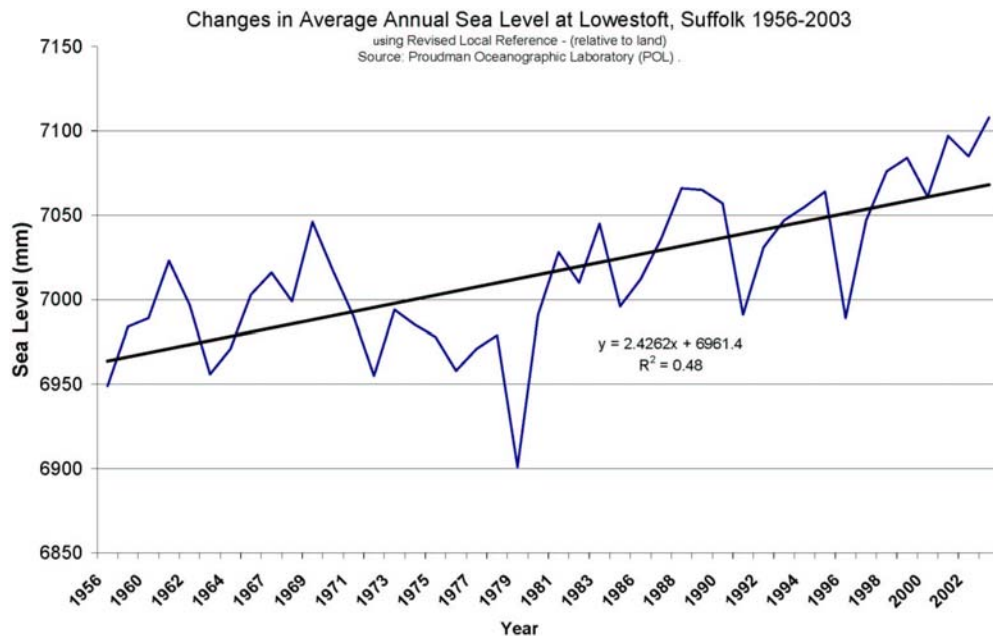
** establish priorities and action accordingly*

A. Following any failures of flood defences, which could include locations other than in the Suffolk Estuaries, we will establish priorities and take action accordingly. The strategy will guide the future response to failure taking account of location, scale and degree.

Q. Is there any evidence that Sea Level Rise is happening and why base the strategy on future predictions and not past evidence?

** rate of retreat at Benacre National Nature Reserve is between 5 m and 10 m per year*

A. Current Sea Level Rise measured at Lowestoft over the previous 47 years shows that sea levels have risen on average at around 1-2mm per year.

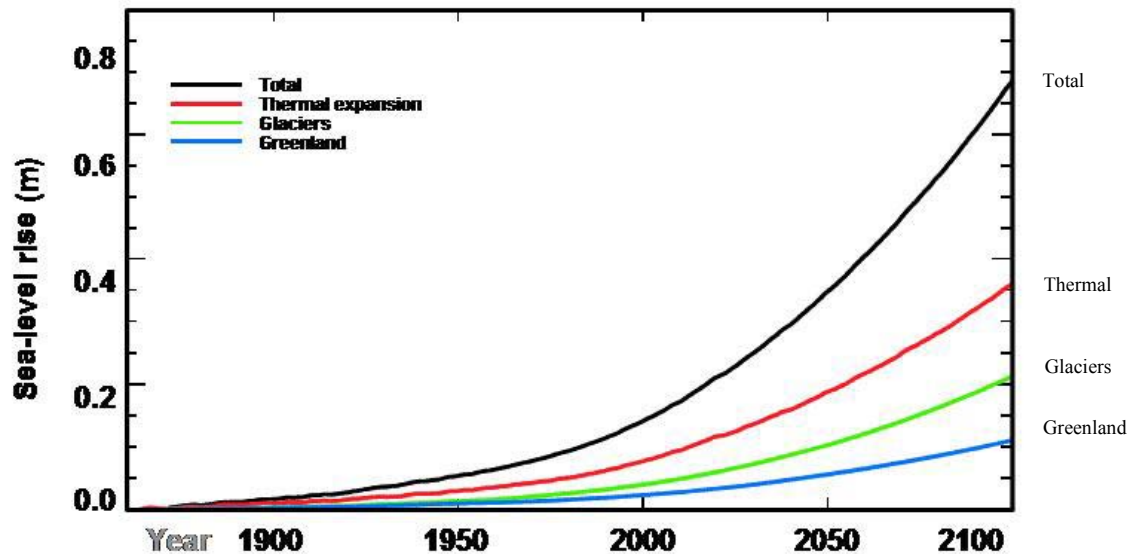


Source: POL.

Predictions for future Sea Level Rise use this past evidence to calculate what effect the increased melting of polar ice caps and glaciers will have on this current trend. In addition to this, predictions of the effects of what is known as the thermal expansion (of water) as the global climate warms are added. The Sea level rise predictions for East Anglia are a government figure of 6mm/year average over the next 100 years. This is made up of 4.5mm/year sea level rise and 1.5mm/year of isostatic adjustment (sinking of the land brought about by geological processes that occur locally). This average takes into account the future effects of climate change.



The 6mm/year average figure is based on evidence provided by the UKCIP (UK Climate Impacts Programme) and the IPCC (Inter-governmental Panel on Climate Change). This is the result of work by many hundreds of scientists and represents a balanced body of opinion, tested in the normal manner by peer review. The Proudman Oceanographic Laboratory has also studied sea level rise in East Anglia, and their work shows results for the period up to 2075 as “reasonably consistent with the Defra guidance for the East coast of 6 mm per year”.



Predicted Sea-level rise 1860–2100

Source: Environment Agency

Furthermore, there is much evidence that the Suffolk coast is retreating - at Benacre National Nature Reserve the rate of retreat is between 5 m and 10 m per year, and in the Suffolk and Essex estuaries this retreat has resulted in the loss of a large percentage of saltmarsh which has previously attenuated the wave energy and protected flood embankments.

Q. How reliable is the estuary model?

** review by local people with knowledge of the estuary processes*

A. The estuary model used is a “state of the art” computer model based on current understanding of the physics of estuarine processes. The model used has a track record of international use both in research and consultancy work. The estuary model has been developed using historical data and data collected in the field, and has been through a review by independent specialists from the University College London and English Nature, and by local people with knowledge of the Alde and Ore estuary processes. The model is used to predict the short to medium term (up to 50 years) response of the estuary to changes in water levels and geomorphology. This type of modelling is called “bottom-up” since it is based on the understanding of estuarine processes.

Although every effort has been undertaken to build as accurate a model as possible, we fully accept a model cannot represent all the complex estuarine processes and therefore there are inherent uncertainties and assumptions. Hence, the estuary model is only used to predict the short

– medium term changes and more importantly, the model itself is used as a basis for comparing options against each other, therefore allowing us to measure change from an established baseline.

Q. How do we assess the long-term changes?

** specialists in the field of estuarine processes*

- A. As mentioned above the estuary model is a tool for assessing the short – medium term changes within an estuary. To predict the long-term changes requires a different approach based on what is called “top-down” modelling. This approach uses historical information about estuaries to define empirical equations on how an estuary changes to increases in tidal prism (volume of water flowing in and out of estuary). In the hands of a specialist in the field of estuarine processes, the knowledge obtained from the “bottom-up” and “top-down” modelling allows an understanding of the likely changes that an estuary will under go in the medium – long-term (50 to 100 years) to changes in the driving forces (water levels, velocity, sediment regime etc.).

Q. If sea levels are rising why don't we just simply raise the defences?

** more sustainable and manageable estuary*

- A. Many of the sea walls are expensive to maintain and have low economic benefit in terms of what they protect and the expenditure needed to maintain them. It will also become increasingly costly to raise defences everywhere. Saltmarsh is a natural flood defence and has been declining in significant amounts, reducing the natural protection afforded to our coastline. Realignment in strategic places, such as estuaries, enables us to manage surge events like the 1953 event better. Tidal water is diverted sideways onto the realignment site and reduces surge water height travelling up the estuary.

We will continue to provide sufficient protection and will maintain a line of defences where it is economically or environmentally justified. However, there are some places where we may be able to realign the defences in a managed way and carry out works more efficiently without major impact on people or property. We want a balanced approach, keeping defences where they will be needed and moving them where doing so will reduce overall cost and result in a more sustainable and manageable estuary.

Q. Why don't we just build defences like the Dutch?

** innovative new water management policy in The Netherlands*

- A. Although the Dutch have historically ‘built against’ the sea, their approach to flood management is changing. The Dutch Vice Minister of Transport, Public Works and Water Management, Drs. J.M. de Vries published a report entitled "A Different Approach to Water - Water Management Policy in the 21st Century". In this document the Dutch Government published the Cabinet's position on water management policy in the 21st century. The document was fuelled by their concerns about increasing water levels in the rivers, flooding, and the accelerated rise in sea level.

The document states "that for centuries, spatial planning in the low-lying Netherlands has been a matter of separating and maintaining the separation between land and water. The Dutch government concluded that the current water management system was not capable of responding to future developments. In order to keep the Netherlands safe, liveable and attractive in terms of water for inhabitants and investors for the century to come, a change in water management policy and in the way they approach water is required.

This change involves the idea that the Netherlands will have to make more frequent concessions. They will have to relinquish space to water, and not win space from it, in order to curb the growing risk of disaster due to flooding, limit water-related problems and be able to store water for expected periods of drought. By this, they do not mean space in terms of the height of ever taller dykes or depth through continued channel dredging, but space in the sense of breadth. This will cost space, but in return they will increase safety and limit water related problems. Safety is an interest that must play a different role in spatial planning. Only by relinquishing space can they set things right and if this is not done in a timely manner, water will sooner or later reclaim the space in its own, perhaps even dramatic, manner. Their argument to innovate water management



policy appears to be widely accepted, but more is required. It demands creativity, energy, time and money. Protecting the Netherlands from flooding will require repeated investments over a long period of time."

Q. I like the estuary as it is now, why do we need to change it?

** the estuary is constantly changing*

- A. The estuary is dynamic and is already undergoing change as a result of erosion due to sea level rise and coastal squeeze. To maintain the estuary interests such as sailing, wildlife and recreation for the future and for future generations we must act now to help the estuary adjust to changing pressures.

Q. Who will pay for the work?

** demonstrating an 'adequate' economic value for a strategy will be a challenge*

- A. The Agency will pay for the work from the flood defence budget from the Department for Environment, Food and Rural Affairs (Defra) and the Local Flood Defence Committee (LFDC). In some cases, the Agency will seek support through partnership agreements.

However, Government expenditure rules require that all maintenance and capital expenditure competes for funding, and fund allocation is based on the financial benefits (return on investment) brought about by the investment. To qualify for this funding, it is therefore necessary to put forward a business case for investment.

This part of the Suffolk coast is very rural with the towns of Southwold, Aldeburgh, Orford and Woodbridge being the main settlements. They account for a very small percentage of the defended river frontage. We have always recognised that demonstrating an 'adequate' economic value for a strategy will be a challenge. To ensure that the right values are used we have employed a Land Agent to provide up to date values of properties, farms and boating interests.

Suffolk Estuarine Website:

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