Creating Connections
Hopkins Van Mil

Cuckmere Pathfinder Project

Summary of Findings for Evidence Presentation Workshop (2)

Held on 5 April 2011 at the Alfriston Memorial Hall

Contents:

1. Introduction

1.1 Purpose

The purpose of the Cuckmere Pathfinder Project is for East Sussex County Council to work together with the local community to reach consensus on how best to manage change at the Cuckmere Estuary. Some change at the Estuary is inevitable over the long term, and it is important to start planning for that change now. The County Council wants to make sure that everyone's views have been taken into account and all the options have been carefully considered in making decisions about the future of the Cuckmere. The £250,000 Pathfinder Project is being funded by DEFRA and will run until June 2011.

1.2 Engagement Plan

Hopkins Van Mil: Creating Connections with Rhoden Green Marketing and Communications, was commissioned by East Sussex County Council to work with them on the design and implementation of the engagement and communication elements of the Pathfinder project. Two workshops were held in summer 2010 at which the Environment Agency presented its reasons for withdrawing current flood maintenance, and members of the community put forward alternative management solutions. These were the first in a series of workshops and events held as part of the Pathfinder Project, which will culminate in a major public event to be held on 7 June. The full programme of intensive workshops and public events is given at Appendix 1.

At this public event held on 5 April participants were invited to hear a range of evidence reports commissioned by the Pathfinder project. These follow on from those presented to the community at the public event on 8 February. They examine predicted impacts on the landscape, heritage assets, visitor / user numbers and the economy when considered against visual and technical modelling. The latter was undertaken for each of the Options agreed by the community for further investigation on 14 December. Background information on the studies is provided at 1.4.

1.3 Who is involved?

The Cuckmere Pathfinder Project is being managed by East Sussex County Council which works closely with the Project Board made up of members of the community and the Cuckmere Estuary Partnership (CEP). The membership of the Project Board is included at Appendix 2. The Project Board are informed by the work of the Community Forum and have an overlapping membership. The Forum was established in November 2009 further to the recommendations that came from the community engagement events run in the same year. It has an extremely active role in working through options for the future management of the Estuary.

1.4 Background to the evidence studies

East Sussex County Council maintains a database[1] of information relevant to the Cuckmere as part of the Pathfinder Project. This has been developed over time and collates the wealth of existing information which has been produced and commissioned by different organisations and academics. It includes site based reports and best practice from other areas and subject areas such as ecology, coastal management, geomorphology and climate change. This evidence is essential to the process of agreeing on a strategy for the future management of the Cuckmere Estuary. An evidence audit, and the community engagement carried out to date, examined the gaps in knowledge and information. As a result the study areas required to fill the main evidence gaps were identified as historic environment, visitor research, economic impact and landscape character. On 8 February 2011 the

[1] Available at http://cuckmerepathfinder.org.uk/New-research.aspx

community came together for a public event at which presentations were made on these evidence gaps in the context of the current situation at the Cuckmere.

At this session presentations were made on the technical and visual modelling for the six options agreed upon at the 14 December workshop, plus the baseline 'do nothing' option. Further research was then presented, building on the evidence presented in February, to demonstrate the impact of the modelling on the options in the short, medium and long-term.

1.4.1 Technical and visual modelling

The technical and visual modelling has been undertaken by Capita Symonds and presented by Scott Ferguson. The purpose of the study was to provide an assessment of the likely changes to the estuary morphology, and the subsequent changes to flooding, vegetation, habitats and assets in the estuary; as well as an initial relative cost comparison of construction and maintenance of each option. It examined the six options established by the community at the 14 December workshop, together with the 'do nothing' baseline established as the current situation of the Environment Agency withdrawing maintenance of defences from April 2011, but continuing to clear the river mouth for either 15 years or until the river system becomes self regulating.

Scott explained that the technical modelling resulted in predictions for the following aspects for each of the potential management options:

- Predicted Flows and water levels over time
- Potential resulting changes in landscape and habitats
- Indicative impacts on existing assets in the estuary
- Predicted changes in flood risk

The study produced by Capita Symonds also forms the basis for subsequent research into the impacts on landscape, heritage assets, and economics of the shortlisted options.

A review of coastal processes to support the modelling was undertaken by a panel co-ordinated by Dr. Richard Young, an independent consultant. Dr. Young presented the panel's findings at the event.

1.4.2 Landscape options impact study

- The landscape study was commissioned from David Huskisson Associates and presented by David Huskisson. The report, based on results from Capita Symond's report, assessed the predicted impacts of different aspects of the management options on the landscape character of the estuary.

1.4.3 Heritage options impact study

The second stage heritage study was written by Casper Johnson, County Archaeologist at East Sussex Council. The report set out the results of an assessment of the potential effects of Options A to F on the heritage of the Cuckmere Haven, south of the A259. The assessment used as its baseline the updated East Sussex Historic Environment Record and the Phase 1 Heritage Asset Plan (HAP) prepared by Oxford Archaeology (OA 2010), presented to the community on 8 February 2011.

1.4.4 Visitor and user options impact study

Tourism South East research was commissioned to undertake a visitor survey in and around the Cuckmere Valley in 2010 to provide evidence on behalf of the Cuckmere Coastal Change Pathfinder Project. At the evidence presentation event on 8 February a need was identified to gather additional data which would help the Pathfinder Project assess differences which might arise in the frequency of visiting the

Cuckmere Valley if the estuary and surrounds were to change. As a result a follow-up on-line survey was completed by 71 of those originally surveyed providing a 24% response rate. In addition a 'control group' drawn from the Regional Tourist Board's consumer database was included in the survey which generated a further 744 responses.

1.4.5 Economic options impact study

The economic study was undertaken by eftec and presented by Dr. Rob Tinch. The objectives of the study were presented as being:

- To examine the economic costs and benefits associated with a range of management options for the Cuckmere Estuary.
  - Costs of capital works (Capita Symonds).
  - Costs of maintenance (Capita Symonds).
  - Impacts on landscape and features.
  - Impact on the number of visitors.
  - Impact on agriculture.

The full reports, together with the summaries presented on 5 April are available on the Cuckmere Pathfinder website.[2]

2. Event content

2.1 Event Purpose

The purpose of this event was for participants to hear and understand the second phase evidence work commissioned through the Pathfinder project.

The event comprised presentations, plenary and small group facilitated discussions. The full programme is available at Appendix 3 of this report. The first introductory session explained the purpose of the Cuckmere Pathfinder Project and this particular event. This set the context for the first presentations on the technical and visual modelling and the findings of a review panel set up to examine the findings of the modelling. Clarification questions were taken by the speakers from the participants followed by 5 small group discussions during which participants were asked to put forward any further clarification questions and to comment on the evidence with which they had been presented. During the break participants were encouraged to view display panels presenting the visual modelling. Following this presentations on landscape, heritage, visitor & user and economic impacts of each of the options were given. Again these were discussed in plenary and small group discussions. Transcripts of all discussions are included in Appendix 4.

2.4 Workshop Evaluation

70 people attended this public event drawn from the Community Forum, the Project Board, the Cuckmere Estuary Partnership, East Sussex County Council staff, other statutory and non-statutory organisations and members of the community. Each participant was asked to complete an evaluation form to assess whether the session had met people's needs. The full results of the evaluation are included in Appendix 5. In summary:

- 85% heard about the event from direct email communications from the Cuckmere Pathfinder team;
- 78% found the information provided before the event either good or excellent;
- 75% of participants found the technical and visual modelling presentation to be good or excellent;
- 64% found the landscape presentation to be good;
- 76% found the heritage presentation to be good or excellent;

[2] http:/www.cuckmerepathfinder.org.uk/New-research.aspx

- 92% found the visitor and user study to be good or satisfactory;
- 57% found the economic study to be good or excellent;
- 96% of participants said they had enough opportunity to express their views;
- 88% found their round table facilitator to be either good or excellent.

Participants' comments on the event are included in full at the end of Appendix 4. There is no doubt that the process has now reached a critical stage where decisions are being made which will have an impact on the final outcome. This means that there is a lot of information to digest and review, as one participant said,

> *'There was a great deal (rather too much) information to be read and assimilated in the short period between the report being available on time and the meeting'*

and another,

> *'I know what you are up against but feel the benefit of trying to cover so much detracts value when people can't follow info.'*

Others commented on the way the event was run. One participant said,

> 'Like Lewes, very well run and supervised 4 hours went remarkably quickly with good presentation and apparently knowledgeable participants. Well done, thanks to all concerned.'

3. Event findings

The participants split in to five facilitated discussion groups to clarify points on the presentations they had heard and to make their own comments on the consultants' findings. The full transcripts of each of the small group discussions can be found in Appendix 4 and comments made by participants in written responses after the event at Appendix 5. The following is a brief summary of the main findings of the discussion, drawing on participants' comments both during and after the event.

3.1 Comments and Clarifications on the Modelling and Review Panel presentations

Participants demonstrated their experience, expertise and commitment to finding a solution to the future management of the Cuckmere Estuary in the questions and comments they made on the modelling and coastal processes review panel findings. This reinforces the point made by one participant,

> *'Keep involving local experts on specific topics ... this might be particularly relevant when we get to the implementation stage and writing business plans through which detailed costings are made for the chosen option.'*

3.1.2 Storm events

A range of comments were made by the community on the fact that the modelling has been carried out on the 'normal' flow and water level conditions in the estuary over a 24 hour period in time, covering two full tidal cycles.[3] Their concerns were that, although the modelling did look at the influence of the rise and fall of the tides at a typical neap and spring tide, it did not appear to take in to account a storm event or flash flood. Comments included,

[3] Capita Symonds report (March 2011) section 2.1 paragraph 2.

'There is an assumption that the river rises at a steady rate - needs to consider flash flooding'.

'I challenge the statement that changes south of the A259 would not have an impact upstream. I think what happens at the Estuary will have some impact, the question is how much. For those living above the A259 flooding is a concern'.

'I feel you've been dismissive of the 100 year storm event - storms are the weather event which cause us problems'.

One participant said, in comments[4] made in writing after the event,

'Use of tide level predictions is misleading because an onshore gale can raise water level a further 0.5m. Therefore flooding could be more frequent and more serious than suggested here.'

And another at the event said,

'If we get a one in a hundred year major event the error of flooding prediction could be catastrophic. How accurately have the boundaries been plotted?'

A further post-event comment include the note that,

'The probability expression '100 year event' should not give project designers or ESCC any reassurance (eg the private thought that we'll all be dead by the time this happens); in the real world 100 year events are randomly spaced and might recur 3 or 4 times in a lifetime.'

This view is supported by a number of participants at the event, and by another post-event comment,

'We have been told not to be too concerned about massive tides or major storms. They are apparently, one hundred year events. How is then that twice in 12 years the sea has broken through the west beach and the west bank of the river?'

3.1.2 Effects on the A259

Specific points were made in relation to possible flooding of the A259,

'I am concerned about the flooding of the A259 and the possible disruption this would cause'

'We need more information about possible flooding of the Exceat area'

And in a post-event comment,

'Flooding the road for 'less than one hour' is not really acceptable on an a road used by emergency vehicles running between Seaford and Eastbourne.'

3.1.3 Salt-marsh development

Discussions on the modelling lead to the following comments on salt-marsh,

[4] Appendix 5

'How do the options relate to each other and how long can we leave a decision without knock-on effect on the other options? e.g. would salt-marsh still develop? If we do one, can we do another later or not?'

'The prediction of very large expanses of mud (28% of the area 2010-30, falling only slightly to 24% in 2030-60) is controversial and baffling; it contradicts authoritative earlier work.'

'Salt-marsh already exists in the Estuary'.

3.1.4 Coastal processes

Discussions on coastal processes such as shingle movement focused on beach re-charge and the lack of shingle new shingle entering the Cuckmere beach system (Richard Young explained this was due to the Newhaven Harbour arm and other coastal defences further west of the Cuckmere river mouth) as raised by the consultants. Points were also made on clearing of the river mouth and the responsibilities of the Environment Agency in this regard. They included the following:

'Not much shingle anymore? Isn't that because it is moved to Seaford Beach?'

'Shingle in the mouth, long-shore drift and coastal erosion. Think about the whole of the coast as one piece - self-cleansing won't happen because of these issues.'

'Why is there less shingle? Hasn't our own human activity stopped this? Recharging the beach is still being commercially exploited; activity in Seaford has taken shingle away.'

'The beach replenishment scheme at Seaford always envisaged letting a traditional amount of shingle pass the eastern terminal groyne at Splash Point to retain a modest flow eastwards to the Cuckmere Estuary and beyond.'

Is the Environment Agency likely to maintain the mouth? If so when and how frequently and for how long in to the future.'

3.1.5 Meanders

The comments made about the meanders demonstrate a range of views and understanding on their positioning in the landscape,

'All the drawings seem to assume the meanders keep their form and shape and I thought that these are likely to change.'

'A meander implies movement so opening them up to the river is an exciting option'

'"Modelling shows meanders will migrate'. But they didn't migrate between 1700 and 1845, so there is no reason to expect meander migration if we conscientiously return the river to its 1845 channel.'

Post-event comments on the meanders also include points on the right-angled bend downstream of Exceat Bridge. The participant questions the report statement that 'the right-angled bend downstream of Exceat Bridge is not natural.'

The comment made is as follows,

> *'There is reliable map evidence that the river made this abrupt and admittedly surprising eastward turn before there was any direct human interference with the channel geometry. The tight bend was in place at least as early as 1700.'*

A further comment made by a participant after the event makes a clear point about the importance of the meanders to the community,

> *'The main concern of the community and the regular visitors to the Cuckmere Valley Estuary has been and still is the retention of the meanders. There are also some who feel strongly about preserving green meadows on the western side of the estuary valley floor, however the survival of the meander is the main reason this whole lengthy consultation has had to take place. One question - how many of the options give us healthy, dynamic, flowing meanders?'*

3.1.6 The modelling process

Comments have been received by the facilitation team both at the workshop and in post-event notes on the modelling process and its impact on the decision making process. These include those on how the modelling of the options was presented,

> *'Based on the relative difference between 'do nothing' and all the other options it is difficult to understand the relative differences. It would be clearer if a summary was provided which said these are the seven things each of which would have an effect on the landscape.'*

and on the modelling process itself,

> *'the known processes operating in the Cuckmere Estuary are not as described in the Capita Symonds report; the consultants have been misled by assumptions built into the software and by reference to standard models of river behaviour rather than by field knowledge of this and other lowland English rivers. For this reason, the projections for the future, though extremely interesting, are not to be relied upon.'*

> *'Because of the technical nature great care is needed to explain how the key points interact. Currently the approach that has been undertaken is less than convincing. That is not to say the methodology is flawed or the intent is wrong, but I was expecting more 'quality' information to be included to illustrate the main elements.'*

> *'Modelling is difficult as it involves natural processes and we have to recognise the potential difficulties in creating salt-marsh; using longer timescales which adds more uncertainties; and making assumptions.'*

3.2 Comments and Clarifications on the Landscape, Heritage, Visitor / User and Economic impact presentations

The studies on landscape, heritage, visitor / user and economic impact created comments on the methodologies used and the predicted impacts. These are summarised below with the full transcript of discussions and comments available at Appendix 4 and 5.

3.2.1 Methodologies

Questions were raised by participants about the process of carrying out the studies. Participants commented on the nature of some assessments on issues such as the visual impact of some of the options in the short, medium and long-term. As one participant commented,

> *'The landscape study seems to take a subjective view?'*

And another was concerned that one of the options had not been assessed equitably. They said,

> *'Bias is detectable in the Landscape Assessment report.'*

And,

> *'The evaluation of Option C was prejudicial. It drew attention to problems relating to the raising of the A259 causeway, which was in essence a fair approach, but it assumed a worst-case scenario...It assumed that the project would be carried out in an insensitive way, which was not envisaged.'*

At the event the consultant commented on these remarks by saying,

> *'This is inevitable in a brief verbal presentation, but in the report it is clearer about the criteria we adopted for assessment'.*

Some questioned the methodologies used for the studies,

> *'Are the statistics valid? There seemed to be some confusion about the sample size.'*

And,

> *'How accurate are the height and levels of the flood plain and the roads in relation to predicted sea level rise?'*

3.2.2 Cost

Others questioned the assumptions made about costs in relation to some of the options. For example,

> *'The cost of Option F has been inflated because they want the banks impermeable and that is not necessary; and impermeability hasn't been factored in for the other options'.*

And another said,

> *'Capital costs need to be looked at again, the costs of Options A and B appear to be far too low whereas E and F are over-costed.'*

Others were concerned that the economic and visitor / user studies had underestimated spend per head,

> *'Economic survey figures were disappointing; seem too small. We need to extend interest in area so that visitors stay for longer and spend more.'*

Others said that the studies had been driven by assumptions,

> *'As long as the river runs to the sea and the meanders survive; as long as there are car parks close to the A259; as long as the Seven Sisters do not fall into the sea; there will be no decrease in the number of visitors. In fact we shall see a considerable increase due to the establishment of the Southdown National Park. So please let's keep the results of all their reports in perspective.'*

A view was also expressed that the studies had not taken in to account all the economic benefits the Cuckmere offers and could offer in the future,

> *'Did the spending on capital costs factor in the fact that this would provide jobs and contracts for small businesses in the region?'*
>
> *'What value has been given to intangible benefits i.e. what price for the enjoyment of the experience?'*
>
> *'I remain concerned that the financial work reported thus far only tries to identify the 'tangible' benefits arising from business activities. This is only a fraction of the **real** value of the Cuckmere valley.'*

Comments were also made on perceived assumptions made by consultants regarding cost,

> *'David Young agreed that a rock revetment from the east end of Coastguard Cottages' wall to the west training wall at the north of the river would solve all problems of sea overspill, but he went on to say that it would be so costly that it would never be done. It is not up to him to say it would be too expensive. If the revetment is the answer to a serious threat of the water breaking through then that decision must be made by others when the protection and defence work is at planning stage.'*

This view was supported by others. One participant went on to say,

> *'There seemed to be an inconsistency in declaring a revetment going west-east along the beach to defend Chyngton Brooks 'too expensive', but a south-north sea wall / revetment that would do nothing to defend Chyngton Brooks from marine incursion as 'more appropriate.'*

Finally in this section participants wished to comment on the need for change and the process of change,

> *'Is the only reason to make changes to save the Environment Agency funds?'*

They also expressed concern that decisions had already been made or participants were being steered towards a particular decision,

> *'There is a feeling of being controlled into making quick decisions'*
>
> *'Why aren't we going for the lower cost / most effective option?'*
>
> *'All this work: what is the likelihood that anyone will listen when a decision appears to have been taken?'*

4. Next steps

4.1 An iterative process

The community engagement plan developed objectively by Hopkins Van Mil to support the community's role in the decision making process is deliberately iterative. The plan has enabled the community to decide which evidence gaps needed filling; agree options for further modelling work; hear and understand all the available evidence and, as will be described in the report for the intensive workshop on 12 April; confirm the criteria through which the options will be assessed on 7 June. This step-by-step process is intended to support the community, the Community Forum, the Project Board and all stakeholders to achieve consensus on the future management of the Cuckmere Estuary. Having completed the evidence gathering phase we are now working towards the decision making phase to be completed in June.

4.2 Function of this report

This report is a summary of the discussion on 5 April. It will be sent to the Project Board for comment, distributed to all those who attended the workshop, and published on the Cuckmere Pathfinder Project's website. The media will be informed of the report via a press release and follow up telephone calls.

Hopkins Van Mil would like to thank all those who took part in the workshop, contributing their views so positively when complex issues and processes were being discussed.

4.3 HVM recommendations

Hopkins Van Mil has been extremely impressed with the commitment shown by members of the community in attending the public events and intensive workshops; taking time to understand the issues and feeding back constructively. We recognise the large amount of information everyone is being asked to digest but note that it is worth celebrating the amount of evidence provided by the Pathfinder Project which is now available to support the community in ranking the options when they attend on 7 June.

4.3.1 Develop understanding of the community engagement outcomes

It is essential at this critical point in the process that it is understood that no decision has been reached. This Pathfinder Project is almost unique in supporting the community in reaching their own decisions:

- About the options to be taken forward for modelling;
- The criteria through which the options are assessed;
- And ensuring the community has the opportunity to rank their preferred option.

This is a process that has taken considerable time and commitment on behalf of the community, the Project Board, stakeholders, East Sussex County Council and the consultants commissioned to carry out the work and it is important that the motives for continuing this work are communicated effectively to all those currently involved and those who wish to be involved in the final session on 7 June.

4.3.2 Comments on the evidence

The community have made a number of comments, suggestions and asked questions on all the evidence reports. These have been included in full in this report and should be reviewed by the consultants, East Sussex County Council team and the Project Board so that the reports available to enhance understanding are:

- Factual
- Clearly presented
- Amended as appropriate to reflect the views of local experts

- Available in their final form on the website and in hard copy as required.

Hopkins Van Mil 13 April 2011

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Appendix 1

Timeline for intensive workshops and public events

14 December 2010	Options Identification (Intensive Workshop)
8 February 2011	Landscape, Visitors, Heritage and Economy of the Cuckmere: Evidence Presentation Stage 1 (Public Event)
8 March 2011	Assessment criteria agreement (Intensive Workshop)
5 April 2011	Landscape, Visitors, Heritage and Economy of the Cuckmere: Evidence Presentation Stage 2 (Public Event)
12 April 2011	Options Assessment Pilot (Intensive Workshop)
7 June 2011	Planning for Change at the Cuckmere (Public Event)

Appendix 2

The Pathfinder Project Board

The Pathfinder Project is led by a project board made up of local residents and members of the County Council and Cuckmere Estuary Partnership (CEP). The members are:

- Michael Ann, Cuckmere Community Forum
- Jane Cecil, National Trust, CEP
- Alan Edgar, Cuckmere Community Forum
- Councillor John Freeman, Seaford Town Council and CEP
- Richard Mann, Cuckmere Community Forum
- Carolyn McCourt, Cuckmere Community Forum and CEP
- Andy Robertson, East Sussex County Council (Chairman)
- Chris Wick, Environment Agency and CEP
- Tony Whitbread, Sussex Wildlife Trust

Appendix 3

Creating Connections
Hopkins Van Mil

Cuckmere Pathfinder Project
Evidence Presentation Stage 2 (Public Event)
5 April at Alfriston Memorial Hall

Programme
(Please note that timings are approximate)

1. Introductory Remarks **5.00-5.20**
- A short welcome by East Sussex County Council
- An introduction to the Pathfinder Project
- An introduction to this Evidence Presentation Event

2. Evidence Presentation Session 1 **5.20-6.10**
- Technical and Visual Modelling: Capita Symonds

3. Facilitated discussion on the evidence presented **6.10-6.40**

Break & display review session **6.40-7.10**

4. Evidence Presentation Session 2 **7.10-7.50**
- 2nd Phase Landscape Study: David Huskisson Associates
- Archaeology: Casper Johnson, County Archaeologist
- 2nd Phase Visitor & User Study: Tourism South East
- 2nd Phase Economy Study: eftec

6. Facilitated discussion on the evidence presented **7.50-8.20**

7. Plenary round-up & reminder of next steps **8.20-8.40**

8. Opportunities for further written comments **8.40-9.00**

Appendix 4

Transcripts of Plenary Discussions

1. Modelling and review panel presentations

- Beach recharge possibilities:
    - cost & environmental issues
    - Can help if you can get enough material
- River mouth naturally seemed to come out to the East
    - shingle bank created by material moving along and therefore moving bank
    - Is there a way to move the mouth to move naturally to the East? That is created by shingle from the west which is no longer present.
- Q: Expert panel report - brief and sceptical, but what are you recommending? A: set out implications not recommending. Experts provide guidance so that participants can make recommendations
- Comment: history shows, as moves East the mouth blocks. Flood so bad because of this - I'm very worried about this.
- A: There may be occasions when it breaks through at major events
- Option to allow most water to come through and therefore river mouth becomes self-sustaining - this is managed realignment

There is not much material coming round from the West.

2. Landscape

- Q: Definition of a national part in relation to 7 sisters country park?
- A: Specifics regarding recreation
- National Park purpose: to encourage recreational use & therefore the loss of the canoe barn may be a factor / driving force
- Option C: raising A259 - on silt and therefore cost very high - but a landscape architect was asked to consider raising it.
- Cell A - where was the closing bank? (protects Foxhole valley from Cell C) smaller earthwork

3. Heritage

- Extending archaeological study north of A259 was discussed but it hasn't been done:
    - modelling limits (baseline)
    - limits of funding for focus studies
    - Agreed that there is a high likelihood that there are further heritage assets north of the A259
    - Discussed the fact that there are existing reports, studies and groups who have already explored the heritage assets north of A259 to a certain extent.
- Q: Is this a glaciated valley?
- A: No, cut down by fluvial action to the baseline - sea level rise has caused sediment to build up

4. Visitor / User and Economic studies

- How many respondents were there to the survey?
- A: 600+ first time round; 300 of those were followed up the second time and 71 people replied; in addition the control group means there was a sample of 800+, possibly 1000 overall
- Clarifications required on the views presented - which are the four views used in the survey?

- A: Textual narrative was used with the visuals
- A2: See comments people made in the full report, a lot of people mentioned the dynamic environment as something they liked
- Q: Where did £10 million cost for engineering come from?
- A: Capita Symonds / option C which is about re-engineering to reactivate the meanders and the meandering creeks, which has actually been costed at about £11 million
- Assessing capital costs - did the spending on capital costs factor in the fact that this would provide jobs and contracts for small businesses in the region?
- A: No it wasn't factored in.

5. Final Plenary Discussions

- Figures in economic study based on total expenditure of visitors so it should cover a wider area than the Cuckmere
- Educational value - more research potentially needed on value of the meanders
- Adaptive management realignment approach - why hasn't it been pushed?
- A: At intensive workshop held on 14 December 2010 the community discussed a range of options and developed from the work done by the Community Forum the options we are now discussing.
- Summary comment: Let's be clear that we could (but we don't have to) take the best of some of the options and try and combine them in to a solution which works effectively.

Transcripts of Small Group Discussions

Group 1 (HH)

Discussion recorded by facilitator onto flip chart paper

Summary of main points brought to the plenary session:

- Amount of mud predicted too pessimistic
- Sustainability of the west beach and its impact on the options to protect the banks
- Importance of maintaining living meanders - that they are rejuvenated
- Baseline is not a static situation
- Measures to protect the west beach are not in the landscape report
- Option C - unreasonably assessed as not done with a detailed engineering scheme for raising the A259

Summary of points of clarification on the technical and visual modelling plus review panel findings:

- Q: What has been the calculation used for saltmarsh development? Did they look at the saltmarsh and plants growing now? The maps are showing too much mud
- Q: Is there a sustainable approach to the beach - could we use Eastbourne Marina as an example? A: A revetment would do it, but it would be expensive. It depends what you want you can either build a revetment which would need to be deep & high and would be expensive; or accept that the beach is mobile. Extending the existing sea wall would be a more sustainable way of sustaining the Coastguard cottages. The Marina at Eastbourne example is as expensive as a revetment
- Q: why is there less shingle? Hasn't our own human activity stopped this? Recharging the beach being commercially exploited; activity in Seaford has taken shingle away.
- The beach will still exist in some form despite lack of shingle
- Flooding A259: an hour of flooding is not acceptable, if I chose to have a heart attack during that hour how would anyone get me to Eastbourne hospital?

- If you add a southerly gale to a 6.9 tide and you have a severe event
- Change to the beach could be very rapid, the West Beach could disappear within a year we'd only need one storm and one high tide
- I feel you've been dismissive of the 100 year storm event - storms are the weather event which cause us problems
- Cost - surely this needs further research, very ballpark figures provided here
- We are here, surely, all of us because we want the meanders to remain part of the landscape. Only option C provides for this and we need to make it clear that in all the other options (including baseline) that the meanders are dead and silting up
- We must consider the dynamic nature of the landscape. We don't know what the factors will do in the future
- A: climate change was factored in to the modelling

Summary of points of clarification on the landscape, heritage, visitor and user and economic impact studies:

- How important are some of these questions? Getting answers on people's perceptions of different views is pretty irrelevant to this discussion.
- Comment: Option C suffered unduly on assumptions about A259. There are no designs for a new causeway. I believe there could be an aesthetic design for a raised causeway.
- A: There was a lack of engineering detail so we needed to adopt the cautionary principle
- Comment: but you've assumed the worst case scenario which isn't an even-handed approach
- Comment: can't we assume that road will be needed to the road in the next 50 to 100 years anyway? It's integrating re-engineering costs in to maintenance costs and surely that is possible.
- We need an holistic view which takes in to account road safety and environmental issues
- Presumably it's bad if the canoe barn goes - but no point in having it if there are no meanders.
- Are the statistics valid, there seemed to be some confusion about the sample size.
- Q: the landscape study seems to take a subjective view?
- A: this is inevitable - but in the report it's clearer about the criteria we adopted for assessment
- Based on the relative difference between 'do nothing' and all the other options it is difficult to understand the relative differences. It would be clearer if a summary was provided which said these are the 7 things each of which would have an effect on the landscape.
- We just need a comparison of what the options will achieve against the baseline. There is an element of confusion.
- A: It's not a snapshot of comparing what's there now with each option.

Group 2 (AvM)

Discussion recorded by facilitator onto flip chart paper

Summary of main points brought to the plenary session:

- How accurate are the height and levels of the flood plain and the roads in relation to predicted sea level rise?
- Not happy with the capital cost predictions; they haven't looked at all the practical engineering solutions e.g. riverbank slopes
- How is each option going to be financed?

Summary of points of clarification / discussion on the technical and visual modelling plus review panel findings:

- If breaches are made in the riverbank and very heavy rain upstream the water on out flowing tide will not only come down river but through the breaches and that will put pressure on both banks. If that happens it would force it's way to the beach - this should be considered and needs modelling.
- That would weaken the beach
- Important to determine the height of the ground on the floodplain:
    - How have levels of surrounding area been determined?
    - How accurate is it?
    - What is the depth of water at Spring Tide?
    - How did you track the river
    - We need a clearer analysis of how you surveyed the river - were cross sections taken depending on the height of the tide?
- In the context of a tidal surge: what allowance has been made for storm surge (might be 18 inches)?
- What provisions have been made the scouring of the embankment of A259 and at Exceat Bridge?
- If an option is decided, has anybody considered the costs of reversing the option if it's wrong?
- Not much shingle anymore?? Isn't that because it is moved to Seaford Beach?
- Environment Agency: flow of lateral drift around Seaford Head - has been allowed in traditional way.
- Coastal presentation: what over the centuries has been the erosion to the cliffs?
- If we get a 1 in a 100 year major event the error of flooding prediction could be catastrophic. How accurately have the boundaries been plotted?

Summary of points of clarification / discussion on the landscape, heritage, visitor & users, economic studies:

- Capital costs need to be looked at again: the costs of Options A&B appear to be far too low whereas E& F are over-costed
- What is the economic value of business to business?
- What is the intangible value to visitors of spending time / being in the estuary? Need to look at indirect / intangible costs / versus direct costs.
- Financial benefit: what value has been given to intangible benefits i.e. what price for the enjoyment of the experience?
- Option F: cost has been inflated because they want the banks impermeable & that is not necessary; and impermeability hasn't been factored in for the other options
- Option F: cross-section tidal walls slide: shows theoretical engineering solutions. There are cheaper ways of doing this. All we're talking about is raising the banks. If this cross section was used cost-estimation is grossly inflated.
- Cuckmere News should be placed in Seaford Gazette and Sussex Express for the June event for all those people who don't have email
- Consider progression from one option to another now we're talking about opt an option x and then a cut-off point
- A259 cannot be raised by 2.5m?? Unless embankments are piled up at huge cost
- Sea-level rises must be ascertained Newhaven sea level hasn't risen since 2002; this is just factored in DEFRA predictions / guidance and not based on facts!

Group 3 (HI)

Discussion recorded by facilitator onto flip chart paper

Summary of main points brought to the plenary session:

1. (Keep) involving local experts on specific topics - localism. Each area could then be reviewed by a multi-disciplinary team so heritage for example would have a working group on it which would include financial, management, tourism specialists and so on. This might be particularly relevant when we get to the implementation stage and writing business plans through which detailed costings are made for the chosen option.
2. Recognise the convergence of interest with the South Downs National Park
3. Economic impact assessment:
    a. query whether geographical reach has been wide enough, people will travel from Alfriston, Brighton, Eastbourne etc because of the iconic views at the Cuckmere and the national park
    b. There is an opportunity to increase spend per head

Summary of points of clarification on the technical and visual modelling plus review panel findings:

- Shingle in the mouth - long shore drift, erosion. Think about the whole of the coast as one piece - self-cleansing won't happen because of long-shore drift etc.
- Shingle - storm in 1840 (?) - that impacted on Seaford
- Shift in Seaford & New Haven is similar to what is happening at the Cuckmere - historically it explains the natural phenomena
- Options 2.1 page 5 - challenge the report?
- Assumption that the river rises at a steady rate - needs to consider flash flooding
- Q: Surprised area South of A259 was less susceptible to flood / nr canoe barn. This is not my experience driving past e.g. when there is a spring tide. A: it could be fresh water.
- For those living above A259 flooding is a concern. Q: Does planning take in to account a major event? A: Planning can only affect a new development. A: Impact is minimal upstream
- I have seen problems in recent years. Bridge at Golden Galleon prevents flooding further down . I challenge the statement that it would not have an impact.
- A: Flooding in Alfriston is a complex question. It relates to surface water & drainage.
- Comment: But is it acceptable to the people involved?
- A: Flooding is an issue at Alfriston, but it is not to do with what happens at the Estuary.
- Comment: I challenge this - I think what happens at the Estuary will have some impact the question is how much.
- A: There is a lack of shingle in the English Channel
- Concern about cottages & lack of shingle on West Beach. Is there a solution to defending this key asset?
- Agree, the cottages have only been mentioned twice in this report - they are very important
- Have the options been costed
- Capita Symonds report section 2.1 page 5 second paragraph and page 12 at the top????
- North of A259 is important as are the cottages
- All the drawings seem to assume the meanders keep their form and shape and I thought that these are likely to change?
- All this work: what is the likelihood that anyone will listen when a decision appears to have been taken
- A meander implies movement so opening them up to the river is an exciting option.

Summary of points of clarification / discussion on the landscape, heritage, visitor & users, economic studies:

- This all depends on one thing: the model has to be right
- A lot of £ has been spent by the Environment Agency, and then on this research (which I agree is 1st class) how long could we have kept the banks up for this same amount of money?
- Economic assessment: surprised by people's response to the heritage, being a low priority
- But we haven't really informed people of this asset yet and we need to promote it
- General point: is the Cuckmere being promoted? Especially its historic features?
- the cottages & meanders are promoted, but we aren't doing justice to all our assets
- We are promoting it all the time to many school children
- When showing iconic features can the heritage assets be promoted more as well?
- Converging interest between South Downs National Park and what we can do
- Greatest possibilities relate to heritage in terms of protecting the landscape
- Cultural landscape is embedded and changing. We are facing up to the next generation
- We have many local experts in this area we need to invite them.
- Option E & F: Are we freezing what could happen in the future?
- What sort of a future do we want over what time-frame?
- We needed integration of different interests in the management process (just happening in discussion now)
- Visually spectacular landscape & largely undiscovered heritage. Be careful not to throw the baby out with the bathwater
- Landscapes don't stand still it's a dynamic process
- Some areas will need engineering e.g. cottages - we need a balance between humans and nature
- Economic survey figures were disappointing; seem too small. We need to extend interest of area so that visitors stay for longer and spend more
- What is the % of local visitors versus outside visitors?
- What about ecological view points? Impact of these options drawing on biodiversity, ecological studies etc.
- Saltmarshes. There are different views on the impact.
- Option B & canoe barn. It's a very important asset.
- We need a team of people who are knowledgeable in specific areas involved e.g centre of well-being and education. We need a management group which is multi-disciplined & involved people who are knowledgeable and interested such as Peter Bidmead from the Alfriston Historical Society
- Paths down to the beach are very important for wheelchair users.

Group 4 (SL)

Discussion recorded by facilitator onto flip chart paper

Summary of points of clarification on the technical and visual modelling plus review panel findings:

- Flooding upstream avoided if mouth is kept clear - what guarantees are there that this will be done over the longer-term?
- Are there any differences in Options D, E and F? they seem currently to be all lumped together.
- What are the fall back / contingency plans for any of the options chosen - e.g. future role for EA.

- Is EA likely to maintain the mouth? If so when and how frequently? And for how long in to the future?
- The do nothing option creates safety issues
- Clearer / clarification about what the differences are between the options in the long-term
- West beach - the sea breaks through at the sea defence wall.
- A: inland defence would be the only way to deal with that
- Modelling of coastal processes very difficult and expensive because of moving factors like shingle
- Timing factors - end points over very long time scale are the same
- How do the options relate to each other and how long can we leave a decision without knock-on effect on the other options? e.g. saltmarsh - if we do one, can we do another later or not?
- Modelling is difficult - natural processes and we have to recognise the potential difficulties:
    - creating saltmarsh
    - Longer timeframes adds more uncertainties
    - Making assumptions
- Fluvial flooding stopped at A259 would re-engineering help the flow of water and help prevent flooding north of it? Creating more flow through the bridge would help flooding North of A259 but would spend millions and might only be stopping extent of flooding of floods. Not much difference to tidal flood
- An inland revetment should be considered in the options
- Saltmarsh already exists in the estuary

Summary of points of clarification / discussion on the landscape, heritage, visitor & users, economic studies:

- Where is the money coming from for any defences?
- A: no decisions yet
- What is going to happen in Alfriston to the height of the river under each of the options?
- A given during small group discussion: there are three options here: 1) no effect; 2) tidal -will fill the space there; 3) fluvial - doesn't fill the estuary
- Archaeological: Why so negative for Option A?
- Costs for options likely to be challenged as too high (participant encouraged to send in comments to the Pathfinder project team)
- Challenge likely on economic benefits of Cuckmere - these have been underestimated, particularly around the Golden Galleon
- Some options may increase the educational resource and benefit of the Cuckmere
- Sill a view that Coastguard Cottages have more value - in the context of landscape important - not so much as a feature alone.
- Challenge: I didn't see the visitor survey taking place at all (as per previous report)

Group 5 (AR)

Discussion recorded by facilitator onto flip chart paper

Summary of points of clarification on the technical and visual modelling plus review panel findings:

- Seems to be a heavy reliance on computer modelling and very little based on history of the area
- Unclear about the breaches in Option A&B
- Will it be really possible to manage the breaches

- Why start with making the breaches on the western defence rather than the eastern.
- The loss of material to replenish the natural beach is a long term worry
- Why isn't a 300mm rise in the embankment being strongly considered as it would last" for years" Is a 600mm rise necessary
- Want to know more about the importance of ensuring maximum flow at the river mouth i.e. which options best achieve this?
- More information about possible flooding of the Exeat area
- Concerned about the effect of tides upon the beach/river mouth
- More consideration wanted regarding methods of controlling the flow of sea water
- Isn't there a legal requirement to maintain the flow/course of water?
- Concern about flooding of the A259 and possible disruption this would cause
- Why is there such an obsession with not hearing professional recommendations " I don't go to the doctor to self diagnose"
- What is the relation of the size/depth of river flow to flooding up as far as Alfriston
- In the managed realignment options an expensive fund is include around the A259- why?
- Who is to defend and with what funs given the current economic crisis?
- How secure are the A259 foundations – what happens if they get saturated?
- Why has an "adaptive management" approach not been pursued?

Summary of points of clarification / discussion on the landscape, heritage, visitor & users, economic studies:

- Why can't we chose the base line as an option i.e do nothing but "manage the change"
- Maintaining the status quo appears most cost effective, least negative and least risky (Option D)
- Seems to be some conflict between flooding the western side versus the "heritage" point of view
- All options appear to show declining visitors, surely National Park status will encourage larger numbers
- More assessment needed with regard to the educational aspect i.e. uniqueness of the area
- "Difficult to find rational solutions to irrational concerns"
- Why aren't we going for the lower cost/most effective option
- How does this fit in with the remit of the National Parks
- Confusion as to who pays the money and who makes the choice
- Seaford Head ad Cuckmere valley is major access point to National Park- what is the view of S.D.N.P. Authority?
- Is the only reason to make changes to save Environmental Agency Funds?
- 50K is fine as a short term maintenance solution
- People would be happy to pay towards a preservation fee
- Feeling of being controlled into making quick decisions

Comments made on 'Any other thoughts' cards at the event:

I think that evidence about the impact on wildlife of the various options should have been presented at public meetings, not left to the website.

It's a dynamic system, whatever happens it will be dynamic.

Lewes venue for 7 June: car parking is full and very expensive. So 7th June in Lewes is fine if parking is free.

Has any assessment of 'weighting' to any of the elements to the preferred options been done? ie would there be a hierarchy attached to tourism, landscape, archaeological etc areas?

Appendix 5 - Participants Comments Received via Email

Comment A:

Evidence Presentation (5 April) Feedback
[specifically to assist ESCC in evaluating the latest consultants' reports]

A) Specific comments.

Capita Symonds Report

Much of this report is excellent, adding significant quantitative detail to schemes that have so far been rather generalized in character. It is reassuring and a major clarification to have it demonstrated that none of the six options will make any difference to flooding in the Alfriston-Litlington reach of the valley. But the '2%' of the report that is problematic or contains questionable assumptions needs to be confronted – given the seriousness of the decision-making that will soon be based on it.

p8 Flood risk on A259.

a) Use of tide level predictions is misleading because an onshore gale can raise water level a further 0.5m. Therefore flooding could be more frequent and more serious than suggested here. During this last winter, I observed two high tides that were unusually high. On the higher of the two, a 7.2m tide on a very calm day, the water level in the river was 20-30cm below the bank tops; there was no danger of overtopping. On the lower, a 6.8m tide with a southerly gale blowing, the level of water in the river was raised to bankfull and there was overbank flow. So, even though the predicted tide should have yielded a water level perhaps 20cm lower than the 7.2m tide, the wind conditions produced a water level around 30cm higher.

The probability expression '100 year event' should not give project designers or ESCC any reassurance (eg the private thought that we'll all be dead by the time this happens); in the real world 100 year events are randomly spaced and might recur 3 or 4 times in a lifetime.

The implication is that Capita Symonds' prediction could be reinterpreted as 'water could overtop the road by 25cm or more, depending on wind and atmospheric conditions, and for periods of less than an hour or more than an hour – and this under present sea level conditions.'

b) Flooding the road for 'less than one hour' is not really acceptable on an A road used by emergency vehicles running between Seaford and Eastbourne. In theory, vehicles could be diverted to (and from) the A27 via Alfriston, but this would quickly lead to traffic jams in Alfriston, creating additional traffic delay.

p10 Option C 'Vanguard Way will be raised slightly and re-routed in places as part of the option'. Re-routing is definitely not part of the description for this option (see p44 and the original option description). Possibly the re-routing idea has been copied across from Options A & B by mistake.

p11 Options E & F. Long term, these will experience increased flooding from the rising water table, regardless of any engineered flood defences. A point that has not really been addressed in any of the discussions of landscape processes up to now is the very close relationship between sea level and the water table in the (extremely permeable) chalk on each side of the Cuckmere valley. To a great extent, this close to the sea, the altitude of the water table is controlled by sea level. If sea level rises 50cm by 2050 and 100cm by 2100, as some have predicted, the water table must rise by the same amounts. Whatever engineering works are done along the riverbanks, water will leak out onto the floodplain along the valley sides. The present grassland landscape will become increasingly marshy.

So the attractive expanses of green grassland areas shown on the Options E & F maps for 2061-2110 mislead; they will in fact be turning into marsh.

p14 Treatment of Option C. The prediction of very large expanses of mud (28% of the area 2010-30, falling only slightly to 24% in 2030-60) is controversial and baffling; it contradicts authoritative earlier work. The closely argued Posford Haskoning Geomorphological Report with its land level map (2003, pp 11-12) gives only the *central*

area of Chyngton Brooks as *partly* below the threshold for saltmarsh vegetation (2.36m OD), the rest would be high enough for saltmarsh colonization, apart from the creeks, which one would not want to see vegetated anyway. This is based on the observation that saltmarsh plants are presently growing as low as 2.35m OD on the mudflats in the river channel. The areas that are 2.36m OD or higher are shown on Figure 3.2 in Posford Haskoning. So under present conditions, even without any engineering-up of the floodplain surface, saltmarsh vegetation would be able to establish itself extensively.

It is known from other saltmarsh locations that saltmarsh vegetation spreads laterally rapidly at the expense of adjacent mudflats. Rates measured from sequences of historic maps are as fast as 20m a year. So there could only be very limited areas of mud, mainly along the creeks, by 2030. Taken together with the point made above about the land level, this means it is not credible that in 2030 there could be the large expanses of mud shown on the Capita Symonds map of potential habitat for Option C in 2031-2060. Since saltmarsh, once established, develops rapidly at the expense of mudflats, it is unlikely that the area of mudflats would reduce so little, from 28% in the first phase to 24% in the second phase, over a twenty year period.

The Option description in any case explicitly envisages raising the land levels between creeks, as mentioned on p44. Given that much of the low-lying area in the middle of Chyngton Brooks is only 10cm below the threshold for saltmarsh plants, it would be easy to engineer the land surface up above that level to ensure saltmarsh development across a wide area.

p45 Meander migration.

a) The report declares that 'the right-angled bend downstream of Exceat Bridge is not natural'. Yes it is. As I explained to Scott at an earlier meeting, there is reliable map evidence that the river made this abrupt and admittedly surprising eastward turn before there was any direct human interference with the channel geometry. The tight bend was in place at least as early as 1700 (clearly shown on a map of that date), and is seen on later maps. Although Scott in effect criticizes the Cuckmere for doing this, the river was making the tight turn 'voluntarily'. The bend must have been a stable feature hydrologically, as it remained unchanged from 1700 until the cut was made, a century and a half later.

The suggestion that this bend is unsatisfactory seems to arise from a perceived mismatch between the Cuckmere's actual behaviour and what the computer model finds acceptable. But in this and other matters, it may be the software that is wrong rather than the river (see following point).

b) 'Modelling shows meanders will migrate'. But they didn't migrate between 1700 and 1845, so there is no reason to expect meander migration if we conscientiously return the river to its 1845 channel.

That meanders will or must migrate is a common and deep-seated assumption, even among geomorphologists, and it originates in familiar textbook models of meandering behaviour developed on the Mississippi, which has very actively migrating meanders. The largely-unnoticed reality is that many lowland English rivers have meanders that under present-day conditions either migrate very slowly indeed or not at all. The map evidence suggests that the Cuckmere's meanders have been in the same place for a very long time. If the flow of water is returned to the pre-1846 channel, which was not migrating noticeably, there is no reason to suppose that the river's meanders will begin to migrate - once the turbulence of the initial engineering interference phase is over).

In fact, Scott's proposal in the presentation to replace the tight bend with a longer, slower bend (which sounds so reasonable and might look more natural) could be just the kind of interference with the river's equilibrium channel geometry that will trigger a sequence of changes in the meanders – the very thing we would *not* want to see happening.

c) 'Downstream migration of meanders will take place.' This is another well-established assumption that comes from old textbook models of meander behaviour. The reality is that some non-tidal rivers have meanders that over a long time scale migrate downvalley while maintaining their shape, but others do not. The crucial issue is – how does the *Cuckmere* behave? What I think has been overlooked here is that the Cuckmere is tidal and so, for some hours every day, the flow of water is upvalley.

The form and position of the hairpin meander, which has every appearance of being trapped against the south side of the causeway, shows that it must have moved (perhaps

very slowly) northwards, **upvalley**, and that this led to its confinement against the causeway. Here again the natural processes of the river have responded to, and interacted with, an obstacle. This constraint may be responsible for the unusual (note: not unnatural) sharp bend at Exceat Bridge. So what we are seeing is the Cuckmere's (natural) long-term response to the long-established presence of the causeway and the ancient bridging-point. A comparable case is the suite of meanders on the River Ribble, where the meanders are rather too large for the narrow floodplain and therefore repeatedly bump into the valley sides; this has produced meanders that are flattened, squared-off, but they are an entirely natural response to the conditions the river has encountered. [NB This interpretation arose out of a 2009 discussion with Rendel Williams, Emeritus Reader in Physical Geography at Sussex University; he and I agree on this.]

Map sequence.

A minor point. The Option C maps show an incomplete network of tidal creeks, for example none are shown in the centre of Chyngton Brooks, and only one within the meander loop east of the cut's mid-point (compare my original map). This may be to simplify the cartography, but it does not convey the true intricacy of texture that would be apparent if all the reactivated creeks were shown.

Expert Panel Report

This seems an odd exercise. Richard Young expressed the view in the meeting that a West Beach revetment would be 'too expensive'. This is the sort of value judgement that in our discussions we have steered away from; the question of funding is outside our remit (apart from finding out how much the work will cost), and should have been outside his. There also seemed to be an inconsistency in declaring a revetment going west-east along the beach to defend Chyngton Brooks 'too expensive', but a south-north sea wall/ revetment that would do nothing to defend Chyngton Brooks from marine incursion as 'more appropriate' (8.3).

A disadvantage in making a south-north wall would be the creation of a right-angled corner in the sea-wall which would attract erosion as a result of wave refraction. The eastern end of the seawall, which would become the corner, currently attracts erosion. On high tides, big waves can be seen to wrap round this corner, and close inspection shows stress here: cracks opening in the top of the concrete wall, marked abrasion lower down.

The advantage of a west-east revetment running eastwards from this corner is that it would continue the line of the existing wall and help to disperse the wave energy instead of concentrating it. For any of the managed realignment options to work (Options A, B or C), saltmarsh vegetation will need to be allowed to develop for maybe 10 years without risk of invasion by high-energy waves. The proposal to install a revetment was motivated by a desire to defend Chyngton Brooks from this kind of reverse and ensure that the work and funding invested would not be wasted. This point has not been grasped, which is unsurprising in view of the way the expert panel was convened.

Photo sequences.

Long term Option C 2nd image; there should be a lot more creeks (see original map), which would create a more latticed texture. Long term Option C, 3rd image (high tide); not enough engineering up of the land surface has been done. As mentioned in the option description, there would need to be (artificially built) secure high nesting places for birds to make this a satisfactory environment for them. So there would need to be more refuge 'islands' dotted around in each of the floodplain cells.

David Huskisson Report

The evaluation of Option C was prejudicial. It drew attention to problems relating to the raising of the A259 causeway, which was in essence a fair approach, but it assumed a worst-case scenario (p25 6.30). It assumed the belt of shrubs and trees on the seaward face of the causeway would be destroyed (6.31), which was not envisaged. It assumed the widened embankment would encroach on the meander (6.32), which was not envisaged. It assumed that the project would be carried out in an insensitive way (David's comment at the meeting), which was not envisaged. It also assumed by implication that the raised traffic would become more visible.

All of this was unfair criticism in that no engineering details were supplied.

In fact, it was envisaged by the option originator that the footprint of the higher causeway would be widened northwards, not southwards. It was also envisaged that both flanks of the causeway, north and south, would be planted with shrubs and trees to screen the traffic from view from up and down the valley. After the engineering work and the establishment of the vegetation, it is doubtful whether there would be any noticeable difference from the present situation from the aesthetic point of view.

The objection (6.36) that the causeway across the valley is medieval and should be conserved is uninformed. The causeway *in its present form* dates from about 1840. The medieval causeway was higher and narrower and after some serious traffic accidents caused by vehicles having difficulty in passing, and toppling off, it was decided to lower the causeway and spread the material sideways to make it wider. So the medieval causeway no longer exists. It would in fact be possible to argue that raising its height is a restoration of the ancient causeway and therefore a gain in heritage asset.

The case developed repeatedly in this report against work on the A259 (eg again in 8.28) amounts to a denunciation of Option C, the option in which the need for this work is highlighted. But the long-term threat of flooding on the A259 is mentioned by Capita Symonds under other Options, implying that some measures will need to be taken to prevent it. Option C is penalized in the Landscape Assessment because it faces this problem squarely and presents a solution.

The extent of mud in Option C as predicted by Capita Symonds is fairly commented on in this report as a substantial adverse effect (8.18). But this criticism turns out to be unfounded because of errors in the Capita Symonds (see above).

Options Impact Assessment (Heritage) Report

This is an excellent report, very balanced and fair, and well-reasoned. The one problem lies in the emphasis on preserving archaeological features that may not exist. I suggested that the remains of miniport features (mooring posts, jetties, keels of boats) might be found west of the centre of Chyngton Brooks, immediately below the medieval village of Chyngton. They *may* exist buried in the alluvium, but absolutely nothing has been found to indicate that they do in any of the recent survey work. We should not be deciding to exclude an option (Option C specifically) because it might damage non-existent archaeological remains. There's a similar problem with Oxford Archaeology's rather unconvincing case for saltings existing out on the floodplain between the Canoe Barn and the Golden galleon; a dried up pond is not enough evidence. Again, we should not exclude an option in order to conserve what may be a dried-up nineteenth century livestock watering pond. If these putative features are going to be used to block an option, then further investigation should be done to find out whether heritage assets exist at these locations or not.

B) General comments

1. The known processes operating in the Cuckmere estuary are not as described in the Capita Symonds report; the consultants have been misled by assumptions built into the software and by reference to standard models of river behaviour rather than by field knowledge of this and other lowland English rivers. For this reason, the projections for the future, though extremely interesting, are not to be relied upon.

2. There is a contradiction between the Capita Symonds report and the Posford Haskoning report regarding the altitude at which saltmarsh colonization will occur, and the areas that could be expected to be covered by saltmarsh. Posford Haskoning is more likely to be right because of its methodology – reliance on locally derived evidence.

3. Bias is detectable in the Landscape Assessment report.

4. Mistakes or misinterpretations are being passed from consultant to consultant; a kind of multiplier effect is at work. This process is in danger of producing a distorted decision-making process – and most likely the wrong decision.

5. There seems to be a thrust (the Capita Symonds and the Landscape reports) towards doing nothing about the A259. One cannot help noticing that this would suit ESCC, as highways are an ESCC responsibility. But, as I have argued at earlier meetings, if the work

on the A259 and the bridge is presented as integral to this major project, external funding might be attracted to cover it.

Rodney Castleden

Comment B

Comments following the 5th of April Public Evidence event at Alfriston

Congratulations to Hopkins Van Mill for arranging and running an extremely well attended event and keeping a large audience involved for four hours. E.S.C.C., through their managing the Cuckmere Estuary Pathfinder Project, has succeeded in achieving maximum consultation with the community over 12 months.
However, I do have some serious concerns following the 5th of April meeting.

1. The River Route. The consultant (Scott??) stated as fact that the opening of the North end of the meanders to the south of the Exceat Bridge was not possible – it could not work. However, he went on to say that it might if a gentler curve was engineered. How is it that the river chose the right angled turn without interference until 1847 when the Dutch cut was engineered? The volume of water was much greater then, as it is now considerably reduced due to the Ware Board's abstracting large quantities of water for Arlington Reservoir each year.

2. Whilst finding the Heritage Report fascinating, I am concerned by the options impact assessment which holds such great store in rating as positive and high relative value of the below ground resource in parts of the west valley floor. I quite understand that through archaeologists' eyes this could be true, but do we really believe that major digs are going to be commissioned to search for wharves, or hulks, in this area? When just north of the A259 there are two major digs underway or commissioned of much greater importance. One being the site of an ancient chapel (see John deWard's map). The other, Lower Court, which has huge significance in the early history of the Cuckmere Valley. In other words, let us keep the Oxford archaeologist's report in perspective – it scores pretty low compared with "Should the meanders survive?"

3. The Cable Hut, which I own is incorrectly called a "holiday home". It is still a fishing/beach hut and has been since 1947 when the cable company exchanged it for a building he had retained at the Golden Galleon (which he had built as a tea gardens in 1931). Also it may be worth mentioning that he had a fleet of hire boats operating from a boat house (now a domestic dwelling) on the north side of Exceat Bridge and a steam driven paddle boat which took people to the beach from the Golden Galleon.

4. West Beach Revetment. Our new expert consultant, David Young, agreed that a rock revetment from the east end of the Coastguard Cottages' wall to the west training wall at the north of the river would solve all problems of sea overspill, but, he went on to say that it would be so costly that it would never be done. It is not up to him to say it would be too expensive. If the revetment is the answer to a serious threat of the water breaking through then that decision must be made by others when the when protection and defence work is at planning stage. We have been told not to be too concerned about massive tides or major storms. They are, apparently, one hundred year events. How is it then that twice in 12 years the sea has broken through the west beach and the west bank of the river?

5. I cannot, I am afraid, pay too much attention to The Economic Report or The Visitor Survey and I hope those who vote on the 7th of June will not get hung up on the very approximate assumptions. Of course the Estuary provides important economic value for the local area. But how do consultants sitting in front of computer screens decide on payback for each of the options? This is not a charged for visitor attraction, it is an essential, sustainable, environmental scheme. We should not be judging the options by cost, but choosing the best option – not necessarily the cheapest. Having lived in the valley all my life; run a successful tourist attraction with 300,000 visitors annually just three miles from the estuary for over 40 years; and chaired the South East England Tourist Board for 7 years; sat on the English Tourist Board for three years. I feel I have some firsthand professional experience in understanding perceptions and reasons for both holidaying and day visiting.

   As long as the river runs to the sea and the meanders survive; as long as there are car parks close to the A279; as long as the Seven Sisters do not fall into the sea; there will be no decrease in the number of visitors. In fact we shall see a considerable increase due to the establishment of the Southdown National Park. So please let's keep the results of all their reports in perspective. We must not be swayed by the 'screen driven experts' earning handsome fees. They will not be here living with our beloved Cuckmere in years to come as we, and our families, will.

6. Wildlife. Some feel that the opportunity to create a salt marsh environment for migratory birds and birdlife in general has not been addressed sufficiently. An eminent bird artist living locally said recently that last winter was an excellent birding winter in the Cuckmere Valley - 30 White Fronted geese, 34 Barnacle geese in one week. When asked were the birds on the estuary levels, he laughed saying very few birds linger there as in a circus ring surrounded by dogs running along the west bank of the river and back along the Vanguard Way. The geese were, of course, north of the A259 on the valley towards Alfriston. He added that s Cuckmere Estuary Salt Marsh would save him driving 1 ½ hours to Pagham Harbour in West Sussex for his twitching.

7. The main concern of the community and the regular visitors to the Cuckmere Valley Estuary has been and still is the retention of the meanders. There are also some who feel strongly about preserving green meadows on the western side of the estuary valley floor, however, the survival of the meanders is the main reason this whole lengthy consultation has had to take place. One question – How many of the options give us healthy, dynamic, flowing meanders? Remember, the majority of the public do not know that the meanders have not flowed for 150 years, are now seriously silted up (being only 24 inches deep in some places), develop blue algae in the summer and are thus off limits to the public who anyway are put off by the putrid smell of dead fish on the water's surface. The answer is – There is only one option that corrects this sad situation and that is option C. None of the other five options seems concerned in preserving one of this country's most iconic landscape features by bringing it back to life.

   I have other concerns about the consultants' reports but I have taken enough of the readers' time and those concerns are covered by Rodney Castleden in his excellent submission following the 5th of April meeting. I suggest that more costly consultant's reports and consultations will only lead to more confusion.

Notes arising from the Cuckmere Pathfinder Meeting 5 April 2011

These notes mainly relate to the technical presentations by Capita Symonds and also the Financial Appraisal Report

Technical Issues

It is my belief that in many ways this Report is the most significant of all the papers presented thus far. Because of its technical nature great care is needed to explain how the key points interact. Currently the approach that has been undertaken is less than convincing. That is not to say the methodology is flawed or the intent is wrong, but I was expecting more 'quality' information to be included to illustrate the main elements. Perhaps all this data is wrapped up in the modelling programme. If that is the case my suspicions are aroused even further.

To really understand the Capita Symonds work would it be possible please to provide:-

1) Tidal curves (i.e. height v time related to O.D.) that illustrate the range of predicted tides considered in the study.

2) Drawings that show tidal bank heights, land levels and highway levels, from the mouth to Milton Lock again related to O.D.

3) Confirmation as to the accuracy of the levelling data, and

4) Cross sections of the river channel and tidal bank heights that were incorporated into the modelling programme.

It is known that the Cuckmere Tidal Walls scheme (probably undertaken in the late 1950s) created tidal banks and a channel section that was considered necessary for the effective defence of the land and highways from tidal and fluvial inundation. The land drainage element of this scheme also provided for the construction of sluices to aid flood plain drainage and provide a feed for wet fencing. The construction of the tidal banks followed traditional practice by using the river silt and alluvium to enhance any existing banks and in places delph ditches were excavated behind the river banks to provide additional spoil. The dredged silts were left for one or more seasons to dry out before attempting to reform them into permanent embankments. The system worked, and still does, even though it defies the sophisticated soils analysis available today!

Consequently the tidal banks are prone to settlement over time through a combination of their own consolidation and that of the alluvium beneath. Traditionally, both the river section and the bank heights were restored to the original dimensions of the Improvement Scheme.

Given this scenario, my question is: what was the starting point chosen by Capita Symonds for their modelling? One is led to believe that their analysis has been based upon the 'as existing' situation rather than that defined by the Scheme's design.

If that is the case has Capita Symonds undertaken a model run based upon the river profiles and bank levels that should still be in existence today if proper regard had been given to maintaining this important infra-structure? It is after all a public asset and possibly little additional bank raising would have had to be considered as an option now!

You will know that the condition of the river just downstream of Alfriston is getting badly silted up. If the Consultants have based their modelling on the current river section it will show a very skewed effect for the fluvial event when compared with the conditions provided by the Improvement Scheme. Surely this is likely to have implications for their conclusion about the boundary of influence between the tidal and fluvial regime being at the A259.

Having described the traditional way of tidal bank construction I do have concerns over the need to provide 20% bank slopes to gain a modest 300mm additional bank height! Their construction and visual impact has a major influence on capital costs. (Naturally the argument would be very different if the retained height was much greater).

The matter of littoral drift was discussed. It is and will remain a significant factor in the ability of the river to discharge fluvial flows safely to the sea. I agree with the comment that vigilance will always be needed over keeping the estuary clear.

To my mind self cleansing is not a feasible option.

It never has been at any of the Sussex river outlets and it is dangerous to ever think otherwise. One must remember that however much one wishes to return to natural influences, there is always a manmade impediment demanding the retention of some form of controlling influence.

Sediment transport along the Sussex coast has been studied for over 35 years. There should by now be a data base from which good quality information can be gathered. The aim, back in 1973, was to create a survey from which trends could be assessed. I would hope that the EA still undertake such surveys, or modern versions of it. This will help to illustrate the changes that are taking place at the river mouth and hopefully dispel guesswork. Also the beach replenishment scheme at Seaford always envisaged letting a traditional amount of shingle pass the eastern terminal groyne at Splash Point to retain a modest flow eastwards to the Cuckmere estuary and beyond. I presume it still does.

Financial appraisal

I remain concerned that the financial work reported thus far only tries to identify the 'tangible' benefits arising from business activities. This in only a fraction of the **real** value of the Cuckmere valley; surely every effort should be made to assess the **less tangible benefit** enjoyed by everyone who visits the area. Currently there has only been a fraction of the true value identified.

It is my belief that the cost of the capital works proposed for some of the options has had to be influenced by the over elaborate scale of the engineering works proposed. I believe simpler solutions are available and I remain to be convinced that such high levels of expenditure are necessary to achieve the desired results.

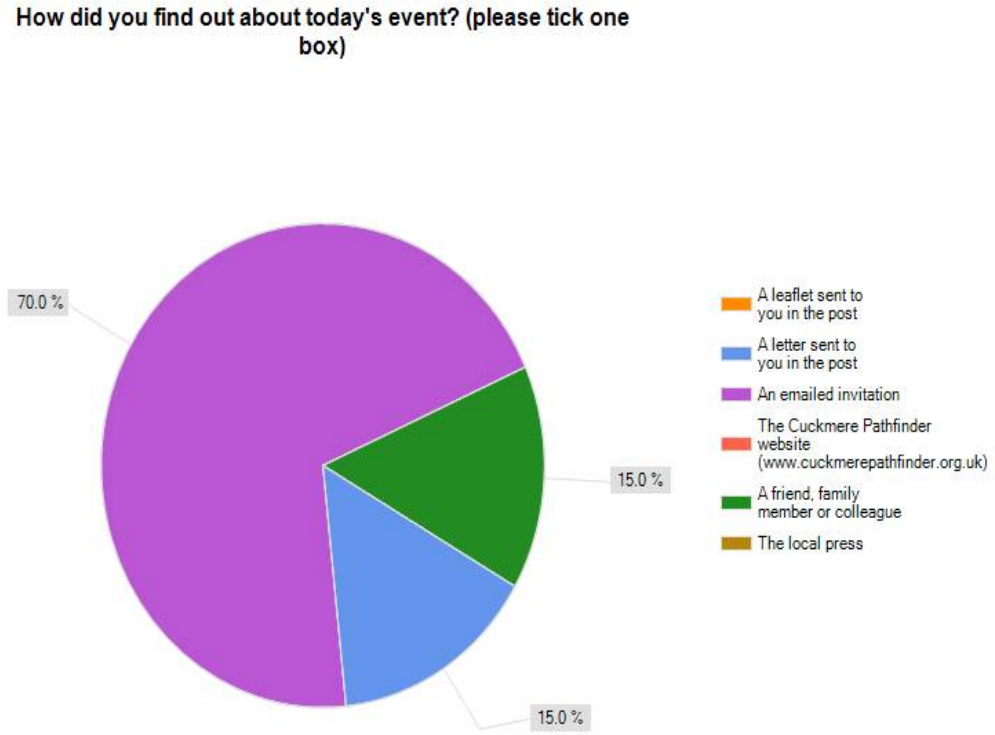
John Foxley MBE

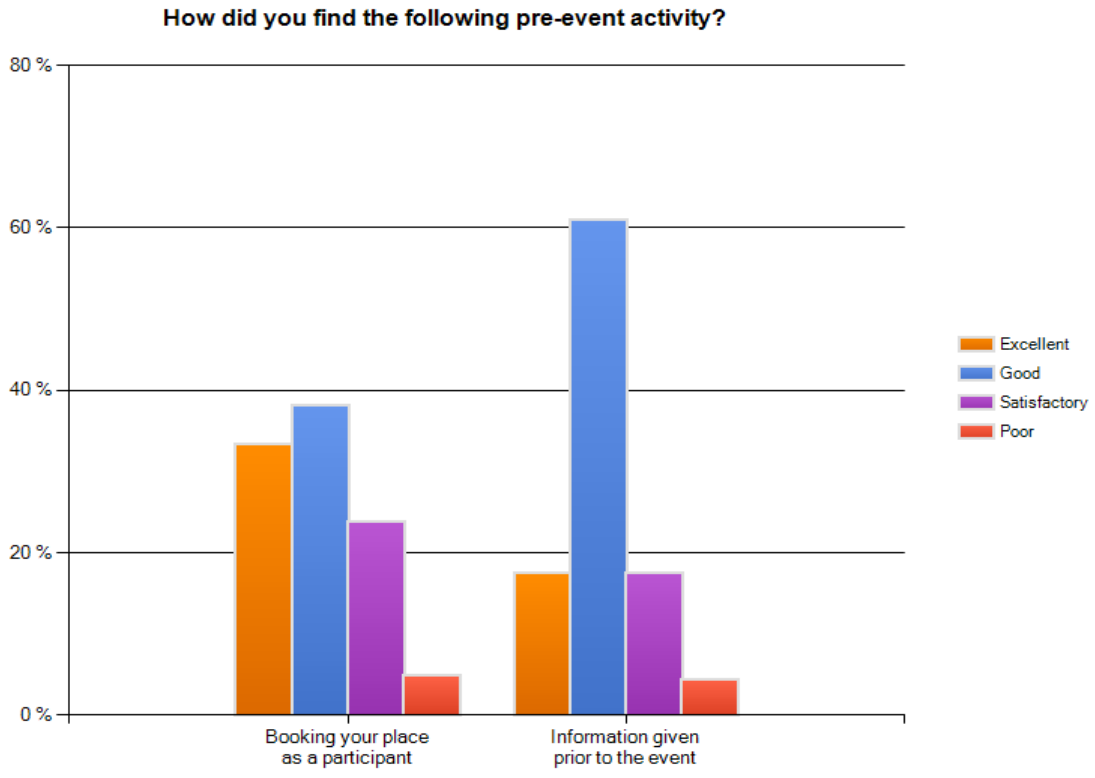
C Eng MICE C Env MCIWEM

10 April 2011

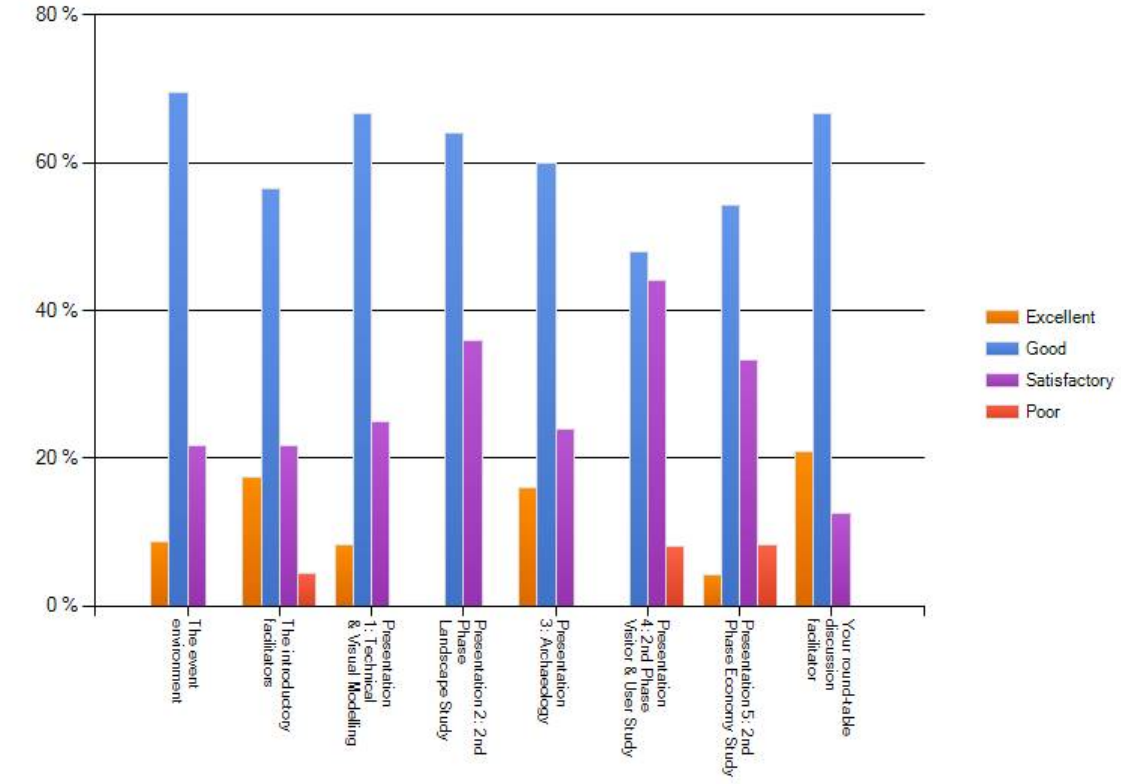
Appendix 6 - Event Summary Evaluation

100% of participants said they had enough opportunity to express their views.





How did you find the following during the event?



From your point of view did the workshop meet its objectives?