

Document 4 - Additional Information on Coast Protection

Shoreline Management Plans

A Shoreline Management Plan (SMP) is a *“large-scale assessment of the risks associated with coastal processes..... and helps to reduce these risks to people and the developed, historic and natural environment.”* (Defra 2006). The overall aim of a SMP is to provide the basis for more sustainable coastal defence policies into the future.

SMPs are based largely on sediment transport sub-cells, within which the movement of sand and shingle size sediment by longshore drift on the beach and in the immediate nearshore area is relatively independent of adjacent cells. Two sediment transport sub-cells have been defined within the North Norfolk coastal frontage. Hence when the SMPs were first developed in 1996 two SMPs covered the frontage. The first extended from Snettisham to Sheringham (Sub-cell 3a), while the second extended from Sheringham to Lowestoft (Sub-cell 3b). These have been reviewed subsequently and their boundaries amended for largely operational and practical reasons. Thus the new SMPs cover the frontage from old Hunstanton to Kelling, known as the North Norfolk SMP5 and from Kelling to Lowestoft, SMP6. Within each sediment transport sub-cell, coastal defence operating authorities have worked together to produce SMPs. These SMPs co-ordinate their future coastal defence policies, recognising the fact that uncoordinated coastal defence policies in one area could result in potential adverse impacts on adjacent areas of coast. SMPs are reviewed every five to ten years.

SMPs split the coastline into a series of Management Units, each containing a coherent type of coastal environment. For each Management Unit, a strategic coastal defence option has been adopted. The complete range of options comprises “Do Nothing”, “Hold The Existing Line”, “Advance The Existing Line” and “Retreat The Existing Line”.

Both the 3a and 3b SMPs were adopted by North Norfolk District Council (NNDC) in 1996. During 2002-2006 The Council prepared strategies for Kelling to Cromer, Cromer, Overstrand to Walcott and Ostend to Cart Gap. A review of the Cromer strategy commenced in 2009.

Ongoing monitoring and analyses of development of coastal morphology and coastal processes is a crucial element in the NNDC proposals for implementation of the SMPs. This will be the mechanism for judging the long term sustainability of the policies contained within the adopted SMPs. It was recognised during the initial production of the SMPs that these plans were based upon our knowledge of the coastal system at that point in time. However, it was also recognised that it may be necessary to undertake further regional scale studies, in order to improve our present day understanding of the coastal system as a whole.

The results of ongoing monitoring and analysis, together with related regional scale studies, will be of extreme importance in the reviews of adopted SMPs.

The following link is to the Environment Agency web site containing all SMPs in England and Wales.

<http://www.environment-agency.gov.uk/research/planning/105014.aspx>

Coast Protection Funding

Capital Grants

In theory it is possible for a Local Authority to fund a coast protection capital scheme from its own resources although in practice this is rarely an option because of the financial sums involved. The route usually taken is to get a scheme approved by the Environment Agency (EA) who then provides grant aid. Coast protection capital schemes qualify for 100% grant aid for the eligible costs.

The award of grant is delegated to the EA by Defra. The EA has its own Scheme of Delegation that sets thresholds for approvals. At the highest level is the National Review Group who vets all schemes above £2 million and all strategies (because they might lead to such expenditure). Below that level are regional Project Assessment Boards who assess schemes between £50,000 and £2 million. Schemes below £50,000 can be approved by the Area Flood and Coastal Erosion Risk Manager.

Three areas are worthy of separate note:

- Schemes must be part of an agreed strategy and be in accordance with SMP policy; i.e. approval will not be given for works to build or renew defences where the policy is No Active Intervention.
- Costs incurred designing and justifying a scheme are approved separately.
- Special rules apply for emergency works. Here the local authority carries out the work and claims grant retrospectively. Clearly there is a risk that the scheme will not gain EA approval and therefore no grant.

Revenue

This Council has an annual revenue works budget (£516,000 for 2009/2010) for the repair and maintenance of existing coast protection structures. Expenditure of this nature is not subject to direct grant but the expenditure on works, staff and other fees is largely recovered from Central Government through the Revenue Support Grant (RSG). A complex formula is used, linked to Government Comprehensive Spending Reviews, average expenditure over several years and a scaling to 96%. The system also has an inbuilt delay. Thus expenditure incurred in 2009/10 will be recovered in 2014/2015.

There are currently discussions underway looking at this element of coast protection funding that could lead to significant changes. In future RSG payments could be linked to need, rather than historic expenditure, using such factors as length of coast, length of defences and SMP policies, and could be subject to annual bidding rounds.

Public Accountability

Currently coastal defence activity is split between maritime district councils, carrying out coast protection works, and the Environment Agency, carrying out flood defence works. There are fundamental differences between these two types of organisation, which are largely reflected in their constitution.

District Councils are totally elected multi-function bodies. The decision making process requires Council Members to take an active role in the implementation of schemes. In addition the multi-function role of the Council ensures that issues such as planning, tourism and economic development are considered as a matter of course when deciding on coast protection schemes.

In contrast, the Environment Agency acts through a national Board appointed by Defra and regional committees. The Regional Flood Defence Committees (RFDCs) are constituted partly of government appointees and representatives of County and Unitary Councils. It should be noted that County Councils do not have a specific coastal role. The largely single function of the Environment Agency means that potential inputs relating to planning, tourism and economic development are not considered as a matter of course.

Finally, the organisational structure of the two bodies means that district councils have inherently greater contact at local level than the relatively remote structure of the Agency where, for example, the Anglian Regional office is in Peterborough.

The Prioritisation Scoring Scheme

Each year the EA invites Local Authorities, Internal Drainage Boards and its own regions to submit bids for a share of the annual capital budget. Qualifying schemes are placed on a Sanctioned List, making them eligible (in principle) to apply for grant aid. In order to gain a place on the list schemes have to pass an undetermined Outcome Measure score threshold. The current Outcome Measures were set in 2008 to deliver priorities in the 2007 Comprehensive Spending Review. They apply for the spending years 2008/09 to 2010/11. The following links gives some of the background and details of the current Outcome Measures

<http://www.defra.gov.uk/environment/flooding/funding/targets.htm>

<http://publications.environment-agency.gov.uk/pdf/GEHO0609BQDD-e-e.pdf>

The link below demonstrates how the OM score is calculated.

<http://publications.environment-agency.gov.uk/pdf/GEHO1008BOTR-e-e.pdf>

As an example the Cromer Coast Protection Scheme, with a value of £12 million, protecting 1126 households (295 of which are at significant risk), giving benefits of £54 million gains a score of 2.59. The threshold is understood to be around 9.

A summary of the methodology using the 2008-11 targets is given on the following page.

The score for any given project ('Project OM Score') is calculated in 3 steps. These are described below. Annex A in the link below presents this in a simple formula sheet. <http://publications.environment-agency.gov.uk/pdf/GEHO1008BOTR-e-e.pdf>

Step 1. Divide the contribution to an OM from the project by the overall target for that OM (see table 1 below). Repeat this for every OM to which a project contributes, to derive the 'OM Score'.

Table 1: Outcome Measure targets and derivation

Outcome Measure	Target	Derivation
OM1: Economic benefits (present value, PVb) ¹	£3.7bn	Capital budget for the CSR period (£733m) multiplied by the CSR target ratio (5:1 benefit: cost). ²
OM2: Households at risk	100,000	CSR overall target for OM2 of 145,000, minus the targets for 2(b) and 3 below
OM2(b): Households at risk (significant category)	36,000	CSR overall target for OM2 of 145,000, minus the targets for 2 and 3 below
OM3: Deprived communities at risk	9,000	CSR overall target for OM2 of 145,000, minus the targets for 2 and 2(b) 3 below
OM5: Biodiversity Action Plan (BAP) habitat	800 Hectares	CSR target

¹ The benefit cost ratio is calculated on the basis of a planned intervention, and therefore the benefits will be calculated taking into account the timing of the intervention, in accordance with appraisal guidance. If the timing of the intervention changes, the project's benefits, and thus its score, might change.

² for prioritisation purposes, the OM1 Score considers only the benefits, as opposed to the benefit/cost, of a project. This is because the sum of the OM Scores is then divided by the project's present value whole life cost (PVC).

Note that for OMs related to households (2, 2b and 3), the project contribution needs to be adjusted to ensure that each household benefiting from the project does not contribute to more than one target. This adjustment is set out clearly in the formula

Step 2. Add together each OM score and divide by the project's present value whole-life cost (PVC).

Step 3. Finally, multiply by 1,000,000 to derive the 'Project OM Score'. The purpose of this final step is simply to ensure that the scores are converted into more manageable numbers.

Alternatively, the multiplication can be applied to each individual score without affecting the final result.

The final score represents how much a project contributes to each OM target per £1,000 of whole life costs.

The summarised formula for the method is:

$$\frac{PVb (\text{£k})}{3.7 \text{ million}} + \frac{OM2 - OM2b}{100,000} + \frac{OM2b - OM3}{36,000} + \frac{OM3}{9,000} + \frac{OM5}{800}$$

Multiply the result by 1,000,000 and divide by the Present Value costs (£k).