

SECTION 11.0

MANAGEMENT UNIT 6: ROLSTON

11.1 Summary Information

11.1.1 Location

Management Unit 6 is located immediately to the south of Hornsea and covers a frontage of some 3.2km. Both its northern limit at Hornsea, and its southern limit at Mappleton are defined by urban-rural land use change.

11.1.2 Coastal Processes

The frontage is in the lee of the Hornsea groyne system. Long term average erosion rates immediately to the south of Management Unit 5 are of the order of 2 -3 metres per year. Towards the south end of the unit, the rate of erosion becomes less as a result of the build up of beach material to the north of the groynes at Mappleton.

11.1.3 Coastal Defences

There are no coastal defences in Management Unit 6. There is no risk of flooding associated with the unit frontage.

11.1.4 Land-Use, Human and Built Environment

The land use in Management Unit 6 comprises Grade 3 agricultural land with isolated farmsteads and dwellings at Rolston. Other facilities within the unit include part of a caravan/leisure park at South Cliff, Hornsea, a disused children's holiday camp immediately north of Mappleton and a MoD rifle range. Nearshore waters are used by fishing vessels.

11.1.5 Natural Environment

The foreshore in Management Unit 6 comprises a boulder clay wave cut platform overlain by sand. There are no sites of designated nature conservation interest associated with the cliffs or the foreshore or indeed in the immediate hinterland or offshore zone.

11.1.6 Policies

The policies of the former Holderness Borough Council and Humberside County Council continue to apply to Management Unit 6. These will be replaced in due course by new policies of the forthcoming development plans to be prepared by East Riding of Yorkshire Council. Management Unit 6 is also within the area covered by the policies of the Local Environment Agency Plan.

11.1.7 Issues

The main issue with respect to Management Unit 6, relates to the possible importance of sediment derived from the cliffs and its uninterrupted transport along the frontage of the unit. The impact of continued erosion on agricultural land uses needs to be considered and it

should also be noted that the B 1242 coast road (for which East Riding of Yorkshire Council is the highway authority) runs within approximately 60m of the cliff top at its closest location although some protection is provided by the build up of beach material to the north of Mappleton groynes. In the long term future policies may need to consider whether to protect or relocate the road. Concern has been expressed about the downdrift effects of the coastal defences at Hornsea.

11.1.8 Specific Objectives

Building on the objectives discussed in Section 4.4 of this document, the following unit-specific management objectives are identified for Management Unit 6:-

- To ensure that the frontage continues to contribute sediment to the system and that sediment movement along the frontage is not restricted
- To facilitate the protection or re-location of the coast road as necessary
- To protect the best and most versatile agricultural land.

11.2 Results of Economic Appraisal

The preliminary economic appraisal carried out in order to establish the economic viability of carrying out coast protection works to the frontage of Management Unit 6 demonstrated that the assets at risk from erosion include agricultural land, an MOD rifle range, a disused children's holiday camp and part of the Longbeach Leisure Park. The potential economic damages which would be incurred over the lifetime of this SMP are, however, insufficient to justify undertaking coast protection works (i.e. the costs of construction would exceed the economic benefits which would be secured).

The do nothing option is therefore indicated as being the preferred option by the economic analysis. The hold the line option cannot be justified in economic terms.

The economic analysis carried out similarly demonstrated that there is insufficient economic benefit, in coast protection terms, to justify active intervention to advance the current line of defence. This assessment has been carried out based on the assumption that advancing the line would be achieved via the construction of an offshore breakwater.

The analysis carried out to establish the economic viability of adopting a retreat the line option has demonstrated that the costs associated with intervening to achieve a retreat from existing line of defence cannot be justified in economic terms. Given that land would be lost and the material removed naturally by the sea in due course under a do nothing option anyway, there is no economic benefit in undertaking works to accelerate the process.

The economic analysis carried out for the unit is shown in Appendix 1.

11.2 Discussion of Policy Options

The objectives are set out in full in Section 4.0 and the evaluation process is described in Section 5.0.

11.3.1 Do Nothing

The do nothing option meets the majority of the management objectives for Management Unit 6. The main exceptions are those relating to coastal defence and to the protection of agricultural land. If appropriate, it will also allow mitigation measures to be planned. Do nothing would not keep options open in respect of future protection of the coast road. However, it is acknowledged that this also depends on the preferred option for Management Unit 7 (i.e. continuing to hold the line at Mappleton will offer continued protection to the road at least in the short to medium term).

The do nothing option is potentially viable for Management Unit 6, although mitigation may be required in response of maintaining bathing beach quality.

11.3.2 Retreat the Line

The retreat the line option would meet or partly meet several of the management objectives for the unit. It would not, however, be economically viable. Further, there is some uncertainty over the potential effects of the retreat option on the natural processes operating.

The retreat the line option is rejected on the basis that it would not be economically viable and there are no strong environmental arguments in its favour.

11.3.3 Hold the Line

The hold the line option complies with most of the objectives related to the human and built environment. It does not, however, meet the objectives in respect of compatibility with the processes at work within the cell, economic viability, or sustainability.

The hold the line option is therefore rejected.

11.3.4 Advance the Line

The advance the line option meets the objectives of the natural and human and built environment in some respects but not others. It is not, however, economically viable, it is not compatible with the preferred option of hold the line in the adjacent Management Units, and it is would not be sustainable.

The advance the line option is therefore rejected.

11.3 Preferred Option

The preferred strategic coastal defence option for Management Unit 6 is to do nothing.

11.4.1 Mitigation and Monitoring Requirements

The effective implementation of the do nothing option will benefit if it receives the support of the planning system in limiting development within the zone at potential risk of future erosion. In addition, continued monitoring of cliff retreat and foreshore levels is recommended.

Some mitigation in respect of dealing with deteriorating or disused properties may also be required along parts of the frontage if bathing beach environmental quality is to be maintained.

In the medium to long term, a decision will also have to be made as to whether to defend or re-locate the coast road. Monitoring results will therefore help to identify when this decision is required and what measures to adopt.

Finally, discussion may be needed with MoD in order to establish whether or not mitigation measures will be required in respect of their activities on this frontage.

See also Table 3.0, Monitoring Recommendations, Section 25.3.

MANAGEMENT UNIT 6: ROLSTON

STRATEGIC OPTION	GENERAL MANAGEMENT OBJECTIVES							UNIT SPECIFIC OBJECTIVES					
	Common to all Management Units							Defined Below					
	Technically Realistic	Economically Viable	Environmentally Acceptable: Human & Built Environment (See Supporting Matrix Below)	Environmentally Acceptable: Natural Environment (See Supporting Matrix Below)	Compatibility with Processes at Work within Sediment Cell	Compatibility with Preferred Options for Adjacent Management Units	Overall Sustainability	Maintain Sediment Supply and Movement	Options for Coast Road	Protect the Best and Most Versatile Agricultural Land	(Not Used)	(Not Used)	(Not Used)
Do Nothing	✓	(4)	✗	✓	✓	✓	✓	✓	✗	✗			
Retreat (1)	✓	✗	✓	✗	?	✗	?	?	✓	✗✓			
Hold the Line	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓			
Advance (2)	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓			

Notes:

- ✓ Yes - complies with management objective
 - ✗ No - conflicts with management objective
 - ✗✓ Meets the objective in some respects but not in others
 - ? Insufficient data to assess situation
 - 1) Defined as: active intervention to retreat from existing coastline (i.e. other than by natural erosion)
 - 2) Defined as: active intervention to advance from existing coastline (i.e. other than by natural accretion)
 - 3) Other than tourism, recreation and agriculture
 - 4) Least Cost Option (see Section 4.2.2)
- N/A Not applicable

SUPPORTING MATRIX

STRATEGIC OPTION	MANAGEMENT OBJECTIVES FOR THE STUDY COASTLINE													
	Land Use and the Human and Built Environment							Natural Environment						
	Coastal Defence	Agriculture	Fisheries	Tourism and Recreation	Archaeology	Military Use	Offshore Activity	Industry/Economic Activity (3)	Navigation	Biology	Geology	Natural Processes	Landscape	Water Quality
Do Nothing	✗	✗	✓	✗	?	✗	✓	N/A	✓	✗✓	N/A	✓	✓	✓
Retreat (1)	✗✓	✗✓	✓	✗	?	✗✓	✓	N/A	✓	✗✓	N/A	✗	✗	✓
Hold the Line	✓	✓	✗	✓	?	✓	✓	N/A	✓	✗✓	N/A	✗	✗	✓
Advance (2)	✓	✓	✗	✓	?	✓	✓	N/A	✗	✗✓	N/A	✗	✗	✓

NB. Reference should be made to Section 5.0 which explains in detail the procedure used for completing the matrices