

Statement of environmental particulars for Eastern Yar Flood and Erosion Risk Management Strategy

Introduction This statement of particulars indicates how environmental and consultee considerations were taken into account during the preparation of the plan and how the Environment Agency selected the approach adopted in the final plan. The statement goes on to set out the monitoring procedures that have been set in place to monitor the significant environmental effects of the implementation of the plan/programme.

The environment during the development of the plan

Integration of environmental considerations

Environmental considerations were integrated throughout the development of this plan by following the Environment Agency’s SEA operational instruction. This document ensures the potential significant effects of the plan on the environment are considered throughout its development.

Influence of the environmental report

The environmental report that was open to public consultation influenced the development of the plan by identifying environmental enhancements and setting out requirements for mitigation, where significant negative effects were identified.

Environmental Topic	Agreed Mitigation/Enhancement activity	Responsibility for implementation
Population & Human Health	Development control, avoiding future development in the floodplain. Encourage further uptake of flood warning systems. Advice to residents about flood proofing their properties. Emergency response plans. Evacuation plans.	Environment Agency.
Flora & Fauna	Construction effects on designated sites to be effectively mitigated through good design and construction practice.	
	There is potential for construction and maintenance works to adversely affect the integrity of the European sites, therefore a full Habitats Regulations Assessment will be undertaken once the Strategy is adopted.	Environment Agency.
	Management of the Bembridge tidal sluice complex in line with objectives of the Water Level Management Plan (WLMP) in liaison with Natural England (NE) and the RSPB.	Environment Agency in partnership with Natural England.

	Management of the Bembridge tidal sluice complex in line with objectives of the Water Level Management Plan (WLMP) in liaison with Natural England (NE), the RSPB and the landowners.	

Consultation responses

Responses to consultation period (30 November 2009 - 5 March 2010)

146 consultation responses were received during the three month period of consultation on the draft plan and its accompanying environmental report. The majority of consultation responses related to five areas; the link between the Duver and Embankment Road, the route of a proposed wall along Embankment Road, protection of property at St Helens, flood risk management at Sandown and other comments. The table below indicates how these comments were addressed. The options presented in the draft Strategy were supported by the majority of consultees, and as a result it was decided not to change the strategic options that were recommended. Those who responded that they did not support the options generally had concerns over the detail of the option rather than the strategic option itself.

Consultee	Summary of comments	Action taken to finalise Plan
Local Community	Role of the Duver in sheltering the Embankment Road sea defence. Importance of protecting the Duver to the area.	Extensive work on coastal processes was done by the Environment Agency, ABPmer and Dr Malcolm Bray, to ensure confidence in the conclusion that the Duver will remain in place but change shape over the next 100 years. Isle of Wight Council proposes to maintain the Duver sea wall for the next 50 years using local funding. As such 'Maintain' is the preferred option for Duver.
Various consultees	Concern about the location and height of the proposed sea wall along Embankment Road, and the fact that some properties were shown on the seaward side of the wall in the draft Strategy documents.	The figure in the final Strategy documents will be changed to reflect the fact that the line of the proposed wall is indicative. The scheme that implements 'Sustain' option will look in detail at the exact alignment of the wall, how high it needs to be, what it will be made of etc.
Various consultees	Concern that the Environment Agency is not recommending any action for the defence protecting St Helens.	The Strategy option for the St Helens frontage is to 'Maintain' the existing defence, which is owned and managed by a range of people and riparian owners. However, national funding to maintain the defence is unlikely to be available due to its low benefit cost; therefore it is recommended that riparian owners carry out this work.
Various consultees	Consultation raised the possibility of extending the proposed Embankment Road sea defence around the front of St Helens.	The exact route of the sea wall will be considered at the scheme level.
Various consultees	Concern that the draft Strategy did not consider flood and erosion risk in Sandown sufficiently, and that the option put forward for the Eastern Yar river frontage was	In Sandown there is a low risk of flooding from the river, and as a result there are not enough benefits to justify changing the recommended option. Flooding of Sandown from the sea is a much greater risk, which is currently prevented by Embankment Road and

	insufficient.	Sandown Sea Wall. The Strategy recommends 'Sustain' for Embankment Road to ensure there is no increase in the likelihood of flooding to Sandown and Yaverland. The Sandown Sea Wall will be considered in the Sandown Bay Strategy.
Various consultees	Clarification was sought on the timing of the wall option for Embankment Road.	If the Strategy is approved then this option will qualify for national funding, and as such will be ranked amongst other nationwide schemes that also require funding. In addition, based on current predictions of sea level rise the sea wall must be constructed by 2030. It is therefore, proposed to improve the Embankment Road defences by 2030 or before if funding becomes available.

Trans-boundary consultation responses

The SEA did not identify any significant environmental effects that required trans-boundary consultation on this plan. Due to this, no consultation responses were received via this consultation route.

Reasons for selecting the adopted plan in light of reasonable alternatives

The approach adopted in the final plan was considered against a number of reasonable alternatives during its development. The major reasons for selecting the adopted plan over the reasonable alternatives were:

- All 'Improve' options were rejected in this Strategy due to the low level of flood risk.
- Managed Realignment was not considered to be a viable option as this would expose the freshwater habitat of Brading Marshes to regular tidal inundation or flooding, resulting in significant and unacceptable damage to a European designated site.
- The requirement to protect the freshwater habitat of Brading Marshes behind Embankment Road, now and against the impact of sea level rise meant that it was possible to dismiss all options other than 'Sustain' for this frontage.
- At Embankment Road, Do Nothing, Do Minimum and Maintain would all result in an increase in flood risk over time, resulting in an increase in the number of people at risk of flooding and potential severance of access along Embankment Road. Increased flooding would also result in loss of, or reduced quality of recreational resources. The Sustain option reduces the risk of flooding to people and existing infrastructure and access is maintained along Embankment Road.
- Along the St Helens and the Duver Frontages, under the Do Nothing, Do Minimum and Maintain options, the risk of flooding would increase over time. This would affect people, property and local businesses. However, the low numbers of properties at risk on these frontages mean that generally there is little to distinguish between the options in terms of impacts on population and infrastructure. Hence, the option for these frontages is Maintain.
- The St Helens frontage is the responsibility of riparian land owners who own the defences. A maintain option is recommended. The low benefit cost ratio of 1.99 will not attract national funding.
- Do Nothing is recommended for Bembridge Point where no properties are at risk.
- To ensure fluvial flooding is managed for the benefit of the designated site a Do Minimum approach is recommended for maintaining the Eastern Yar river frontage.

Further details on the selection of the preferred option, which was developed into the adopted plan, are presented in its environmental report. Information on how to access a copy of the environmental report can be found in the post-adoption statement, which can be found at <http://www.environment-agency.gov.uk/research/library/consultations/113661.aspx> .

Environmental monitoring measures during Plan implementation

The table below sets out the indicators that will be monitored to ensure that unforeseen significant environmental effects are not generated during implementation. These indicators will also monitor the success of mitigation measures and environmental enhancements in the adopted plan. Developments implemented as a result of the plan will be assessed for environmental impacts at a project level using the Environment Agency's internal Environmental Impact Assessment (EIA) operational instruction.

Environmental effect/mitigation/enhancement	Indicator	Monitoring method	Responsibility
<p>Maintain / improve standard of flood and coastal protection to local residents.</p> <p>Avoid/minimise environmental impacts which may have long term health impacts.</p> <p>Protect and enhance recreation and amenity facilities; particularly public open spaces.</p>	<p>Number of properties protected.</p> <p>Injuries due to flooding.</p> <p>Area of recreational and amenity facilities.</p> <p>Number of users of recreational and amenity facilities.</p> <p>Change in are and quantity of public open spaces.</p>	<p>Maintenance of a 'Flood Risk Register' with an indication of the Standard of Protection afforded to residential and commercial properties, critical infrastructure and built heritage.</p> <p>Review of climate change and sea level rise predictions.</p> <p>Maintenance of a register of potentially polluting features in food risk zones.</p> <p>Maintain a register of viable recreation and amenity features.</p>	Environment Agency
<p>Avoid damage to Brading Marshes and St Helen Ledges SSSI, Solent and Southampton Water SPA and Ramsar, Isle of Wight Lagoons and South Wight Maritime SAC; other SSSIs and protected species in the catchment.</p> <p>Contribute to achieving favourable condition on European sites and SSSIs.</p> <p>Maintain and enhance BAP habitats and species in line with UK and local targets/objectives.</p> <p>Provide opportunities for people to come into contact with and appreciate wildlife and wild places.</p>	<p>Reported levels of damage to designated sites.</p> <p>Favourable condition of international and national sites.</p> <p>Achievement of BAP objectives and targets.</p> <p>Levels of recreation activity associated with biodiversity.</p> <p>Implementation of Brading Marshes water level management plan.</p>	<p>Ongoing discussions with Natural England to ensure compliance with Habitats Regulations.</p> <p>Work with RSPB to identify changes in habitat composition in Brading Marshes.</p> <p>Long term monitoring of habitat area and condition by means of: reviewing condition assessments of designated sites; maintaining a balance sheet for protected sites and BAP habitats accounting for scheme losses/gains; 5 yearly review of beach monitoring data to identify effect of coastal squeeze; 5 yearly reviews of Lidar data to identify habitat losses / gains through sediment accumulation/erosion.</p>	Environment Agency
<p>Maintain/protect or enhance coastal and fluvial landforms and processes in the catchment and coastal zone.</p> <p>Restore riparian corridors, floodplain, including connectivity and natural processes.</p>	<p>Extent of identified landforms.</p> <p>Determine the risk of failing to meet the quality objectives of the Water Framework Directive (WFD).</p> <p>Area/length recovered or restored through he flood management works including river</p>	<p>5 yearly reviews of beach monitoring data to better understand morphological change.</p> <p>5 yearly reviews of Lidar data to identify morphological change through sediment accumulation/erosion.</p>	Environment Agency

	restoration.		
<p>Maintain and improve bathing water quality standards.</p> <p>Ensure groundwater and surface water resources are protected or enhanced.</p> <p>Maintain minimum flow requirements for the river during periods of low flow.</p> <p>Would option contribute to meeting WFD Good Ecological Status?</p>	<p>%/number of bathing waters complying with the Bathing Waters Directive.</p> <p>Maintain/enhance existing groundwater and surface water regimes.</p> <p>Groundwater and surface water levels and quality.</p> <p>Monitoring against Catchment Abstraction Management Strategy low flow requirements.</p> <p>Incidence of environmental unacceptable flows in watercourse.</p> <p>Maintenance/enhancement of Good Ecological Status.</p>	<p>Periodic review of the following Environment Agency data against targets for waterbodies and resources: General Quality Assessment; River Quality Objective; Bathing Water Directive.</p> <p>Review of the WFD risk assessments for waterbodies in the Strategy area.</p> <p>Incorporate changes in monitoring objectives brought about by the implementation of WFD objectives.</p>	Environment Agency
<p>Reduce vulnerability to the impacts of climate change.</p>	<p>Indicative floodplains, coastal erosion risk maps.</p> <p>Aim to reduce carbon emissions at project level.</p>	<p>Review of climate change and sea level rise predictions.</p>	Environment Agency
<p>Protect transport links and existing infrastructure.</p> <p>Maintain or improve access to the local community.</p>	<p>No loss of key infrastructure or communication links.</p> <p>Reported damage to communication links.</p> <p>Reported closures/problems with access to local industries.</p>	<p>Use information from the Flood Risk Register (see above).</p>	Environment Agency
<p>Prevent avoidable damage/loss of access to sites of historic interest.</p>	<p>Reported loss of access to sites of historic interest.</p> <p>% of archaeological sites at risk.</p> <p>No. archaeological excavation and other studies that have been produced as a result of implement Strategy.</p>	<p>Use information from the Flood Risk Register (see above).</p> <p>Review register of designated features and add any new ones.</p> <p>Monitoring plan to record no. archaeological studies carried out for each stage of Strategy implementation.</p>	Environment Agency
<p>Conserve and enhance the Area of Outstanding Natural Beauty (AONB).</p>		<p>No monitoring planned. Review this at each Strategy review cycle.</p> <p>Landscape impacts to be considered further during scheme level design and implementation of the Strategy options.</p>	Environment Agency