

Flood Defence & Land Drainage

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Activities

Flood Defence is defined by legislation as the drainage of the land and the provision of flood warning.

The floodplains of the Humber and its tidal tributaries cover approximately 90,000ha and have been reclaimed from the intertidal area over many centuries. 300,000 people live within this area, which includes Hull, Goole, Immingham and large parts of Cleethorpes and Grimsby. The area has much industry, communications, high grade agricultural land, and many valuable archaeological and historic features. Nearly the entire Humber Estuary European marine site is surrounded by defences, which are designed to reduce the risk of flooding.

In rural areas earth embankments provide flood protection. Urban areas and docks are generally protected by floodwalls. Small tributary watercourses have a variety of sluices, clough doors and flap valves to keep out the tide. The River Hull has a tidal surge barrier to prevent the top of extremely high tides from entering the tidal reach of the river. A series of pumping stations and gravity outfalls enable water from the low level drainage systems to enter the estuary. The tidal limits of the principal rivers flowing to the Humber are weirs although they are all a considerable distance upstream of the European marine site.

A number of public and private organisations have responsibility for flood defences around the Humber. These are the Environment Agency, Internal Drainage Boards, Associated British Ports, Crown Commissioners, Kingston upon Hull City Council, North East Lincolnshire Council East Riding of Yorkshire Council and Network Rail. Their responsibilities differ and, except for the Environment Agency, are restricted to specific tidal defences. The flood defence activities of the organisations may include:

- General supervision of flood defence.
- Surveys of areas to identify flood risks, the extent of floodplains, developing catchment flood management plans and shoreline management plans, etc.
- Provision of defences.
- Operation of defences such as pumping stations, gravity outfalls and the Hull Barrier
- Maintenance of defences and watercourses including repairs, stoning, desilting of outfalls, grass cutting and other management of vegetation, vermin control, and removal of obstructions to flow
- Monitoring rainfall, river flow and tide levels.
- Provision of flood warnings.
- Response to flooding including emergency repairs.
- Regulation of proposals for new structures, changes to structures or other works which may affect the integrity of defences and the ability of watercourses to drain or convey floodwater.
- Recommendations on the control of development to protect flood storage capacity and prevent development in flood risk areas.

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Management

The Department for Environment Food and Rural Affairs (Defra) has responsibility for Government policy on Flood and Coastal Defence in England and measures the performance of the statutory flood defence authorities through a series of initiatives known as High Level Targets. There are three statutory authorities with a flood defence remit – Environment Agency, Internal Drainage Boards and Local Authorities.

The Environment Agency has the following roles:

- Supervisory – overall supervision of all matters relating to flood defence undertaken by IDBs, Local Authorities and others.
- Regulatory – control of other parties' works.
- Operational – the undertaking of flood defence works, e.g. maintenance of existing channels and structures, improvement of such works (raising, widening, deepening, uprating, etc), and the undertaking of new works to main river. Works include those for the provision of flood warning.

The Environment Agency is a non-departmental public body and most of its flood defence functions are required to be carried out through appointed Flood Defence Committees; in respect to the Humber these are the Anglian, Midlands and Yorkshire Regional Flood Defence Committees and the Lincolnshire Local FDC. The 19 Internal Drainage Boards are autonomous bodies with the following roles in their designated Internal Drainage Districts:

- Supervisory – supervision of all non main river flood defence activities.
- Regulatory – control of other parties works.
- Operational – undertaking of flood defence works e.g. maintenance of existing channels and structures, improvement of such works (raising, widening, deepening, uprating, etc), and the undertaking of new works to non “main river”.

The Agency and Internal Drainage Boards have powers to undertake works in a flood emergency or where failure of a defence would put lives at risk. In principle, English Nature should be informed in advance although it is recognised that this is not always feasible. In such a case of, for example, a breach in a flood bank that puts people at risk, English Nature should be informed at the earliest practical opportunity. Mitigation measures may be required if emergency works cause damage to a wildlife site. Urgent repairs, removal of obstructions, clear up of sandbanks, etc, may be required after a flood and in such circumstances English Nature are informed.

Internal Drainage Boards (IDB) are democratically elected bodies providing for special drainage needs in their designated districts, which are low lying, often rural, areas. They supervise land drainage matters within their districts and have permissive powers to carry out works on “ordinary watercourses” (i.e. non-main river) within them.

Local authorities have permissive powers to undertake works on “ordinary watercourses”, i.e. those that are neither in an IDB's district nor designated “main river”. They also have powers in respect to culverts, nuisance associated with watercourses and also in their capacity as a highway authority.

The Agency is a statutory consultee for development plans and IDBs also scrutinise these structure and local plans. Recommendations are made to planning authorities on applications for planning permission that may affect flood defence interests or be at risk from flooding. Planning Policy Guidance 25 (2001) advises on the control of development in flood risk areas. The unitary authorities are preparing strategic flood risk assessments in line with PPG25, which will inform their structure and local plans and provide guidance for developers, which may be required in some circumstances to produce flood risk assessments for specific developments.

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The statutory powers for flood defence works and flood warning are permissive (i.e. discretionary). Apart from flood warning, the Agency's powers to undertake works are limited to tidal waters and designated "main" non-tidal rivers. The IDBs powers to undertake works are limited to their own Districts and non "main" river. The Agency and the IDBs through their committees have powers, partly through making byelaws, to regulate the activities of others, which may affect defences, and have associated powers of enforcement. As part of its general supervisory powers over all flood defence matters the Agency may give local authorities or IDBs general or specific advice and may act in default.

Current management objectives

ENVIRONMENT AGENCY

In 1996, MAFF (now Defra) provided the following guidance on sustainable development in respect to flood and coastal defence: *"The aim of Government policy on flood and coastal defence, which is consistent with sustainable development, is to reduce the risks to people and the developed and natural environment from flooding and coastal erosion. The safeguarding of life is clearly the highest priority but environmental and economic factors should be integral to decision making and opportunities should be given as appropriate to enhance the environment. Policy starts from the presumption that except where life or important natural or manmade assets are at risk, natural river or coastal processes should not be disrupted. The effects on wildlife habitats are a high consideration ...Sustainable flood and coastal defence schemes are defined as those which take account of natural processes and of other defences and developments within a river catchment...and which avoids as far as possible committing future generations to inappropriate options for defence. The Environment Agency will be expected to undertake its flood defence functions in accordance with this policy."*

The Agency's flood defence objectives for the estuary are set out in the Humber Estuary Shoreline Management Plan (HESMP). This was published in 2000. The Plan is particularly concerned with the standard of service provided, the effects of sea level rise and any increase in storminess, and the structural integrity of defences including the effects of erosion.

The flood defence objective of HESMP is:

"To reduce the risk to people and property from flooding and erosion"

Detailed objectives cover land use and planning, nature conservation, industry and commerce, navigation and port developments, fisheries, agriculture, community interests, sport/recreation/access, tourism, heritage and cultural resources, and landscape. Key principles of the plan are:

- Compatibility with natural estuary processes.
- Compatibility with adjacent developments.
- Sustainability taking into account future changes in the environment (human, built or natural), sea level rise and climate change.
- Technical feasibility.
- Economic viability.
- Environmental acceptability.
- Social acceptability.

HESMP is based on detailed technical studies of the physical processes operating in the estuary and on its ecology. There is extensive consultation with a wide range of stakeholders. The Plan accompanied by the Humber Estuary Coastal Habitat Management Plan (CHaMP), which is concerned with the losses and gains of natural habitat under European legislation, including those losses resulting from rising sea level in an estuary confined by flood defences ("coastal squeeze").

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HESMP is looking at the alignment of defences, including maintenance of the existing defence line and the creation of new inter-tidal habitat (managed realignment). The purposes of such setback are to:

- Achieve more sustainable and stable defences, e.g. safeguarding against erosion.
- Reduce extreme high water levels – this may be effective in the upper estuary and tidal rivers.
- Reduce capital and maintenance costs.
- Create habitat to offset losses from engineering works or coastal squeeze, and in so doing comply with the Habitats Regulations

Current management for nature conservation

The Agency has a duty to further nature conservation in its flood defence activities. Its conservation duties must be applied when exercising its regulatory role, e.g. when determining consents to undertake works under the byelaws. Flood defence schemes require environment impact assessments and, where there could be a significant impact on SAC, SPA or Ramsar, appropriate assessment. Where there is a significant impact but no appropriate alternative to a scheme, the agreement of the Secretary of State must be sought that there is an “over-riding public interest” for the works to be undertaken. In some circumstances planning permission is required.

HESMP and the associated Humber CHaMP take into account environmental requirements and constraints.

INTERNAL DRAINAGE BOARDS

The 19 IDBs surrounding the Humber Estuary European marine site all have similar broad aims and objectives for the management of the land and flood risk adjacent to the Humber, which are allied to the Government’s policy aim:

To reduce the risk to people and the developed and natural environment from flooding and coastal erosion by encouraging the provision of technically, environmentally and economically sound and sustainable defence measures.

The IDBs plans for reducing or managing the risk of flooding and coastal erosion risk in their areas are:

1. To encourage the provision of adequate and cost effective flood warning systems.

Provision of flood warning systems is the responsibility of the Environment Agency. However, the IDBs recognise their related and important role in emergency planning and response. They will therefore:

- ensure that emergency response plans include appropriate arrangements for flooding emergencies and that such plans are reviewed, in consultation with the Environment Agency, at least every two years;
- maintain an awareness of the Environment Agency’s flood warning dissemination plan for the area and contribute to its implementation as necessary; and
- play an agreed role in any flood warning emergency exercises organised by the Environment Agency covering their areas.

2. To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal defence measures.

The Internal Drainage Boards around the Humber will provide an adequate, economically, technically and environmentally sound approach to providing the flood and coastal defence service. They will:

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- adopt a strategic approach to provision of flood and coastal defences, particularly by assessing any potentially wider effects of proposed defences. To this end they continue to play a full role in Shoreline Management Plans, and Local Environment Agency Plans, for our area;·
- aim to provide sustainable flood and coastal defences which provide social and/or economic benefits to people whilst taking account of natural processes and which avoid committing future generations to inappropriate defence options;
- ensure work is carried out in accordance with best practice and to deliver best value for money including (a) keeping up-to-date with policy and technical developments in flood and coastal defence, in particular by reference to Defra guidance, other Government publications and relevant technical manuals; (b) consulting the Environment Agency on flood defence options to ensure that best practice is adopted and shared; and (c) using appropriately qualified experts to advise on analysis and design of works or programmes of management;·
- consider alternative approaches to funding, such as Public Private Partnerships;
- where appropriate seek contributions from developers or other direct beneficiaries of works, in accordance with Planning Policy Guidance Note 25.·
- ensure that appropriate inspection and maintenance regimes are in place for flood and coastal defences for which the individual Boards take responsibility;·
- inform landowners of what responsibilities for maintenance rest with them (see paragraph 3.1 below);·
- make publicly available the board's expenditure plans for flood and coastal defence maintenance and capital works.·
- play a positive role in fulfilling our statutory and other responsibilities for furthering nature conservation, including achievement of the Government's environmental obligations and targets.

With particular respect to their duties to further nature conservation, the Boards will:

- fulfil responsibilities in relation to nationally and internationally important conservation areas, under the Wildlife and Countryside Act 1981 and as a competent authority under the terms of the Conservation (Natural Habitats &c.) Regulations 1994;·
- co-operate with English Nature and the Environment Agency in completing and implementing Coastal Habitat Management Plans (CHaMP), drawing on English Nature/Environment Agency guidance for plan production;·
- when carrying out flood and coastal defence works, seek opportunities for environmental enhancement, and aim to avoid damage to environmental interest and to ensure no net loss to habitats covered by national Biodiversity Action Plans. They will monitor all losses and gains of such habitats as a result of these operations and report on them annually to the Environment Agency; and·
- ensure that, for those Water Level Management Plans where IDBs are the lead operating authority, work in partnership with English Nature to complete, implement and review Plans in accordance with Defra guidance on plan completion and the timetables set out in Defra High Level Targets.

3. To discourage inappropriate development in areas at risk from flooding and coastal erosion.

The IDBs will continue to advise the local planning authorities, as consultee on local plans and individual planning applications, of the potential flood risk of development proposals. As part of this they are guided by PPG 25 and flood risk assessments.

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Further Information

Legislation

Anglian Land Drainage and Sea Defence Byelaws 1987.
Conservation (Natural Habitats & c.) Regulations 1994.
Countryside and Rights of Way Act 2000.
Environment Act 1995.
Internal Drainage Board Byelaws (various dates)
Land Drainage Act 1991.
Land Drainage Act 1994.
Water Resources Act 1991.
Yorkshire Land Drainage Byelaws 1980.

References

Department of the Environment Food and Rural Affairs, 2001. Development and Flood Risk, Policy Planning Guidance 25
Environment Agency, 1999. Humber State of the Environment Report
Environment Agency, 2000. Planning for the Rising Tides - Humber Estuary Shoreline Management Plan, (and associated reports)
Environment Agency, 2003. Planning for the Rising Tides - Information on Managed Realignment
Environment Agency, 2004. Humber Estuary Coastal Habitat Management Plan
Yorkshire and Humber Assembly & Yorkshire Forward, 2002. Warming up the Region: The Impact of Climate Change on the Yorkshire and Humber region

Factors arising from the activity

Activity	Location	Present/ historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B1/ Capital Schemes	At places around whole tidal system.	*	ABP Crown Estate EA IDBs LA	EA EN IDBs LA	Physical loss: Removal Loss of habitat but may be balanced by provision of new habitat to offset losses, including as a result of coastal squeeze, changes to erosion and deposition, disturbance. (subject to compliance with HESMP, EIA, provision of mitigation/compensation measures, and planning permission in some cases).	YES
* Many centuries of building and refurbishment of defences, now will be in line with HESMP High/med.						<-
B2/ Barriers to fish passage	(Annex A12)					
B3/ Discharge of surface water from pumping stations, clough doors, and flap valves	At locations around whole site.	Developed through 20th century with some older structures, continuing need to operate.	EA IDBs Some other riparian owners	ABP EA EN IDBs LA	Effects compared to free draining inputs. Physical loss: Removal & Smothering Possible impact on saltmarsh and intertidal sediments. In general, discharge channel paths are unlikely to vary and the risk of impact on established communities is therefore very low. Physical damage: Siltation North bank - possible impact on saltmarsh, pioneer saltmarsh and intertidal sediments but localised and limited. South bank - no impact.	NO NO NO

Activity	Location	Present/ historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B3/ Discharge of surface water from pumping stations, clough doors, and flap valves Continued					Physical damage: Abrasion North bank - at some outfalls (Easington) there may be abrasion to the saltmarsh, pioneer saltmarsh and intertidal sediments – only significant in high drainage periods but controlled by maximum flow of pumping stations.	YES Minor
					South bank – possible abrasion to pioneer saltmarsh and intertidal saltmarsh but limited and localised, some occurs at Donna Nook.	YES Minor
					Non-toxic contamination: Changes in nutrient loading North bank possible affect on saltmarsh, pioneer saltmarsh and intertidal sediments at certain outfalls due to high flow/ periodic flushing but very low impact. South bank no impact – all outfalls discharge under gravity so only established channel affected.	NO
Non-toxic contamination: Changes in turbidity Possible impact on subtidal sandbanks but change is negligible compared to natural changes – more likely to affect upstream of site.	NO					
B4/ Maintenance Desilting of outfalls	Wholesite	Med/med Long history and ongoing need.	ABP Crown Estate EA IDBs Some LA	ABP EA EN IDBs, LA	Physical loss: Removal North bank – no impact. South bank (Whitton - Theddlethorpe St Helen) - possible impact on saltmarsh, pioneer saltmarsh and intertidal sediments but channel is long-established and is merely maintained.	NO NO

Activity	Location	Present/ historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B4/ Maintenance Desilting of outfalls Continued			Some other riparian owners IDBs carry out needs based removal of silt accumulations from outfall channel through creeks under agreement from English Nature		<p>Alkborough – tide kept back and flushed out at low tide 4 times per year – impact is low and localised as small minor drains.</p> <p>Physical loss: Smothering North bank - possible impact on saltmarsh and intertidal sediments.</p> <p>South bank – possibility of smothering of saltmarsh and intertidal sediments from placement of spoil at Tetney Haven.</p> <p>Physical damage: Siltation North bank – possible impact on intertidal sediments but limited and localised.</p> <p>South bank – no impact.</p> <p>Physical damage: Abrasion North bank – possible impact on saltmarsh, pioneer saltmarsh and intertidal sediments but limited.</p> <p>South bank – possible impact on intertidal sediments but very limited.</p> <p>Non-physical disturbance: Noise & Visual Possible impact on birds but very low and try to avoid times when birds are vulnerable.</p>	<p>NO</p> <p>?</p> <p>On very high tide, Stonecreek outfalls & Hedon Haven</p> <p>?</p> <p>May be significant for saltmarsh</p> <p>NO</p> <p>NO</p> <p>NO</p>

Activity	Location	Present/ historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B6/ Maintenance Stoning	North bank and Whitgift	Low/low As needed	ABP Crown Estate EA IDBs	ABP EA EN IDBs LA	<p>Physical loss: Removal and Smothering Very limited impact.</p> <p>Physical damage: Abrasion North bank – Easington – possible impact on saltmarsh and intertidal sediments but works carried out from the top of the bank.</p> <p>Non-physical disturbance: Noise & Visual Possible impact on birds such as ringed plover that may still be migrating May/June and during emergency works but only significant impact if multiple works to take place in winter along long stretches.</p>	YES
	No stoning carried out on south bank (EA Anglian region) at present, has been done at Whitgift in the past when required – less than once per year.	Some LA Some other riparian owners				YES Minor
	On north bank stoning carried out between early June and late July (except for emergencies).					YES Minor
B7/ Maintenance Repairs to banks and other structures	Throughout SAC and SPA/ Ramsar including Donna Nook where EA maintain defences periodically on beach	Low/low As needed	ABP Crown Estate EA IDBs Some LA Some other riparian owners	ABP EA EN IDBs LA	<p>Physical loss: Removal and Smothering North bank – no impact. South bank – no impact.</p> <p>Physical damage: Abrasion North bank – possible impact on saltmarsh and intertidal sediments but repairs carried out from the top of the flood banks so impact very limited.</p>	YES Minor
N.B. Emergency works such as breach repair may be required without full environmental appraisal with mitigation measures undertaken when the emergency is over.						YES Minor

Activity	Location	Present/historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B7/ Maintenance Repairs to banks and other structures Continued					South bank - possible impact on saltmarsh and pioneer saltmarsh but limited as repairs done from the top of the bank. Non-physical disturbance: Noise & Visual Possible impact on birds – aside from emergencies, tries to avoid times when birds are vulnerable to disturbance.	YES Minor YES Minor
B8/ Maintenance Removal of rubbish and obstructions	*	Low/low As needed	ABP Crown Estate EA IDBs LA Some other riparian owners	ABP EA EN IDBs LA	Physical loss: Removal and Smothering North bank – possible smothering impact on saltmarsh, intertidal sediments – localised and limited. South bank – very limited impact e.g., EA Midlands region remove debris from embankment prior to mowing once a year in Spring. Rubbish at Alkborough burnt on site or removed for disposal. Physical damage: Abrasion South bank – no impact – any obstruction removed via boat. Non-physical disturbance: Noise & Visual North bank - (EA North East region) and south bank – possible impact on birds but localised and small scale – try to avoid times when birds vulnerable to disturbance. Possible impact on birds when entering creeks and adjacent areas to remove wreckage driven in and illegally dumped rubbish – can involve use of chainsaws, tractor, tracked excavator, etc.	YES Minor NO YES Minor
* South bank – limited problem – timber occasionally gets caught North bank – grassy margins along River Ouse (wracking), at Winestead Bank some rubbish is heaped up into a pile and burnt. Public amenity clearance at Paull Holme and occasional clearance along Humber estuary. On the north bank suitable burning sites have been identified by the EA & EN on the north bank of the River Ouse						

Activity	Location	Present/ historic levels of activity	Existing management Responsible Organisations	Relevant Authority Bold = Lead	Possible effect on features	Significant Effects
B9/ Maintenance Vermin control	As and when and where required	Low/low	ABP Crown Estate EA IDBs Some LA Some other riparian owners	ABP EA EN IDBs LA	Non-physical disturbance: Noise & Visual SPA/Ramsar - possible visual disturbance to birds – man on foot or in landrover.	YES Minor
B10/ Monitoring surveying and inspection * (Annex H)	Throughout site	Low/ medium	EA IDBs LA(plus data from other organisations)	ABP EA EN IDBs LA	Non-physical disturbance: Noise & Visual SPA/Ramsar – possible noise disturbance to birds but minimal – one or two men walking along.	YES Minor
*Including collection of data on defences, land use environment for planning design and impact assessment.						
B11/ Operation of River Hull Tidal Surge Barrier and flood gates*	Hull and some other urban areas	Barrier operational since 1980,	EA LA	EA LA	Negligible as short closures in urban areas; flood gates are not across watercourses but allow access of vessels through flood walls.	NO
*Most gates provided in last 20 years but others older.						

Internal Natural factors

Flood defence is the response to risks resulting from high rainfall and runoff, tidal conditions including surge tides, and is affected by changing physical conditions whether natural or man-made. Rising sea level resulting from global warming and, the tilting down of this part of the UK is also a key, long-term factor.

External factors

Conditions outside of the site are of vital importance. These include runoff from the inland river systems, North Sea conditions and especially tidal surges, and the supply of sediment to the estuary particularly from the Holderness coast.

Future management

Rationale

HESMP and its associated CHaMP and investment strategies are being developed to provide a framework for the Humber tidal system decision making on sustainable flood management taking into account the needs of industry, agriculture, developers, navigation, communities, heritage and nature conservation.

Management Action

Overall management objective for Flood Defence & Land Drainage:

“to protect people and property from flooding while ensuring activities carried out are in harmony with the conservation objectives for the Humber Estuary European marine site”

Activity	Factor	Proposed management actions	Timetable	Implementation Bold = Lead RA
B1/ Capital schemes	F6	<p>Development of HESMP and CHaMP provides a sustainable long-term management strategy for flood defence investment.</p> <p>Assessment of schemes under the Habitats Regulations 48-53.</p>	*	EA
		<p>* Ongoing EA programme being developed to form HESMP Investment Strategy). Current schemes include: Crabley Clough to Brough (03-04) Ouse Slips, Goole (tbd) Barton Haven (04/06) Swinefleet (04/05)</p>		

Activity	Factor	Proposed management actions	Timetable	Implementation Bold = Lead RA
B2/ Barriers to fish passage (Annex A12)	F3/F5	Strategy being developed to provide fish passes including when undertaking capital works related to a barrier. Paull Home Strays complete 2003. Some Elver passes installed as a trial. *Main programme to be determined.	*	EA IDB
	F5	Review current regime when monitoring information becomes available.	Ongoing	ABP EA IDB LA
B3/ Discharge of surface water from: Pumping stations, Clough doors and flap valves (The impact is from the flow of water itself)	F3	Monitor impact at outfalls such as Easington at high drainage periods.	Monitoring timetable to be established	
	Note Maintenance Programmes will be undertaken in consultation with other Relevant Authorities where appropriate and formally discussed with English Nature.			
B4/ Maintenance Desilting of outfalls	F5	Review current regime when monitoring information becomes available	Ongoing	ABP EA IDB LA
	Mostly F3	Monitor impact at outfalls, particularly the effects on saltmarsh habitat, where “hold back and flush” regime used.	Monitoring timetable to be established.	
B5/ Maintenance Grass cutting and vegetation management	F3	Development of the annual maintenance programmes and formal discussions with English Nature are continuing.	Annually.	ABP EA IDB LA
B6/ Maintenance Stoning	F6	Development of the stoning strategy is continuing, Habitats Regulations 48-53.	2004	ABP EA IDB LA
	F3/F5	Draw up programme of works.	Annually	

Activity	Factor	Proposed management actions	Timetable	Implementation Bold = Lead RA
B7/ Maintenance Repairs to banks and other structures	F3	Surveillance of the continuing regime – i.e., carry out repairs as required, particularly after floods and minimise and mitigate against impacts. Consult with English Nature prior to works unless impractical during an emergency.	Ongoing Ongoing	ABP EA IDB LA
B8/ Maintenance Removal of rubbish and obstructions	F5 F3	Surveillance of the continuing regime. Carry out removal disposal of rubbish as required, particularly after floods and minimise and mitigate against impacts. Monitor areas where visual and noise impact may be high.	Ongoing Monitoring regime to be established (to be checked).	ABP EA IDB LA
B9/ Maintenance Vermin control	F3	Surveillance of the continuing management.	Ongoing	ABP EA IDB LA
B10/ Monitoring and surveying	(Annex H)			
B11/ Operation of River Hull Tidal Surge Barrier and flood gates	F3	Surveillance of the existing management.	Ongoing	EA Kingston Upon Hull City Council