

HUMBER MANAGEMENT SCHEME

Shipping & Navigation

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Statutory bodies involved

A number of statutory bodies are involved: Associated British Ports (ABP), Environment Agency (EA), Local Authorities (LA), Associated Petroleum Terminal (Immingham) Ltd (APT), Crude Oil Terminals (Humber) Ltd. (COTH), Humber Properties Ltd (HPL) Humber Sea Terminals (HST), Department for Transport (DfT), Department for the Environment, Food and Rural Affairs (Defra) and British Waterways (BW). These abbreviations are used in the following text.

Activity

Dock, port and marina development

The Humber Estuary has four major ports and numerous wharves and jetties. The Port of Goole is located on the River Ouse approximately 7 miles west of the point where the River Ouse enters the River Humber; the Port of Hull is located on the north bank of the Humber Estuary, together with the wharf at Hessle Dock; and the Ports of Immingham and Grimsby are situated on the south bank close to its mouth. The smaller Port of Howdendyke is situated approximately 5 miles upriver of Goole. There are numerous berths on the River Trent below Keadby Bridge. Dock, port and marina developments are considered as plans and projects under the terms of the Habitats Regulations.

Maintenance Dredging: This takes place on a number of sites throughout the estuary and is affected by natural cycles in silt deposition and by the weather. Dredging takes place under the Humber Conservancy Acts; the disposal of material is licensed by Defra.

- Sunk Dredged Channel - depositing of material licensed up to 7.8m tonnes. Frequency is continuous. (ABP)
- Goole Docks - depositing of material licensed up to 99,000 tonnes. Frequency is continuous. (ABP)
- Grimsby Royal & Alexandra Docks and dock entrances - depositing of material licensed up to 0.85m tonnes. Carried out on continuous basis. (ABP)
- Grimsby Fish Docks - depositing of material licensed up to 0.15m tonnes. Continuous (Grimsby Fish Dock Enterprises)
- Immingham docks, dock entrances and river frontage - depositing of material licensed up to 4.0m tonnes. Frequency is continuous. (ABP)
- Hull docks and dock entrances - depositing of material licensed up to 3.5m tonnes. Carried out on continuous basis. (ABP)
- River Humber (Misc. channels, cloughs and old dock entrances) - low intensity and carried out regularly. (ABP). Material is deposited at licensed sites within the estuary.
- River Berths are dredged on a regular basis. Material is deposited at licensed sites within the estuary.
- River Hull is dredged by the Kingston upon Hull County Council. Material is deposited at licensed sites within the estuary.
- Hull Marina dredged winter 03/04 by British Waterways. Material is deposited in the river under the terms of a FEPA licence.

Hydrographic Surveying

This takes place throughout the estuary on a continuous basis, more frequently in the upper estuary - intensity is dependent on the area within the estuary. Quarterly depth surveys are carried out by Humber Sea Terminals at North Killingholme Jetty.

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Vessel transits/navigation

This is managed by ABP throughout the estuary on a continuous basis. British Waterways also have responsibility for navigation on the River Ouse from 100 yards below Goole (Skelton) Rail Bridge to Barlby above Selby beyond the Humber Estuary European marine site and upriver of the south side of the stone bridge at Gainsborough on the River Trent (also beyond the marine site limits).

Navigation lighting

Lights on buoys, banks and other structures are operated on a continuous basis to ensure safe movement of shipping. ABP is the Local Lighthouse Authority.

Harrowing/Ploughing/Bed Levelling

This activity entails dragging a heavy steel plough over the riverbed to smooth irregularities. It is carried out by the responsible authority throughout the estuary and the Rivers Ouse and Trent. This has only been required on six tides in the last five years. It is light with perhaps six runs per tide on a strictly as needed basis.

Pilotage

Pilotage is the conduct of a vessel by a person (not being the master) with local knowledge of the waterway. This activity is undertaken with high intensity on a continuous basis on the estuary.

Maintenance of structures - Jetties, wharfs etc

ABP and third party organisations carry out this activity, which includes a range of maintenance and repair works, from painting to replacement of worn out structures. Intensity is moderate and is done on an ad hoc basis to meet demands. Some major works are considered as plans and projects under the terms of the Habitats Regulations.

Spillages from vessels and harbour installations

This activity is impossible to predict in terms of the location and polluter. The intensity depends on the size of the spill.

Movement of Floating Marks

Buoys and floats are used to mark the best available navigation channels (not Rivers Ouse or Trent). These channels, particularly those in the Upper Humber, beyond the Humber Bridge, are constantly moving and can necessitate up to as many as 90 movements annually.

Liquid effluent and ballast water discharges

APT hold liquid effluent discharge consents for its Immingham Oil Terminal and South Killingholme Jetty operations.

ConocoPhillips Ltd (CoP) holds effluent discharge consents for treated discharge at Tetney Haven, into the Humber at Immingham and into the Humber via South Killingholme and Habrough Marsh Drains.

Liquids are treated, processed and tested to ensure they meet the stringent Environment Agency consent limits.

Discharge of effluent at sea from ships

Regulated under MARPOL 1973/78.

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Management

ABP is the owner of the Ports of Hull, Goole and Grimsby and Immingham. ABP, through the offices of Humber Estuary Services (HES) is the harbour authority for those parts of the Humber, Ouse and Trent as defined in The Humber Navigation Byelaws 1990. The main role of HES is to provide safe navigation for all craft sailing within the confines of ABP-HES harbour jurisdiction and to provide an efficient pilotage service under its remit as Competent Harbour Authority. ABP is the beneficial owner of most of the bed of the River Humber by virtue of a 999 year lease from the Crown Estate dated 1/1/1869. ABP complies with current legislation in the management of its harbour.

APT operates and manages 3 marine terminal facilities on the south bank of the River Humber, providing services to the 2 oil refineries at Immingham:

- Immingham Oil Terminal, a 7-berth complex handling Crude Oil and other petroleum products on vessels ranging in size from 500 to 300,000 tonnes SDWT.
- Immingham Gas Jetty, a single berth site handling Liquefied Petroleum Gas (LPG) and other petroleum products on vessels up to 55,000 tonnes SDWT.
- South Killingholme Jetty is also a single berth facility handling LPG and other petroleum products on vessels up to 60,000 tonnes SDWT.

Crude Oil Terminals (Humber) Ltd. is the Harbour Authority for the Tetney marine facilities, importing in excess of 8 million tonnes of crude oil through the Tetney Monobuoy, an offshore discharge facility. The crude oil is then pumped, via an underground pipeline to ConocoPhillips Ltd's Humber Refinery.

NOTE: Crude Oil Terminal (Humber) Ltd, is owned by ConocoPhillips Ltd (CoP) which also owns and operates an oil refinery; a multiple product transfer, storage and loading facility; a coke product transfer, storage and ship loading facility and LPG product transfer, storage (underground) and ship loading/offloading facilities.

British Waterways' main role is as Harbour Authority and as Competent Harbour Authority for pilotage on the River Ouse within its area of responsibility. BW is the authority for the Port of Howdendyke and Selby. Main areas of responsibility are: navigation of vessels, hydrographic survey, monitoring and clearing/raking (harrowing) of navigation channels, oil pollution defence and spillage clearance.

Humber Sea Terminal (HST) carries out the import, export and transportation of unitised, bulk and general cargoes via two Roll on/Roll off berths and three Lift on/Lift off berths at North Killingholme Haven. HST exercises jurisdiction as a harbour authority for its jetty premises together with so much of the river as lies within the area of water adjacent to those premises and which is bounded by an imaginary line, 100 metres from the jetty premises.

Humber Properties Limited (HPL) operate Hessle Dock, which handles small vessels trading to the near continent and occasional aggregate barges. HPL exercise jurisdiction as a harbour authority for its jetty premises.

Current and past management/types of regulation

Maintenance of navigation/shipping channels:

ABP maintenance dredges the Sunk Dredged Channel on a continuous basis. Lock entrances and river berths are dredged at the behest of Dock Masters of the various ports. Humber Sea Terminal is responsible for the dredging of its terminal as a Harbour Authority and occasionally requires its approach channel to be dredged.

Shipping movements in the rivers under the jurisdiction of Humber Estuary Services are controlled through Vessel Traffic Services Humber, an operational centre which directs the movement of ships within a harbour area, through use of radar and VHF radio. Base information, as contained within the Harbour Master's Annual Report, is provided from the Port And Vessel Information System (PAVIS) computer system. ABP HES survey the river, mark the best channels with buoys, and promulgate information on the river through the issue of Notice to Mariners, charts and the radio broadcast of information. They also operate a fleet of survey craft, pilot craft and a buoy vessel to provide the services required.

Maintenance Dredging:

A (Defra) licence is required for depositing dredged material and a Department of Transport consent would be required if a new deposit site was established.

Navigation

This is regulated via the Humber Navigation Byelaws 1990, and General and Special Directions issued under the British Transport Docks Act 1972.

Alteration of structures/Construction of New Facilities:

ABP grants consents to proceed. A (Defra) licence and a Department for Transport (DfT) consent are also required. Construction of new facilities are generally considered as 'plans or projects' under the terms of the Habitats Regulations.

Spillages from vessels and harbour installations - clear up operations

ABP is responsible for clean-up in the river. Crude Oil Terminals (Humber) Ltd is responsible for oil spills in its own area of jurisdiction i.e. Tetney Monobuoy. BW is responsible for oil pollution defence and clean up in its area of responsibility. Shoreline response is undertaken by Local Authorities. The Maritime and Coastguard Agency (MCA) approve oil spill plans.

Oil Spill Contingency Plans

"Humber Clean", ABP-HES's Oil Pollution Contingency Plan incorporating independent oil spill contingency plans of other authorities.

The Unitary Authorities "Humber Unitary Oil Pollution Forum, Shoreline Clean Up Plan".

The provision of 15 "Oil Spill Response Plans" for the various independent jetty, wharf and haven operators.

Hydrographic Surveys

Carried out by ABP (continuous) and British Waterways (as required).

Humber Sea Terminals undertakes surveys at its terminal and approaches and occasional private surveys are carried out for ad hoc projects.

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Recreational Activity

Activities such as races and festivals taking place within the navigable areas of the Humber Estuary are regulated under the Humber Navigation Byelaws 1990 and General and Special Directions issued under the British Transport Docks Act 1972.

Buoy movements & Navigation lighting:

ABP is the local lighthouse authority and Trinity House Lighthouse Services is the general lighthouse authority. Light floats, light buoys and shore marks are moved in response to changes in navigable channels or new hazards.

Discharge of treated ballast water:

Discharges are subject to Environmental Pollution Act 1990 consent limits. This activity is only carried out by APT/ConocoPhillips. Discharge of untreated ballast water from ships (non-polluted/contaminated) is carried out on a continuous basis throughout the estuary (shortly to be regulated by IMO).

Liquid effluent discharges:

APT operates its facilities under stringent safety and environmental management systems, statutory consents and authorisations. It holds discharge consents for Immingham Oil Terminal and South Killingholme Jetty. Immingham Oil Terminal is a Control of Major Accident Hazard site (COMAH Regulations 1999).

All of ConocoPhillips Ltd's operations, of which Crude Oil Terminals (Humber) Ltd - Tetney – is one, are operated under their ISO 14001 certified Environmental Management Scheme. The oil refinery; the Tetney facility; the multiple product transfer, storage and loading facility; and the coke product transfer, storage and ship loading facilities also operate under Environmental Pollution Act 1990 Part 1 authorisations. Discharges to air and water are subject to these authorisations. ConocoPhillips Ltd hold effluent discharge consents for Tetney, for Humber Refinery (into the River Humber via the South Killingholme and the Habrough Marsh Drains) and for the Immingham Pipeline Centre (direct into the River Humber).

Current management objectives

The dredging and disposal of material is driven by the need for ports and harbours to provide safe navigation channels.

ABP Humber Estuary Services' objectives are:

- To ensure a safe harbour by providing buoyage, hydrographic services, pilotage and Vessel Traffic Services to the highest standards of navigational safety
- To be committed to a working partnership with harbour users, relevant authorities and the general public
- To conserve the marine environment

APT's aim is to provide vessel loading/discharging and product handling operations in the safest, most environmentally responsible, cost efficient and timely manner for shareholders and customers at all of their sites.

The 'vision' of ConocoPhillips (of which the Tetney facility is part) is to be the safest, cleanest and most profitable European refinery.

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Current management for nature conservation

ABP's Humber Estuary Services objectives include:

- To ensure a safe harbour through controls and monitoring which assist in protecting the marine site
- To conserve the marine environment seeking to ensure no detrimental effects
- To comply with legislation affecting SSSIs, SPAs, Ramsars, pSACs (or any internationally important site)
- To provide and review Navigation Byelaws and General Directions with regard to the marine site
- Endeavouring to reduce air pollution by abiding by international emission controls
- Continuing to provide ABP land for use as a bird sanctuary

Humber Estuary Management Strategy (HEMS)

ABP, EN, EA and the LA were involved in developing this strategy in which it was identified that *“There is a need to integrate the conservation and enhancement of the internationally important sites (SPA) on the Estuary with the development needs of Ports and Industry”*. The following objectives are set out in the HEMS document:

- To avoid actions which may adversely affect, either directly or indirectly, the habitats which support nationally and internationally important populations of bird species
- To restore degraded sites where practical and identify new sites for habitat creation to offset habitat loss
- To ensure that new works are timed so that they minimise the impact of disturbance to birds by avoiding roosting, feeding and breeding areas at certain times of year or states of tide
- To continue to evaluate fully the potential effect of new development on conservation interests through the planning process, e.g. Environmental Impact Assessments
- To promote the adoption of no net-loss of inter-tidal habitat as a principle for facilitating development needs within the estuary without compromising the integrity of the SPA.

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Further Information

“Humber Clean”, ABP HES oil pollution contingency plan.

Humber Clean, Oil Spill Contingency Plan for the Humber Harbour Area, Revised Jan 2001 – ABP HES.

Legislation:

British Transport Docks Act 1972.

COMAH Regulations 1999.

Countryside & Rights of Way Act 2000.

Dangerous Vessels Act 1985.

Environment Act 1995.

Environmental Pollution Act 1990.

Environmental Protection Act 1990, 1995.

Food and Environmental Protection Act 1985.

Conservation (Natural Habitats & c.) Regulations 1994.

Harbours Docks & Piers Clauses Act 1847.

Humber Conservancy Acts: 1852, 1868, 1871, 1899, 1905, 1907.

Humber Environment Group Contingency Plan for Marine Pollution from Shipping and Offshore Installations.

Humber Navigation Byelaws 1990 – ABP-HES.

Merchant Shipping Act 1894, 1995.

“Neptune” Grounding 1936 (case law).

Ouse (Lower) Improvement Act 1884.

Rivers Ouse & Foss Navigation Byelaws (1980).

Pilotage Act 1987.

Pollution Prevention and Control Act 1999.

The Dangerous Substances in Harbour Areas Regulations 1987.

The Humber Navigation Byelaws 1990.

The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998.

The Merchant Shipping (Reporting Requirements for Ships Carrying Dangerous or Polluting Goods) Regulations 1995.

Town and Country Planning Act 1990.

Water Resources Act 1991.

Wildlife and Countryside Act 1981.

Publications/Plans:

Coastal Habitat Management Plan.

HECAG, LEAPS.

Humber Action Plan.

Humber Estuary Biodiversity Action Plan .

Humber Estuary Partnership - Humber Estuary Management Strategy (document).

Humber Estuary Shoreline Management Plan.

Humber Port Estuary Strategy.

The provision of 15 “Oil Spill Response Plans” by the various independent jetty, wharf and haven operators.

The Unitary Authorities “Humber Unitary Oil Pollution Forum, Shoreline Clean Up Plan”.

Humber Estuary Environmental Group Plan.

Factors arising from the activity

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I1/ Spillages from vessels and harbour installations (Annex D11)	*	Generally low, potential for high intensity/ low frequency	ABP APT BW CoP Defra EA EN HPL HST LA MCA	ABP APT BW EA EN HPL HST LA	Physical loss: Smothering SAC - Saltmarsh, intertidal sediments and subtidal sandbanks and SPA – Inner/Middle/Outer estuary - bird species (loss of habitat/food source) may be effected. Seals may be affected by polluted sand.	YES Depends on size of spillage
					Toxic contamination: Introduction of synthetic compounds. Introduction of and non-synthetic compounds. All features may be affected although at Donna Nook lower risk due to distance from navigation channel/harbour installations Non-toxic contamination: Changes in turbidity May affect shallow water areas - SAC	YES If large oil spill NO If impact, recovery quick
I2/ Spillage clear up operations	As above (I1).	Generally low, potential for high intensity/ low frequency	ABP APT BW CoP Defra EA EN HST HPL LA MCA	ABP APT BW EA EN HPL HST LA	Physical loss: Removal May be loss of intertidal sediments exposed by falling tide and coastal lagoons may be affected (no coastal lagoons in immediate area). Physical loss: Smothering Dispersants have the potential to smother subtidal sandbanks, intertidal sediments and saltmarsh. *(Dispersants used will not cause smothering)	YES If large spill NO*

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I2/ Spillage clear up operations Continued					<p>Physical damage: Abrasion Physical presence of human beings, vehicles and small craft may affect birds.</p> <p>Non-physical disturbance: Noise and Visual Physical presence of human beings, vehicles and small craft may affect birds Spray craft have a very low engine noise when in operation & personnel are usually inside the cabin.</p> <p>Toxic contamination: Introduction of synthetic compounds. All features in the SAC may be affected by dispersants but on the Humber the dispersants used have a very low level of toxicity. Strict adherence to spray regime ensures negligible effect on birds/seals.</p> <p>Non-toxic contamination: Changes in turbidity May change the turbidity in subtidal sandbanks but recovery would be quick</p>	<p>YES If large spill</p> <p>YES If large operation</p> <p>NO</p> <p>NO</p>
I3/ Maintenance of structures	All docks, ports and marinas.	Low/low	ABP APT Defra EN HPL HST	ABP APT HPL HST	<p>Physical damage: Abrasion Impact on SAC: structures built in deep water not on mudflats/sand, very limited impact on subtidal sediments – maintenance carried out from the water. Inner estuary: Limited to Blacktoft Jetty and navigation (fished) marks, shore navigation marks and tide board jetties – localised impact. Work from boats or scaffolding.</p>	NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I3/ Maintenance of structures Continued					Non-physical disturbance: Noise & Visual Very limited impact. At Donna Nook ABP have no structures but there is an impact due to MOD bombing range (maintenance works) but seals highly tolerant to noise & visual disturbance.	NO
I4/ Movement of Floating Marks	River Humber below Trent Falls	High/high	ABP THLS	ABP	Non-physical disturbance: Noise & Visual No effect on SAC. SPA Inner – 12 floating marks in the inner estuary changed regularly. SPA Middle – approximately 40 marks that are moved infrequently – four year maintenance programme. SPA Outer – approx. 40 floating navigation marks, approx 10 inspected each year. Activity is non intrusive and usually takes place at high slack water. No buoys at Donna Nook area.	NO
I5/ Discharge of effluents at sea (ships)	If carried out (illegally) would be in navigable channels	Low/Low	ABP APT BW COTH HST	ABP	Non-toxic contamination: Changes in nutrient loading and changes in organic loading. The Regulations forbid the discharge of effluent.	NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I6/ Discharge of ballast water	River Jetties and into docks.	Med /High	APT Defra EA	EA	Non-toxic contamination: Changes in turbidity Very localised effect on sub-tidal sandbanks.	NO
					Biological disturbance: Intro non native species, and translocation.	NO
Could alter the ecology of the estuary but very small scale currently. Vast majority of vessels arriving on the Humber in ballast will have taken on board their ballast in northern European waters, which do not contain non-native species. Many tankers have permanent ballast on board. Other ships frequently change their ballast on passage.						
I7/ Dock, port and marina development	Hull, Grimsby, Immingham, Goole and other ports.	Med/high	ABP BW Defra EN HPL HST	ABP BW EN HPL HST	Removal: physical loss Removal of habitat for new development.	YES
					Smothering: physical loss New structures, depositing of material.	YES
					Physical damage: Abrasion People, machinery, etc.	YES
					Non-physical disturbance: Noise and Visual People, machinery, etc.	YES
I8/ Harrowing/ Ploughing/Bed Levelling of river bed to smooth irregularities	Lower River Ouse, Grimsby, Immingham, Killingholme, Hull waterfront and old dock entrances.	Low/low	ABP BW Defra	ABP BW	Physical damage: Siltation No impact on vulnerable features – saltmarsh, pioneer saltmarsh and intertidal sediments – harrowing, where silt is dragged into deeper water. Occasional drain entrance clearance – as needed, irregular.	NO

Activity	Location	Present <i>/historic</i> levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I8/ Harrowing/ Ploughing/Bed Levelling of river bed Continued	Occasional drain clearance. Rivers Humber, Trent and Ouse.				Physical damage: Abrasion SAC, SPA Middle & Outer, Ramsar – very limited impact on intertidal sediments. Impact on subtidal sediments where silt and fine sand is moved to the main water column by a plough. It is carried out regularly and intensity is low. SPA Inner – harrowing carried out by British Waterways on a strictly as needed basis (over last 5 years took place on the occasion of six tides, six runs per tide). ABP carry out some at Goole as needed (only once in 2002).	NO
					Toxic contamination: Introduction of synthetic compounds. Nothing is introduced – there is only the disturbance of sediment already in transit.	NO
					Non-toxic contamination: Changes in turbidity. Limited and localised.	NO
I9/ Hydrographic Surveying	Throughout estuary - more frequently in the upper estuary	Low/med	ABP BW	ABP BW	Non-physical disturbance: Noise & Visual No impact on SAC. Some impact on SPA/Ramsar – carried out on a daily basis but not obvious human presence (in vessels) and bird species tolerant to engine noises.	NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
Maintenance dredging – Section Start Annex D7						
I10/ Sunk dredged channel Maintenance dredging	Sunk dredged channel	Low/med	ABP Defra DfT EN	ABP Defra	Physical loss: Removal Impact on SAC - sub-tidal sediments - material is deposited in close proximity to the dredged areas.	NO
					Physical loss: Smothering Impact on SAC – same location used for many years – material is gradually released and flows rather than drops.	NO
					Physical damage: Siltation No impact - sand or shingle above mean low water is not affected.	NO
					Physical damage: Abrasion Dredging is undertaken by trailing suction hopper and grab. The top layer of silt or sand is removed which is then replaced over time by natural deposits. Sand or shingle above mean low water is not affected.	NO
					Toxic contamination: Introduction of synthetic compounds. Introduction of and non-synthetic compounds. Nothing is introduced – removal of sediment already in transit. No remobilisation of stabilised areas.	NO
					Non-toxic contamination: Changes in turbidity Little impact as already highly turbid system.	NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I11/ Goole dock and dock entrance <i>Maintenance dredging</i>	Goole dock and dock entrance	Low/low	ABP Defra DfT EN	ABP	Physical loss: Removal Dredging carried out twice a year in dock and infrequently at dock entrances, spoil deposited at Whitgift.	NO
I12/ Dock Entrances <i>Maintenance dredging</i>	Grimsby docks and dock entrances Immingham docks and dock entrances Hull docks and dock entrances Berths at South Killingholme/ Immingham Oil Terminal	Medium/low	ABP Defra DfT EN	ABP	Physical loss: Removal Impact on SAC - sub-tidal sediments - accumulated silt is removed from navigation channel and deposits silt in a licensed deposited in a licensed site Physical loss: Smothering Impact on SAC – same location used for many years – material is gradually released and flows rather than drops. Same location used for many years. Material is fine silt.	NO NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I13/ River Humber Maintenance dredging	River Humber (misc. channels, e.g. Immingham Roads, Halton Middle Shoal). River Hull (Old Harbour).	Low/low	ABP Defra DfT EN	ABP	<p>Physical loss: Removal Impact on SAC - sub-tidal sediments - material is deposited close to the dredge area and makes its way back again.</p> <p>Physical loss: Smothering Impact on SAC – same location used for many years – material is gradually released and flows rather than drops.</p> <p>Physical damage: Siltation No impact - sand or shingle above mean low water is not affected.</p> <p>Physical damage: Abrasion Dredging is undertaken by trailing suction hopper and grab. The top layer of silt or sand is removed which is then replaced over time by natural deposits. Sand or shingle above mean low water is not affected.</p> <p>Toxic contamination: Introduction of synthetic compounds. Introduction of non-synthetic compounds. Nothing is introduced – removal of sediment already in transit. No remobilisation of stabilised areas.</p> <p>Non-toxic contamination: Changes in turbidity Little impact as already highly turbid system.</p>	NO NO NO NO NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I14/ Berths at North Killingholme (HST) Maintenance dredging	Berths at North Killingholme Haven (HST)	Low/low	ABP Defra DfT EN	HST	HST berths and Approach Channel Deposits placed into long established site which is tested by CEFAS	NO
I15/ Hull Marina	Hull Marina	Every 20 years	BW	BW	Physical loss: Removal Dredged material is deposited in the river.	NO
Maintenance dredging – Section Ends						
I16/ Vessels transits	Throughout the estuary on a continuous basis	High/high	ABP BW	ABP BW	Non-physical disturbance: Noise & Visual No effect on SAC. Birds highly tolerant to low intensity engine noise and to continuous shipping activity.	NO
I17/ Navigation lighting	Throughout estuary	Low/high	ABP BW THLS	ABP	Non-physical disturbance: Noise & visual No effect on SAC. Current evidence shows that waterfowl use navigation lighting structures to roost on and therefore are not affected by either noise or visual impact.	NO
I18/ Smoke-stack emissions/ engine operations	Throughout estuary	Low/high	ABP	ABP	Toxic contamination: Introduction of synthetic compounds. Introduction of non-synthetic compounds Limited impact on estuary.	NO

Activity	Location	Present /historic levels of activity	Existing management Responsible Organisation	Relevant authority Bold = Lead	Possible effect on features	Significant Effects)
I19/ Tank Washings	Not allowed in the marine site or its approaches	N/A	ABP	ABP	Toxic contamination: Introduction of synthetic compounds. Introduction of non-synthetic compounds Not allowed within the harbour (which includes all of the European marine site except for a small section at Donna Nook.	NO
					Non-toxic contamination: Changes in nutrient loading.	NO
I20/ Discharge of liquid effluents	Via Dock, Tetney Haven, South Killingholme & Habrough Marsh Drains	Med/med	APT CoP Defra EA	CoP EA	Toxic contamination: Introduction of synthetic compounds. Introduction of non-synthetic compounds	NO
					Non toxic contamination: Changes in nutrient loading.	NO

External factors

Fresh water flows and storm surges are two major causes of variation in activity.

Oil spills outside of site

Management action

Activity	Factor	Proposed management actions	Timetable	Implementation Bold = Lead RA
I1/ Spillages from vessels and harbour installations (Annex D11)	F3 F5 when occur	Monitor spillages Review and implement Humber Clean, plus oil spill training exercises on estuary	Ongoing	ABP APT BW CoP (Defra) EA
I2/ Spillage clear up operations	F3	Review and implement Humber Clean, plus oil spill training exercises on estuary	Ongoing	EN HPL HST LA (MCA)
I3/ Maintenance of structures	F3	Monitor method, type and equipment used	Ongoing	ABP APT HPL HST
I4/ Movement of Floating Marks	F2	No further action	Ongoing	ABP
I5/ Discharge of effluents at sea (ships)	F3	Monitoring by Vessel Traffic Services - Not Allowed by statute.	Ongoing	ABP
I6/ Discharge of ballast water	F3	Monitoring by Vessel Traffic Services - Not Allowed by statute.	Ongoing	ABP
I7/ Dock, port and marina development	F3 F6	Surveillance Plans & projects	Ongoing	ABP EN LA LA (DfT)
I8/ Harrowing/ Ploughing/ Bed Levelling of river beds	F3	Surveillance and survey	Ongoing	ABP BW

Activity	Factor	Proposed management actions	Timetable	Implementation Bold = Lead RA
I9/ Hydrographic Surveying	F2	No further action	Ongoing	ABP BW
Maintenance dredging Annex D7				
I10/ Sunk dredged channel	F3/F6	<p style="text-align: center;">MAINTENANCE DREDGING PROTOCOL</p> <p>The Government considers that the EC Habitats Directive (92/43/EC) requires maintenance dredging proposals, which could potentially affect Natura 2000 (N2K) sites, to be assessed in accordance with Article 6(3) of the Directive.</p> <p>Whilst not endorsing this interpretation of the law, ABP is actively involved in formulating a protocol against which maintenance dredging applications can be assessed and is currently preparing a baseline document covering maintenance dredging activities in the Humber Estuary.</p> <p>Future FEPA consents will reflect development of the Maintenance Dredging Protocol.</p>	Ongoing	ABP HST CoP EN* * - subject to sign-off of Maintenance Dredging Protocol with Defra & DfT
I11/ Goole dock and dock entrance	F3/F6			
I12/ Dock Entrances	F3/F6			
I13/ River Humber	F3/F6			
I14/ Berths at North Killingholme (HST)	F3/F6			
I15/ Hull Marina	F3/F6			BW
I16/ Vessels transits	F2	Continuous monitoring by VTS Humber	Ongoing	APB BW
I17/ Navigation lighting	F2	Continuous monitoring by VTS Humber	Ongoing	ABP
I18/ Smoke-stack emissions/engine operations	F2	Regulated under MARPOL 1973/78	Ongoing	ABP LA in docks via Port Health Authority
I19/ Tank Washings	F3	Monitoring by Vessel Traffic Services - Not Allowed by statute.	Ongoing	ABP
I20/ Discharge of liquid effluents	F3 F6	Monitoring by Vessel Traffic Services	Ongoing	EA