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## The Humber Flood Risk Management Strategy

Summary Document, March 2008

# planning for the rising tides



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## What is the Humber Strategy?

The Humber Flood Risk Management Strategy is our long term plan for managing flood risk from the Humber Estuary. This is our summary document, the main version is available at [www.environment-agency.gov.uk/humberstrategy](http://www.environment-agency.gov.uk/humberstrategy) as well as one-page documents which give more information about specific areas where flooding could happen.

The strategy is the first of its kind in England and Wales to take a joined-up approach to tackling flood risk. It sets out our vision for managing the risk of flooding from the Humber Estuary as the climate changes and sea levels rise. Within it we take into consideration the impacts it will have on people, property and industry as well as on the area's landscape, history and wildlife.

### What does it mean for you?

The strategy will ensure that 99 per cent of the people living round the estuary continue to receive a good standard of protection from tidal flooding for the next 25 years and beyond. This year we will begin a major programme for improving the defences protecting

them. Our funds are limited, however, so we will not be able to improve all the estuary's defences. This summary highlights the areas that could be affected and answers some of the questions that may be asked.

The strategy sets out our general approach to managing the estuary's flood defences, but doesn't make final decisions about the defences in a particular area. We will consult with the local community and anyone who might be affected before we go ahead with our proposals for a particular defence. We will carry out more general consultations when we review the strategy, every five years or so.

*Flood defence at Brough*



## Why is the strategy important?

### Because it will safeguard the growth and prosperity of the Humber's communities and its economy.

Our climate is changing, causing sea levels to rise and our defences are ageing. If they are not improved, they will become less and less effective and eventually fail. Furthermore, more of the land behind them has been developed since the last major flooding occurred in 1953 so more homes and more industry will be affected if it is flooded again.

There are currently about 90,000 hectares of land around the Humber at risk of being flooded. Around 400,000 people live within this area, mostly in Hull and Grimsby, or in smaller towns or villages. The area is also home to major industries, including power stations, refineries and the country's largest port complex. Most of the remaining land is farmed. The whole area has strong historic links, while the estuary's importance for nature has led to its designation under the Birds and the Habitats Directives which provide them with legal safeguards under the UK Habitats Regulations. Our strategy will sustain all these features as sea levels rise, protecting people and the environment while helping to achieve the economic and social aspirations set out in the Hull and Humber Ports City Region Development Plan.



Pyewipe



Bittern

## History of the project

In 1997 we began developing a long-term strategy for managing flood risk around the Humber Estuary and the lower reaches of its main tributaries, the rivers Ouse and Trent.

We first of all produced the Humber Estuary Shoreline Management Plan (HESMP), in 2000. We developed the strategy from this, drawing up a programme of the work needed to maintain the estuary's defences for the next 100 years. This includes the creation of new habitat to comply with the Habitats Regulations.

We produced the consultation draft of the strategy in August 2005 and issued over 3000 copies to residents and organisations. We followed this up by holding drop-in sessions around the estuary for people to come and ask questions and give us their views.

We had already issued several other consultation or information documents as the strategy was being developed. We also kept in close contact with local authorities and other organisations to make sure the needs of both rural areas and local communities were being served.

In May 2006 we submitted our proposals to Defra and in March 2007 we received approval for the first 25 years' work at an estimated cost of just under £323 million.

## Work done so far

Some of the most urgent work detailed in the 2005 consultation document has already been done, including the creation of the largest flood storage project in Europe at Alkborough and improving the defences at Saltmarshe, Goole and north of Keadby.

## Other work already done or under way includes:

- Realigned the coastal flood defence at Kilnsea using funds partly raised by the local residents;
- Developed our plans for the defence work at Brough, Halton Marshes, Stallingborough near Immingham, Swinefleet and Donna Nook;
- Set up the Coastal Futures Humber Community Project with the RSPB, a scheme to support communities experiencing coastal change along the north bank of the estuary;
- Followed up the issues raised by coastal erosion at Easington;
- Reviewed our storm tide forecasting arrangements and installed new flood warning sirens at Grimsby.

## Managed realignment

We need new habitat to replace the losses that occur as we improve the defences and as sea levels rise. If we don't create this habitat we will be failing to meet our legal obligations under the Habitats Regulations.

The only practical way of doing this is to build a new defence behind an existing one, then cut a hole through the original defence so the land between them is flooded on most tides. We've already built two schemes, at Paull Holme Strays and Alkborough, and are actively progressing new ones at Donna Nook and Skeffling.

In the future we aim to will build additional schemes at Welwick, Keyingham, and Goxhill. The sites are typically on agricultural land. We are ready to buy the land, as it will be flooded on most tides so will no longer be suitable for farming.

## Creating flood storage

Flood storage sites are designed to flood during an extreme tidal event to reduce river levels elsewhere. These sites are only effective beside the Ouse or the Trent.

Alkborough provides flood storage as well as new habitat. We've identified two other possible sites, opposite Goole and at Flixborough, although we still need to confirm they're worthwhile and don't expect to build either in the near future. The land could still be

farmed, so rather than buying it we would offer compensation for the occasional damage caused.

Levels would also be lowered if water flows over the top of the defences, although the flooding then spreads across the land rather than being contained within the site. In the long-term when we are thinking about improving the defences beside the tidal rivers, we will consider keeping some lengths of the defences lower than others looking very carefully at where the floodwater will go and how we can minimise the resulting damage.

Alkborough flood storage site



### Inner estuary, Ouse and Trent (Brough to Whitton), excluding Goole

#### Flood Areas 9 to 11 and 13 to 16

- Several large villages and important road and rail links are in this area, many of which are close to the estuary.
- We're planning to improve the defences at Brough and Swinefleet within the next five years. At Brough we won't improve the defences protecting the lakes at Welton Water, but will build a new defence to protect Brough and the BAe factory.
- We'll improve the defences elsewhere as necessary, but will also begin talking with local communities about only raising the defences near the villages, and in the longer term allowing other areas to flood infrequently to deliver wider flood benefits.
- We're looking at two possible flood storage sites in the medium term at Flixborough and opposite Goole to hold water temporarily. We will be looking at them in more detail to determine whether they are worth implementing in the future.

### Paull to Welton Clough including Kingston upon Hull

#### Flood Areas 5 to 8

- Flood defences in areas 5 and 6 will be improved to protect the large number of people, businesses and industry in Hull from tidal flooding.
- We will work closely with other authorities and developers to ensure we're prepared for future flooding events.
- It may be difficult to get government funding for future work to protect areas 7 and 8, so in due course these defences may fail.
- We will work with the local communities to decide how best to manage the long term risk.

## Key flood risk areas around the Humber Estuary

We have divided the land at risk of being flooded from the estuary into areas where generally any flooding will be contained without spreading into a neighbouring area. We have looked at how we can manage the risk of flooding in each of these areas.

### Spurn to Paull

#### Flood Areas 1 to 4

- Most of the existing defences in this area are expected to last another 20 to 40 years until they need major works, but in some places this could be 10 years or less.
- Much of the area is sparsely populated and because of this it will probably be difficult to get government funding for future work. If no other funding is available the defences may fail a few years later.
- We will work with the local communities to decide how best to manage the long term risk.
- Managed realignments will be introduced in the future at Skeffling, Welwick and Keyingham.

### North Killingholme to Grimsby, including Immingham

#### Flood Areas 23 to 25

- The defences here will be improved as necessary to protect the large number of people, businesses and nationally important industry from tidal flooding.
- We are planning to improve the defences near North Killingholme and Stallingborough within the next five years.
- We will work closely with other authorities and developers to ensure we manage the risk effectively together.
- In particular, we want to avoid any new development immediately behind the existing defences in case they have to be moved in the future.

### Goole

#### Flood Area 12

- The town is at risk of flooding from the rivers Don and Aire as well as from the Ouse.
- We'll improve the existing defences along the River Ouse as necessary to protect the town's people and businesses and we'll work closely with our River Don and River Aire teams to make sure their strategies also safeguard the town.

### Whitton to Halton Marshes

#### Flood Areas 17 to 22

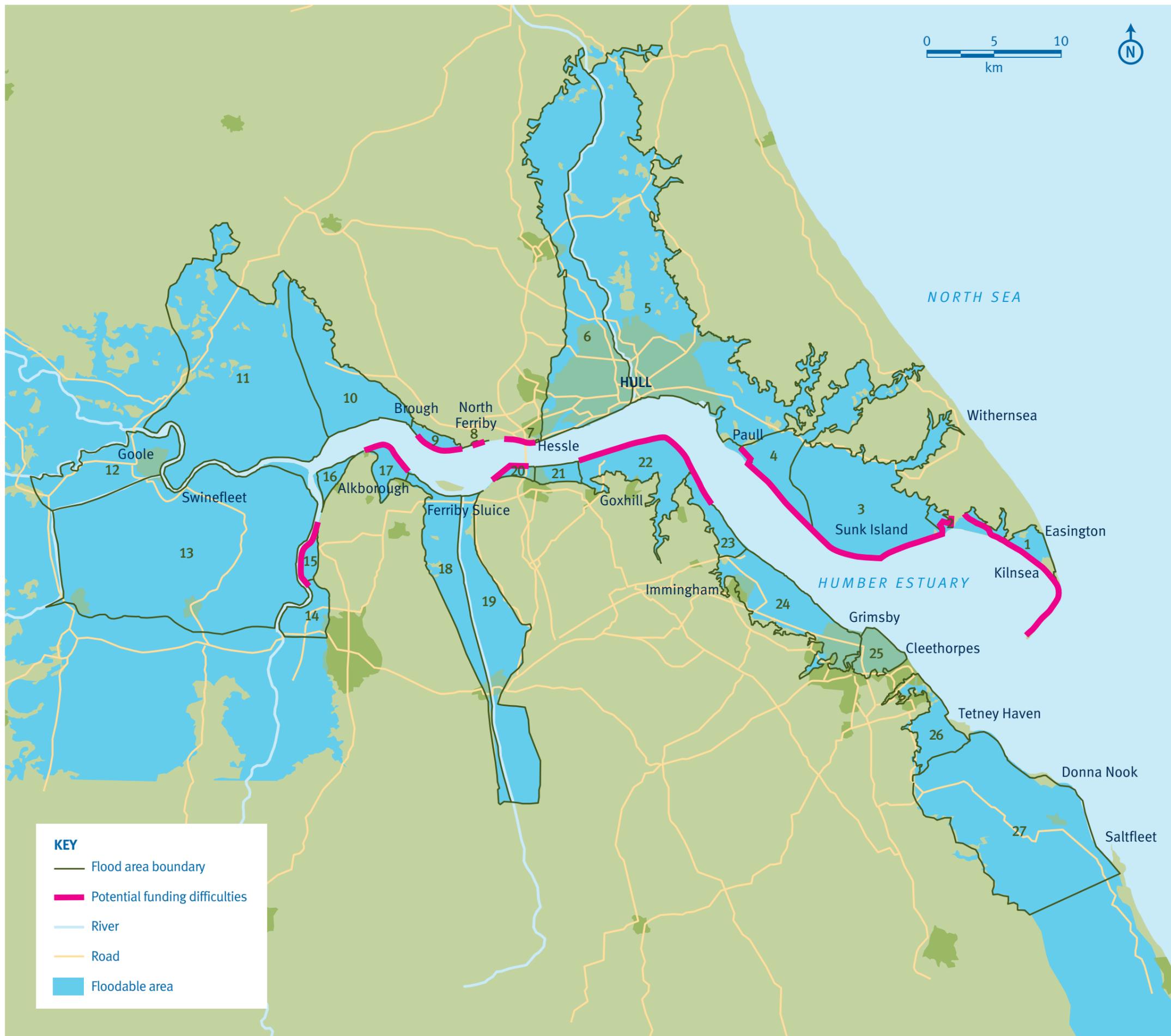
- The middle of this area is well-populated and contains important road and rail networks so we'll improve the defences as necessary here, although heavy erosion may mean that west of Ferriby Sluice the A1077 has to be moved.
- The two ends of the area and the land between the Humber Bridge and Barton Cliff contain fewer people and only local infrastructure. Most of the defences protecting these areas are unlikely to need major repairs for 20 to 40 years (except at Halton Marshes, where the expected life is less than ten years). When they do, though, it will probably be difficult to get government funding, so if no other funding can be found they may fail a few years later.
- We will work with the local communities to decide how best to manage the long-term flood risk.
- We are considering building a managed realignment project near Goxhill in the longer term, if the defences there have not already failed.

### Cleethorpes to Saltfleet

#### Flood Areas 26 to 27

- This area is reasonably well-populated, with some villages near the defences, and contains an important road link
- We should be able to secure government funding when these defences need repairing, but will be reviewing the position over the next five years.
- A managed realignment project will be implemented at Donna Nook in the next five years.

See the map on the next page for flood area numbers and locations.



## Flood areas

We believe that in future we could have difficulty getting funds to improve the defences protecting some of these areas. The areas where we think this might happen are shown in pink on the map and in the list below.

If you think you could be affected and would like some more information please contact us using the details at the end of the document.

- 1 Easington and Kilsea**
- 2 Skeffling**
- 3 Sunk Island (Winestead Drain to Stone Creek)**
- 4 Stone Creek to Paull Holme Strays**
- 5 Hull East (including Paull Village)
- 6 Hull West (Hull Barrier to Hessle Haven)
- 7 Hessle (Hessle Haven to Hessle Country Park Hotel)**
- 8 North Ferriby**
- 9a Brough (Welton Water)**
- 9b Brough (BAE Works)
- 10 Brough Haven to Weighton Lock
- 11 Weighton Lock to Boothferry Bridge
- 12 Goole
- 13 Goole Fields and Crowle
- 14 Gunness to Flixborough
- 15 Flixborough Grange**
- 16 Alkborough
- 17 Whitton to Winteringham**
- 18 Winteringham Ings
- 19 South Ferriby
- 20a Barton Cliff to Humber Bridge**
- 20b Humber Bridge to Barton Haven
- 21 Barton Haven to Barrow Haven
- 22 Barrow Haven to East Halton Skitter**
- 23a Halton Marshes**
- 23b Killingholme Marshes
- 24 Immingham to West Grimsby
- 25 East Grimsby
- 26 Cleethorpes and Humberston
- 27 Tetney to Saltfleet Haven



# some questions and answers

## What does the strategy do?

The strategy states that we will manage flood risk from the estuary in the future by:

- managing the flood defences so they continue to provide a good standard of protection where justified, subject to funding being available;
- making sure any new developments in the floodplain take the potential impacts of flooding into account;
- warning people when a flood might happen.

## How will you manage the defences?

The strategy sets out our general approach to managing the Humber defences but does not make final decisions about defences in particular areas.

We will carry on maintaining all defences that are economically viable. When a defence needs to be improved, we will apply for funding from the national flood and coastal defence budget. We expect most defences will get the funding they need but, as the budget is limited, some may not. When this happens we will look for funding from other sources but if this is not available we will stop maintaining the defence.

Once we stop maintaining a defence it may fail a few years later. The ones we think might be affected are shown in pink on the map on pages 6 and 7.

More information can be found in the main strategy document or the individual flood area documents, which can be obtained as described at the end of the leaflet.

## Why can you get government money to improve some defences, but not others?

Money is limited so we need to make sure we use it in the most effective way to protect as many communities, properties and jobs as possible. The government has recently agreed to increase the flood defence budget but it has to be spread across the whole of England and will still not be enough to maintain all the Humber defences as sea levels rise.

## What standard of protection will I receive?

We aim to improve the defences so most of the people at risk are protected against flooding from the estuary that would occur once every 100 years on average (i.e. with a one per cent chance of happening in any one year), or better, although we may not be able to achieve this in rural areas.

About one per cent of the people at risk live in areas protected by the defences shown in pink on the map on page 6. We may not be able to improve these defences so, as sea levels rise, the standard of protection they provide will reduce and eventually they will fail.

## Why will the defences fail if you don't improve them?

Sea level rise means it's increasingly likely that some defences will be overtopped and could get washed out during a storm. We can't say exactly when this will happen as it depends on the height and condition of the defences, how fast sea levels rise, and when we get a serious storm. We don't expect defences to fail immediately, but we are sure it will happen at some point.

## You say that you may not be able to maintain the defence protecting my property – why?

We will stop maintaining a defence if the cost of carrying on will be more than the value of the property it protects, or if it needs to be improved but we can't fund the work. When this happens we will give property owners reasonable notice of our intentions, generally at least two years, but longer when we can. We will continue to maintain the defence during the notice period but will not repair it if it is damaged, for example during a storm.

## What will happen when you stop maintaining a defence?

Once the defence fails the land behind it will no longer be protected so the risk of flooding will be significantly greater. This risk will continue to increase as sea levels carry on rising. As a result it is likely to be difficult to continue living or working there for long.

When we realise that we may have to stop maintaining a defence we will consult the local community and anyone else who might be affected to decide how best to manage the resulting impacts. In some cases another body may be willing to take over the defences, provided they can raise the funds and get the necessary agreements. In others we might be able to build secondary defences to protect villages and larger communities. Property owners may be able to protect their own buildings or alter them to make it easier to recover from a flood.

More information about managing flood risk for individual properties can be obtained by following the link to 'Prepare for flooding' on our website at [www.environment-agency.gov.uk/subjects/flood](http://www.environment-agency.gov.uk/subjects/flood)

## Will you pay compensation when you stop maintaining a defence?

There will be no financial compensation as a result of our decision to stop maintaining a defence. We will, however, do our best to make sure all those affected are aware of the implications and of what they can do in the circumstances.

## Will I be able to carry on insuring my house?

Property owners will need to find out from their insurance company whether a new policy for their property is likely to be issued or an existing one renewed. In the longer term and if sea levels rise as expected, it is likely to become increasingly difficult to maintain the defences in the future.

## Will I be able to sell my house?

There will inevitably be impacts on the value of property in the longer-term in problem areas, but property will be saleable while it can be insured.

## Is this my last time I can comment on your plans?

No, we will consult widely when we review the strategy, about every five years. We will also carry out detailed consultations with the local community and anyone else who might be affected before we go ahead with our proposals for a particular defence.

## getting in contact

We are keen to answer your questions on the Humber Strategy. Our website provides more information and many of the answers, visit [www.environment-agency.gov.uk/humberstrategy](http://www.environment-agency.gov.uk/humberstrategy)

If you require any further information, you can email us at [humber.strategy@environment-agency.gov.uk](mailto:humber.strategy@environment-agency.gov.uk) or write to us at:

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