Humber – keeping you informed

July 2021

This newsletter provides an update on work we are doing to develop a new strategy for managing tidal flood risk on and around the Humber and also lets you know about some key flood schemes/projects going on around the estuary.

Humber 2100+ Strategy

The Humber 2100+ Partnership - made up of 12 local authorities and the Environment Agency - aims to redefine the strategic approach to managing tidal risk on the Humber, setting the way forward for the next 100 years taking into account predicted sea level rise and climate change. This also includes rivers where tidal flow is the main source of flood risk. For more information please visit our StoryMap on the Humber 2100+ strategy **https://arcg.is/u1rPj**

Key messages

- Communities around the Humber are at risk from tidal, river, surface and groundwater flooding, with tidal flooding having the potential to cause the most harm Although the standard of protection has been improved in recent years, there is still an ever present risk of flooding, particularly due to the possibility of a tidal surge overwhelming existing defences. This risk will only increase with climate change, and the latest information suggests that the Humber could experience between 1 and 1.3metres of sea level risk in the next 100 years.
- The Humber 2100+ project is considering a range of flood risk management approaches to build a Humber that is resilient to tidal flooding. This includes conventional measures, such as flood defence raising and flood storage, as well as more ambitious solutions, such as a tidal barrier. It will also look more broadly at how we build better resilience to flooding to help people prepare for and recover from flooding if/when it does happen.
- The new Humber Strategy will take an adaptive approach, allowing the strategy to respond to changes, such as economic, social and political circumstances, as they arise.
- Our new strategy for managing tidal flood risk on the Humber is still in development. We have worked with Local Authority partners, Natural England, the Local Enterprise Partnerships and Internal Drainage Boards, as well as wider stakeholders, to shape initial ideas and will continue to do so as we develop our thinking.

Latest project updates

In recent months, the Humber 2100+ partnership have been considering and discussing a range of scenarios to help us establish future approaches for managing tidal risk. This process has generated a large amount of feedback from partners which the project team are currently taking into consideration to help us plan the next steps for the project.

Adaptation Pathways Pilot for the Humber

In 2020 the Government announced a £200 million Innovative Resilience Fund. This was created to develop and test new approaches to adaptation and resilience for flood risk management. As part of this, the Environment Agency are leading in testing the development and implementation of Adaptation Pathways in four locations one of which is the Humber Estuary.

The Humber Adaptation Pathways (HAP) project will develop a framework for implementation of Humber 2100+. The HAP is a separate project that is feeding into and intertwined with development of Humber 2100+ strategy. As Humber 2100+ is a long-term strategy, there is a need to be able to respond to future changes - to the latest climate science; growth and development; investment and funding opportunities; and other changes to our local environment. If we ensure we make the right decisions now, we will be able to adapt and flex to change in the future. We call this an 'adaptation pathway'. In summary, the advantage of an adaptive strategy is that it provides a framework of technically-acceptable ways of managing flooding, which allows for priorities to shift.

What is an Adaptation Pathway?

An adaptation pathway is a flexible, long-term collaborative plan for adapting to an uncertain, and changing situation (like climate change), by

- Identifying 'pathways' to cope with a range of possible futures
- Monitoring to understand how the future is unfolding
- Investing in the most appropriate sequence of actions at the right time.

Scheme Updates

South Ferriby and Winteringham Ings Sea Defence Improvements

The South Ferriby flood alleviation scheme will reduce the risk of tidal flooding to 150 homes, businesses and the Cemex cement plant. It is a partnership scheme between the Environment Agency, North Lincolnshire Council and Cemex. The flood defences are currently in an operational state with some minor finishing works to be completed in 2021. An improved solution was identified at South Ferriby sluice and the Hope and Anchor pub. This solution has now been completed, see photo.

Aerial view of the new defences around the Hope and Anchor

Consultation has started for Property Flood Resilience in Winteringham, for those at risk of tidal flooding. Initial surveys have been completed identifying property flood resistance measures.

Donna Nook

Donna Nook

The Environment Agency is currently removing the remaining piles from the breach site and have begun the road widening scheme after completing ground investigations.

This year's monitoring will be the first opportunity to directly compare the flora and fauna changes on the realignment site against the 2018 baseline data. With the dynamic nature of the site, change is expected to continue for some time until it finds its natural equilibrium. The monitoring is essential in understanding the realignment sites performance as compensation for lost habitat in the Humber Estuary.

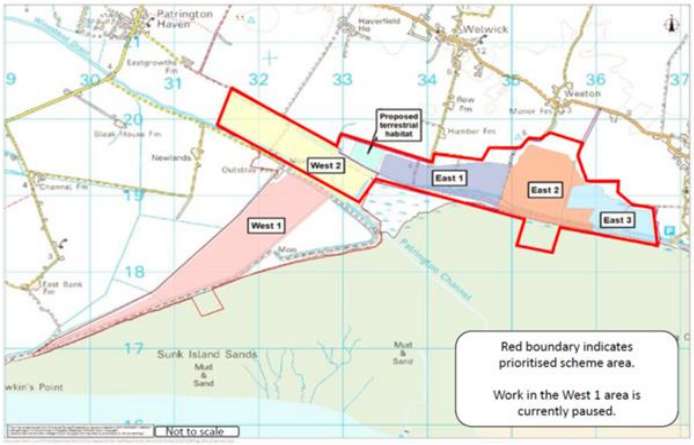
Humber Hull Frontages (HHF) Flood Defence Improvements Scheme

Mouth of Hull Marina

The Humber: Hull Frontage (HHF) Flood Defence Improvements project has wholly reduced tidal flood risk to 28,364 properties. The scheme has upgraded 7km of flood defences along the edge of the Humber Estuary during the course of the last six year investment programme. The HHF scheme now provides an increased Standard of Protection to anticipated 2040 sea levels and future adaptation to anticipated sea level rise to 2115 levels.

Work is ongoing across the scheme to complete reinstatement works and landscaping, which will allow the remaining areas and footpaths to be reopened to the public.

Outstrays to Skeffling Managed Realignment Scheme



Plan showing site areas and boundaries

The Outstrays to Skeffling Managed Realignment Scheme (OtSMRS) is joint venture by the Environment Agency and Associated British Ports (ABP) to realign existing flood embankments and create approximately 175 hectares of new mudflat and saltmarsh habitats on the north bank of the Humber estuary, near Skeffling. The scheme will also include the creation of 75 hectares of wet grassland habitat. It will provide compensatory habitat to replace habitat losses from sea levels rise, and resulting from development. This enables the Environment Agency to continue to undertake important flood risk management work around the Humber estuary. It is anticipated that the scheme will take approximately three seasons to complete, with the breach anticipated in summer 2024.

South Humber Frontage – Revetment Repairs

Chowder Ness

Over the winter the Environment Agency has undertaken works to patch up sections of damaged stone revetment found along the defences of the South Humber Bank. Over the last few years the Environment Agency has carried out this work to continue to maintain the integrity of the defence and prevent further deterioration with the voids being filled with fibre reinforced concrete. The work has been carried out at Ferriby Cliff, Chowder Ness, New Holland to Goxhill and Immingham to Stallingborough.

Hessle foreshore tidal defence scheme

Schematic - Location and extent of the tidal defences

Hessle Foreshore Tidal Defence (HFTD) is a project to construct a combination of defences to reduce the risk of tidal flooding to the Hessle area at a cost of £11m. It will reduce tidal flood risk to over 4000 residential and commercial properties when complete. It is funded by a combination of Flood and Coastal Erosion Risk Management Grant in Aid, Local Growth Funding and European Regional Development Funding.

The work has been divided into three operational stages**. Stage 1: Hessle Clough Sluice Structure, Stage 2: A63 Barrier and Stage 3: Cliff Road Glass Wall** involves raising of the road locally under the Humber Bridge and the construction of a glass and concrete wall along the southern side of Cliff Road. The wall will be constructed of glass to preserve the iconic views of the Humber Bridge and estuary. Full completion of the scheme is expected in September 2021.

South Humber – Developing Projects

The Environment Agency is continuing to progress the three priority projects that have been indicatively allocated funding on the 2021-27 Capital Investment Programme. Overall combined outcomes could lead to reduced flood risk to more than 6,000 properties, existing major industrial sites and significant infrastructure, as well as enterprise zones. The associated benefits/outcomes that justify government funding have been strategically apportioned with other Risk Management Authorities to allow their projects within the tidal floodplain to progress.

Stallingborough 3 and Barton-New Holland schemes – both progressing towards their outline business case and exploring funding opportunities.

Halton Marshes Phase 2 - has the final Options Appraisal Report from the Consultants. Further discussions are being arranged with North Lincolnshire Council, to ensure that the project aligns with both their evolving Local Plan and the emerging Humber 2100+ tidal strategy. We are considering which option is likely to be advanced and adjusting the Investment Programme accordingly.

South Humber bank maintenance and works

You may have seen our Environment Agency teams (and contractors on our behalf) out and about cutting grass on our 35 kilometres of South Humber embankments that serve as flood defences. These banks are man-made and help reduce the risk of flooding to people and property.

Spotlight on the Humber

Embankments need regular maintenance. The Environment Agency bids for public funding every year to carry out this maintenance and we use our permissive (discretionary) powers to deliver the works. Other ordinary watercourses (dykes/streams) are still important to local flood risk, but are likely owned by the landowner who will be responsible for their maintenance and conveyance.

It is essential that flood defence embankments (coastal or river) are kept in good condition and so are mown regularly throughout the grass growing season. Research has shown that the regular close mowing (5-10cm) of grass improves the strength of the root network and erosion resistance of the grass sward. This sward helps protect the earth embankment underneath from external erosion caused by rainfall, wind, currents, wave action and traffic (vehicular, pedestrian and animal). Regular cutting also prevents broad leafed plants and woody vegetation from getting established. Such vegetation can damage the embankment beneath by root penetration, overturning, encouraging burrowing animals, discouraging adequate grass growth and concentrating flows which then cause scour.
Recently works have also been carried out along the South Humber Frontage to repair revetments.

Are you prepared for future floods?

Although flood defences reduce the likelihood of flooding, the risk can never be removed entirely. Flooding can happen at any time and we advise people to take simple practical steps to help reduce the impact of flooding to their homes or business.

To find out how you can be better prepared for flooding, check your flood risk and sign up to our free flood warning service, visit www.gov.uk/flood or call Floodline on **0345 988 118**

Contact us:

- Humber 2100+ info page
- HStrategy@environment-agency.gov.uk
- HumberStrategy
- @Humber_Strategy

See our Humber Story Map here