

Humber – keeping you informed

December 2016

This newsletter provides an update on work taking place and/or planned to help reduce the risk of flooding to people and properties around the Humber estuary.



Comprehensive Review of the Humber Strategy

Work will begin in earnest in the New Year on the Comprehensive Review of the Humber Strategy (our plan for managing tidal flood risk, that was approved by the Government in 2007), following appointment of consultants. This work will be undertaken with our partners, including the 12 local authorities around the estuary and along the tidally-affected rivers). One of the most important outputs of the review will be the new six-year programme from 2021. Scheme development for this will start early within the review programme to ensure a smooth transition from the current six-year programme. While this is being undertaken, we will continue to deliver our six year (2015-2021) programme of work, investing more than £86 million of government funding to reduce the risk of flooding to more than 50,000 properties around the estuary. Our Chief Executive, Sir James Bevan (pictured), visited the Humber on 7



Chief executive Sir James Bevan at North Ferriby earlier this year

September to learn more about the complexities of managing tidal flood risk around the estuary. He attended the Humber Leaders' Board to hear about how we are working in partnership to tackle tidal flood risk.

Water Level Project: The Humber Estuary Water Level Project will produce a revised water level profile for the estuary. The profile tells us how often we expect to experience high water levels, and therefore flooding, now and into the future. We are progressing with model set-up and calibration and will be undertaking some initial runs of the model in the New Year.

Water for Wildlife and Farmers: This project investigates how techniques used in the US and Netherlands to rotationally wet agricultural land can provide benefits for farming, biodiversity and flood risk management. Similar techniques such as warping (raising land levels by deliberately flooding areas with silt-laden water) have previously been used by farmers around the Humber. We are currently investigating the technical and economic feasibility of delivering these techniques and are hoping to progress some small-scale field trials to begin to gather evidence on their effectiveness.

Humber Estuary Erosion Protection (HEEP) Project: A £5 million project to repair erosion-damaged flood defences around the Humber estuary is progressing. The Humber Estuary Erosion Protection (HEEP) project has initially identified 34 sites that may need to be upgraded but the precise sites will be verified and confirmed by survey. One of the key objectives of the HEEP project is to deliver repairs which also serve to create habitat rather than simply providing a technical solution. Since the storm surge of January 1953, defences have been significantly improved but over the years these defences have deteriorated due to the harsh environment. An estuary defence survey is currently being carried out. This will confirm the particular sites in need of attention and the nature of work required at specific times. Based on the findings a business case will be prepared, with a view to design and building work starting in 2017. The anticipated cost of repairing the 34 sites is currently £5 million, but that could change depending on the result of the consultant's investigations.

Dynamic Humber: A collaborative project with Hull University, Dynamic Humber models how the estuary reacts to high water levels, and the impacts in the floodplain, as well as other work including considering the impacts of a break of the Spurn peninsula. We have recently upgraded the model and increased its resolution to provide us with more accurate information on the depth, extent and velocity of flooding during high water levels. The model will provide us with information on the effectiveness of flood storage solutions as well as helping us understand how defence raising schemes will impact risk. Using this data we can build an evidence base around how our defence system works across the Humber Estuary.

North bank

River Hull: Work to repair flood defences along the River Hull has begun. Contractors are currently doing a survey of the riverbanks. The £36.5-million scheme will see defences repaired along a 4.6 mile (7.5km) stretch of the river, which protect about 63,000 properties in Hull. The defences have deteriorated over time, posing a potential risk of flooding when river levels are high. Work will begin in the New Year. The first phase of work is due to be completed by 2019. Some 39 locations along the river have been identified as having defences in need of work and repairing them will ensure the existing level of protection is maintained.

Hull Frontage: The tidal flood defences protecting the city of Hull and the surrounding area form a complicated system that has developed over many years. We have now identified which defences we need to focus on along the city frontage.

We are looking to deliver a programme of improvement works in collaboration with landowners and are therefore talking to those with an interest in improving these defences to enable works to start.

We hope to have all necessary approvals in place by summer 2017 to allow works to start early in 2018. We expect construction work will take around three years.

Linked to this project to improve the Humber defences in Hull, we must create additional habitat areas to ensure we continue to meet the requirements of environmental legislation

Airmyn: Work to repair the embankment at Airmyn began at the end of November 2016. Initial site works will be to infill a deep scour hole in the channel bed below the foreshore slip, downstream of the clocktower. We anticipate doing this work by boat from the contractor's compound at the jetty upstream at Rawcliffe. The budget for the work is £1.8 million. This money will come through Defra.



Paull: Work to create the longest glass tidal defence structure in the UK has been completed in Paull. The innovative glass barrier is part of a larger £30-million five-year project which, when finished, will provide improved flood protection to more than 14,000 properties in the Hull and East Riding areas. The huge scheme is being delivered by East Riding of Yorkshire Council as the Lead Local Flood Authority in the area, working closely with Hull City Council and the Environment Agency, and supported by funding from Defra and the Humber Local Enterprise Partnership (LEP). The new glass wall has been fixed to the existing

tidal defence wall, which was built in the 1980s, and is 520 metres long and 1.1-metre high - raising the total barrier to 6.8 metres above sea level.

Skeffling Managed Realignment Scheme: Public surgeries to explain the work the Environment Agency is doing for this managed realignment project have been held in Patrington, Easington, and Welwick. Drop-ins have also been held in the summers of 2015 and 2016. At both types of event EA staff have been available to answer questions from members of the local community. Newsletters giving an update on project work are being sent out to the community on a regular basis.

South bank

South Ferriby & Barton: We have now appointed consultants to continue in the development of both Winteringham Ings & South Ferriby and Barton to New Holland schemes. This will include carrying out hydraulic modelling and looking at initial options for the schemes.

We have recently completed ground investigations, during which we took soil samples to understand ground conditions, along the existing flood embankments at South Ferriby Ferriby (as well as between Blacktoft and Yokefleet on the North bank) in the past few weeks. Ecology surveys, to identify wildlife and any protected species within the potential area of both projects, have also taken place. We are currently talking to the local community and partners about the options to reduce flood risk.

South Ferriby sluice improvements: We are currently carrying out a £1.5-million scheme to refurbish Ancholme sluice and adjacent East and West Drain outfall structures. We appointed a contractor this summer and a works compound will be set up in the Environment Agency visitor carpark at certain times during the works. A limited number of parking spaces will still be available at these times.

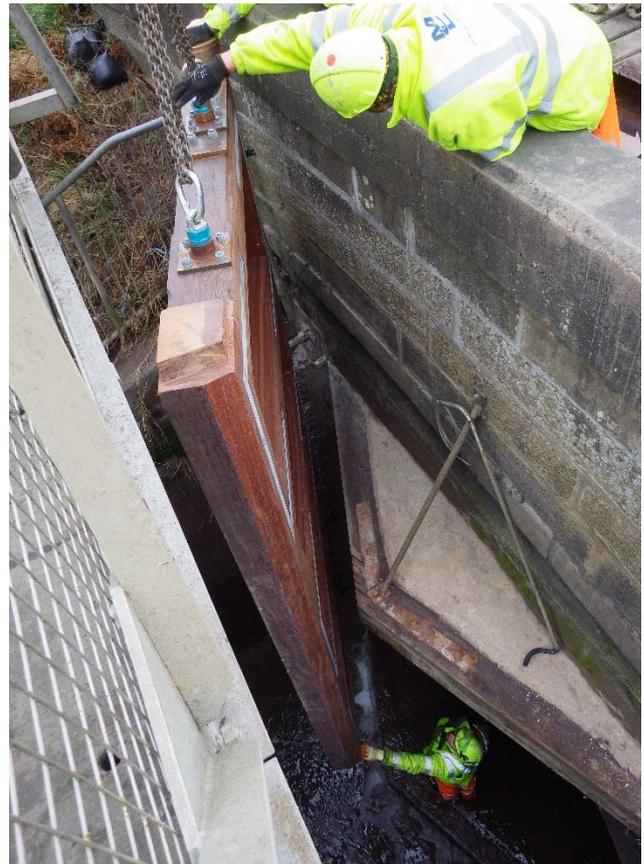
The works, which are expected to be completed by summer 2017 depending on tidal and weather conditions, will see four sets of hardwood doors replaced. Replacement of the East Drain tidal doors has already taken place.

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Above and right: The new tidal doors being installed at South Ferriby

Outfall refurbishment works: We have completed works to outfalls at New Holland, East Halton and South Killingholme during 2016. This has included new timber doors at New Holland and a new sluice gate at East Halton.

Port of Immingham: We are supporting project leads North East Lincolnshire Council (NELC) and Associated British Ports to reduce the risk of flooding to the port, national infrastructure and adjacent community. Phase one of the scheme, to replace and strengthen the port's outer lock doors, is now underway. Installation of the doors and control equipment is expected to be completed by summer 2017. This phase also includes construction of new flood defence wing walls either side of the lock. It is expected that phase 2, which will improve tidal flood defences at the port, will begin by 2020. ABP is developing the design.

Keadby Terminal Assisted Outfall Scheme: Since July 2016, progress has continued to deliver the approved remedial works to sustain operation of the Keadby pumping station for the next five years. The short-term investment has included the replacement of two pump engines, both of which have now been commissioned and are now fully operational. Other remedial works completed during the past six months have included the refurbishment and/or replacement of component parts to engines; the replacement of a trash screen cleaner; and the repair of penstocks. The works are scheduled to be complete by April 2017. The Environment Agency is continuing to work with various partners to finalise its plans for the delivery of the approved



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long-term investment that forms part of the wider Isle of Axholme Flood Risk Management Strategy. The plans will deliver protection to residential and commercial properties as well as strategically important infrastructure. The plans will not impact upon the current level of flood protection provided by the Keadby pumping station.

Isle of Axholme: We are working closely with our local partners, Doncaster East Internal Drainage Board, Isle of Axholme and North Nottinghamshire Water Level Management Board, North Lincolnshire Council and Doncaster Metropolitan Borough Council to understand the future management and operation of the Isle of Axholme watercourses, flood defences and pumping stations.

We are also working closely with the Keadby Project to understand the impacts of flooding on the area and how our wider partners interact with the Isle of Axholme. The River Torne modelling work for the Isle of Axholme is central to this and is in progress. There are currently 17 schemes within the Isle due for completion by 31 March 2021, of which one has already been completed.

Collectively the work will help to manage flood risk for more than 20,000 residential and commercial properties, 35.4 kilometres (22.0 miles) of motorway-critical infrastructure as well as railways, electricity networks and pipelines and more than 46,000 hectares of agricultural land. A multi-organisation governance structure has been put in place to help progress the strategy.

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.

- Check your flood risk by visiting www.gov.uk/check-if-youre-at-risk-of-flooding or calling Floodline on 0345 988 1188
- If you are at risk, sign-up to our free flood warning service
- To make a flood plan for your home or business visit www.gov.uk/prepare-for-a-flood/make-a-flood-plan

Contact

If you have any questions, please contact our national customer contact team on 03708 506 506 (landlines are charged the same as a local geographic call but mobiles may vary) or email enquiries@environment-agency.gov.uk. Alternatively, visit www.gov.uk/flood or call Floodline on 0845 9881188 or 0345 9881188. Follow us on Twitter [@EnvAgencyYNE](https://twitter.com/EnvAgencyYNE), [@EnvAgencyAnglia](https://twitter.com/EnvAgencyAnglia) or [@LincsOpsEA](https://twitter.com/LincsOpsEA)

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