

**Open Report on behalf of the Environment Agency**

Report to:	<b>Flood and Water Management Scrutiny Committee</b>
Date:	<b>15 May 2023</b>
Subject:	<b>Environment Agency Update</b>

**Summary:**



To update the Flood and Water Management Scrutiny Committee on Environment Agency activities in Lincolnshire, including progress on key capital schemes.

**Actions Required:**

The Flood and Water Management Scrutiny Committee is invited to review and comment on the contents of the report and presentation and provide feedback to the Environment Agency and other relevant parties.

**1. Background**

**1.1 – Middle River Ancholme – catchment management**

<b>Project</b>	<b>Map Reference</b>
Middle River Ancholme - catchment management	4
	
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	December 2022
<b>End Date</b>	March 2027
<b>Total project cost</b>	£2,888,800
<b>Partnership Funding required?</b>	Yes
<b>Total Partnership Funding</b>	£100,000
<b>Who is contributing?</b>	-
<b>Households better protected</b>	192

### **Background:**

This project aims to deliver the policies within the Ancholme CFMP and builds on previous River Ancholme strategy from early 2000's. Previous projects tried unsuccessfully to develop formal flood storage areas, but these were found to be unaffordable under the Partnership Funding policy. This new approach aims to build a partnership with the landowners and Ancholme IDB to develop a more affordable, sustainable and flood resilient approach. Including, by identify where water could be stored within the catchment and then utilising the existing drainage infrastructure more effectively. This will mean apportioning the available economic benefits to justify a range of investments to existing Main River, surface water and land drainage networks, and potentially adjust the governance to some of the watercourses. This collaboration will also involve the newly formed Ancholme Catchment Partnership and consider the need for water storage for both public/industry water supply and irrigation purposes. The comprehensive approach will require a long development period with envisage phases of changes/improvements, that take opportunities of the emerging changes to farming subsidies and green finance initiatives. The project complements the catchment modelling and forward planning being undertaken by Ancholme IDB.

### **Update since last meeting:**

Progress towards SOC continues, with submission to NPAB expected in April 2023. Both Arup and Jacksons have been engaged with it's development and a scope to develop the OBC is emerging, with a focus on hydraulic modelling of the identified options and measures. It is envisaged that the initial programme of FCRM works will be undertaken by the end of 2026. Wider catchment opportunities, including eco-system services provisions and alternative governance arrangements, may follow as subsequent phases.


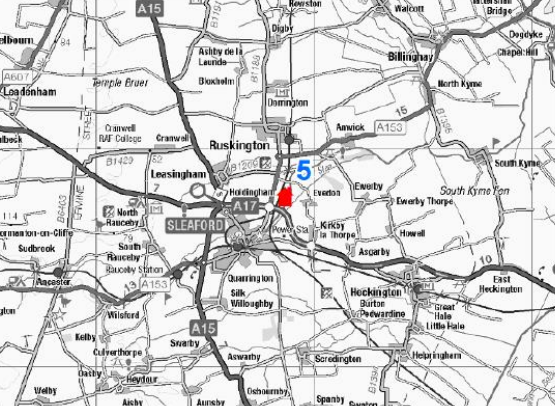
### **How this scheme is aligned with the FCERM Strategy Delivery Plan:**

This project aims to improve the resilience and sustainability of the Middle River Ancholme sub-catchment, but utilising and strengthening the existing drainage infrastructure collaboratively with key partners and the Ancholme Catchment Partnership. It seeks to be a catalyst to facilitate more temporary storage of water, thus re-establish better connectivity with it's natural flood plain, provide ecological enhancements and carbon offsetting facilities, which could then be sold by landowners for payments from an emerging carbon and BNG credit market.

- Strategic objective 1.1: Between now and 2050 the nation will bolster its resilience to flooding and coastal change.
- Strategic objective 1.2: Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios.

Although not in the 'Fens' the project aims to follow the principles to support Measure 1.5.4: By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to develop a long-term plan for managing future flood risk in the Fens.

## 1.2 – River Sleaflood Resilience Project

<b>Project</b>	<b>Map Reference</b>
<p>River Sleaflood Resilience Project</p> 	<p>5</p> 
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	February 2023
<b>End Date</b>	March 2027
<b>Total project cost</b>	£6,898,844
<b>Partnership Funding required?</b>	No
<b>Total Partnership Funding</b>	£0
<b>Who is contributing?</b>	N/A
<b>Households better protected</b>	815

### **Background:**

This project covers the River Sleaflood main river which runs through the town of Sleaflood to Cobblers Lock. In the east of the town the river splits to follow the Sleaflood Navigation channel to the north and the original course of the Old River Sleaflood to the south. The navigation follows the contours of the land, dropping the river level from around 13m above sea level in Sleaflood, to around 3.5m above sea level via a series of historical locks (not all of which are operational). The Old River Sleaflood follows a more natural course through the Sleaflood valley before joining back with the navigation again at Cobblers Lock. As a river heavily influenced by groundwater flows, the Sleaflood can suffer from low flows at times making abstractions for drinking water and irrigation a challenge. A flow augmentation scheme supports water levels in the river during dry periods. Through the town itself, a series of movable structures maintain a water level for aesthetic reasons, although these do interfere with natural river processes, are a barrier to fish and eel migration and increase flood risk, which is why they have to open during high flows. These structures now require significant investment. Structures along the old navigation channel are also in a state of disrepair. With government funding to the EA dependent upon evidenced reductions in flood risk, securing sufficient funding to repair/replace assets with no flood risk benefit is not possible.

### **Update since last meeting:**


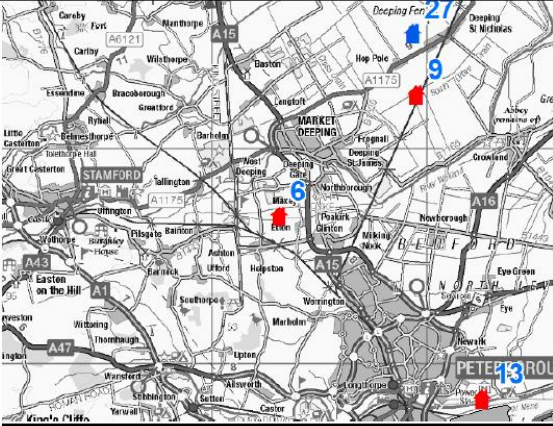
The Project's Strategic Outline Case was submitted in February for Project Assurance which is currently being undertaken. In addition, the hydraulic modelling for the project is being reviewed by a national team. Whilst this is being carried out, the project team are about to start planning for the delivery of the Outline Business Case. We are also expecting a website update shortly.

### **How this scheme is aligned with the FCERM Strategy Delivery Plan**

This project seeks to review existing structures in the watercourse, which are coming to the end of their design life, therefore the FCERM strategy objectives below are in line with project objectives;

- Strategic objective 2.3: Between now and 2030 risk management authorities will support investments to manage flooding and coastal change that enables growth in a sustainable and climate resilient way.
- Strategic objective 1.2: Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios.
- Strategic objective 1.1: Between now and 2050 the nation will bolster its resilience to flooding and coastal change.

### 1.3- Maxey Cut Banks Refurbishment

<b>Project</b>	<b>Map Reference</b>
<p data-bbox="300 651 703 680">Maxey Cut Banks Refurbishment</p> 	
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	October 2023
<b>End Date</b>	December 2026
<b>Total project cost</b>	£12,365,889
<b>Partnership Funding required?</b>	Yes
<b>Total Partnership Funding</b>	£500,000
<b>Who is contributing?</b>	N/A
<b>Households better protected</b>	676

#### **Background:**

The Maxey Cut was constructed in the 1950s to divert the majority of flows in the River Welland, bypassing Market Deeping and reducing flood risk in the town. The channel flows between raised flood banks which are between approximately 1m and 3m in height above surrounding ground levels. A recent geotechnical investigation into the condition of the banks has revealed that there is potential for bank failure either through seepage or bank instability. The locations considered to be at flood risk in the event of overtopping or breaching are Northborough, Market Deeping, Tallington, Helpston, Maxey, Glinton, West Deeping and Peakirk with up to 676 properties affected.

#### **Update since last meeting:**


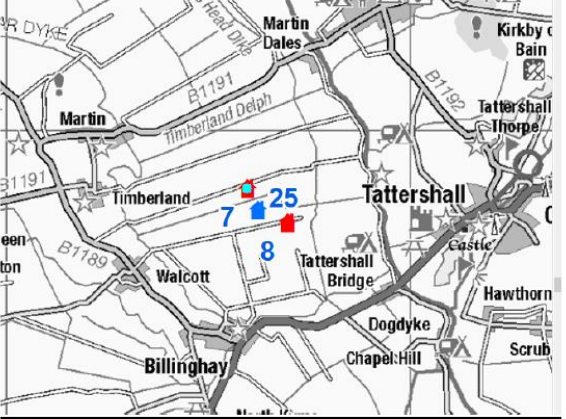
The Strategic Outline Case for this project is being developed in-house using Bought in Services. A draft is expected at the end of March. It is the intention that this project will tie in with the Framework for Adaptation approach that is being developed for Fens 2100+.

#### **How this scheme is aligned with the FCERM Strategy Delivery Plan:**

This project supports FCERM Strategy Measure 1.5.4: By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to

develop a long-term plan for managing future flood risk in the Fens. It is anticipated that this project will be part of the adaption pathways that will feed in to Fens 2100+

### 1.4 – Lower Witham Flood Resilience Project (Strategy)

Project	Map Reference
<p>Lower Witham Flood Resilience Project (Strategy)</p>	<p>7</p>
	
<p><b>Lead Organisation</b></p>	<p>Environment Agency</p>
<p><b>Start Date</b></p>	<p>August 2021</p>
<p><b>End Date</b></p>	<p>March 2027</p>
<p><b>Total project cost</b></p>	<p>£1,859,639</p>
<p><b>Partnership Funding required?</b></p>	<p>No</p>
<p><b>Total Partnership Funding</b></p>	<p>£0</p>
<p><b>Who is contributing?</b></p>	<p>N/A</p>
<p><b>Households better protected</b></p>	<p>0</p>

#### **Background:**

In 1997 the Lower Witham Strategy recommended reinforcement of key embankments whilst allowing some areas to flood, in order to relieve the pressure on the system. Since then 30km embankments have been reinforced, but repeated high flows have damaged more. Storage options have not been implemented, due to availability of suitable sites and difficulties in meeting HM Treasury funding rules of the time. The works in the 2000s included the creation of Fiskerton Nature Reserve, as environmental mitigation. Now these types of works are seen as offering a real alternative to hard defences, providing room for flood water as well as having a lower carbon footprint and enhancing the local environment. Flooding in 2019 has again highlighted the need to update the long term plan to manage flood risk in the area. With revised partnership funding rules, allowing more projects to proceed, and a new interest from land owners in providing public goods such as flood storage, it is hoped that the original vision can now be realised. The Lower Witham is one of six river catchments within the East of England Fens that will come together under the Future Fens: Flood Risk Management programme. This work will contribute towards the ambitions for Climate Resilient Places within the National Flood & Coastal Erosion Risk Management Strategy where there is a specific measure focussed on the Fens.

It is anticipated that a significant capital investment programme will start on the ground in 2025, and in the meantime the Environment Agency’s operational teams will continue to maintain and manage the flood risk assets where resources allow.

**Update since last meeting:**


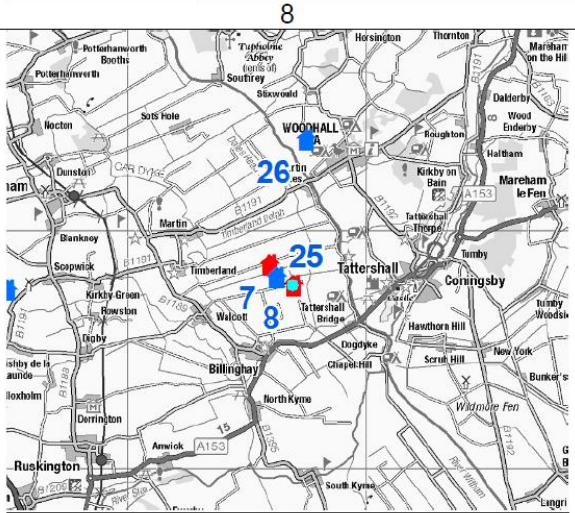
Meetings with all RMAs within the project area have been undertaken, to assess and provide data for the tactical plan and baseline reports. Economic appraisal draft outputs are expected to be shared with RMAs in April. Asset prioritisation based on risk factors is near completion. The outputs will be used by both the LWFRP -

Strategy update and the LWFRP - Works Arising Phase One. Further lidar and imagery surveys of the crest and toe are being undertaken by UAV, due for completion by April. Partners and landowners have been contacted by the team. A second Newsletter has been circulated, and the Citizen Space web page is currently being updated. Community engagement events are being planned for May of this year.

**How this scheme is aligned with the FCERM Strategy Delivery Plan:**

As the Lower Witham Flood Resilience Project sits within the wider Fens Catchment, the project supports FCERM Strategy Measure 1.5.4: By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to develop a long-term plan for managing future flood risk in the Fens.

**1.5 – LWFRP – Works Arising Phase 1**

<b><u>Project</u></b>	<b><u>Map Reference</u></b>
<p data-bbox="300 913 697 949">LWFRP - Works Arising Phase 1</p> 	
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	May 2023
<b>End Date</b>	March 2027
<b>Total project cost</b>	£26,000,000
<b>Partnership Funding required?</b>	No
<b>Total Partnership Funding</b>	£0
<b>Who is contributing?</b>	N/A
<b>Households better protected</b>	1,362

**Background:**

Whilst the Lower Witham Strategy is being updated there is a need for works on the existing defences in the Lower Witham to ensure that the standard of protection is maintained until the outcomes of the updated strategy can be implemented. This project will run parallel to the Lower Witham Flood Resilience Project (strategy).

**Update since last meeting:**


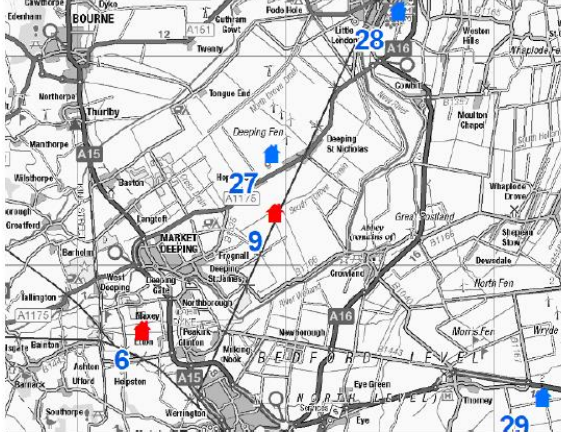
Identification of Phase One works is underway, with the anticipated completion of the baseline

report and tactical plan supporting development of the SOC in the near future. Discussions are planned with the Fens 2100+ team to agree consistent principles for delivery of urgent works to maintain assets, until the outputs from the strategy can be initiated.

**How this scheme is aligned with the FCERM Strategy Delivery Plan:**

The LWFR Phase One works will improve the resilience of the raised banks from failure caused by overtopping or weakness of the structure. It therefore contributes to Strategic objective 1.1: Between now and 2050 the nation will bolster its resilience to flooding and coastal change.

**1.6 – Crowland and Cowbit Washes (Welland Flood Banks) refurbishment**

<b>Project</b>	<b>Map Reference</b>
Crowland and Cowbit Washes (Welland Flood Banks) refurbishment	9
	
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	March 2023
<b>End Date</b>	April 2026
<b>Total project cost</b>	£6,752,849
<b>Partnership Funding required?</b>	Yes
<b>Total Partnership Funding</b>	£500,000
<b>Who is contributing?</b>	N/A
<b>Households better protected</b>	663

**Background:**

The Crowland and Cowbit Washes (the Washes) are not performing as anticipated. The Cradge bank for the Crowland and Cowbit Washes is in need of refurbishment along with inlet syphons. The current focus of the study is to understand the area that benefits from the Washes. The Washes have not been utilised in recent years and the Welland system has been significantly altered since their construction. This project aims to provide a better representation of flood risk associated with the operation (or non-operation) of the Washes through modelling and mapping. We need to better understand how the Washes function, which communities benefit from their existence, and whether any improvements can be made to utilise them more effectively and reduce flood risk. We also need to better understand the implications of failure to store water in the Washes to define the benefit area. The number of properties currently benefitting is estimated at 663.

It is intended that this evidence base will be used in conjunction with that derived for Maxey Cut Banks to support development of an Initial Assessment that supports a strategic approach to continue maintain the standard of protection for Lower Welland catchment in line with the Welland CFMP recommendations.



**Update since last meeting:**

The scope of works for Arup is currently still being developed, now with their active involvements. In addition to internal and external stakeholder workshops for opportunity mapping/long listing, we are anticipating they will assist with some gap analysis. This will, over the course of the next few months, shape the start of developing a more detailed programme to develop an programme to move this project forward to SOC. Discussions are planned with the Fens 2100+ team regarding how this project will fit into that strategic approach for delivering projects.

**How this scheme is aligned with the FCERM Strategy Delivery Plan**

This project supports FCERM Strategy Measure 1.5.4: By 2025 the Environment Agency will work with farmers, land managers, water companies, internal drainage boards and other partners to develop a long-term plan for managing future flood risk in the Fens. It is anticipated that this project will be part of the adaption pathways that will feed in to Fens 2100+

**1.7 – Gibraltar Point to Feiston Shore System Sustain Project**

<b>Project</b>	<b>Map Reference</b>
<p data-bbox="256 801 742 864">Gibraltar Point to Feiston Shore System Sustain Project</p> 	<p data-bbox="1075 819 1102 848">11</p> 
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	September 2022
<b>End Date</b>	June 2025
<b>Total project cost</b>	£5,475,833
<b>Partnership Funding required?</b>	No
<b>Total Partnership Funding</b>	£0
<b>Who is contributing?</b>	N/A
<b>Households better protected</b>	1,793

**Background:**

The project is to look at sustaining the primary line of defence of the Wash Frontage from Gibraltar Point to Feiston Shore. The AP team have identified key Low spots, cattle poaching and burrowing animal areas of concern which are resulting in red card maintenance activities and concern for bank stability. This project will look to repair the embankment and sustain the whole line back to its nominal standard of protection and service.

**Update since the last meeting:**

The site walkover has been conducted and we are awaiting the survey results along with the topographical survey. This will allow us to inform the scope and begin the OBC writing with the consultants. The quote has been received for the consultant costings for writing the OBC and is awaiting sign off with the project board following scrutiny of the overall costings as some costs




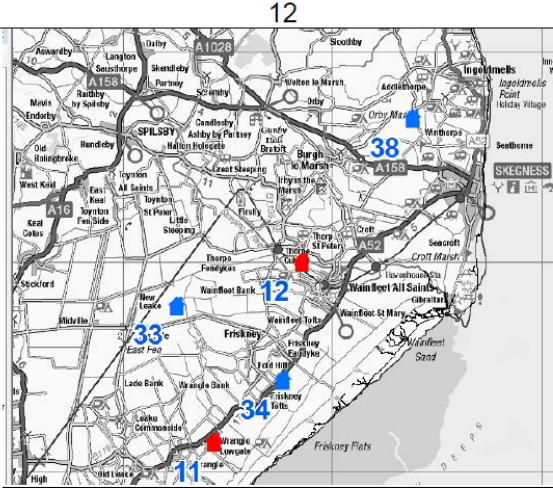
were not relevant. We are still working towards an anticipated works start on site in summer 2024.

**How this scheme is aligned with the FCERM Strategy Delivery Plan:**

This project seeks to sustain the primary defence line along the Wash Frontage from Gibraltar Point to Firestone Shore therefore the FCERM strategy objectives below are in line with project objectives:

- Strategic objective 2.3: Between now and 2030 risk management authorities will support investments to manage flooding and coastal change that enables growth in a sustainable and climate resilient way.
- Strategic objective 1.2: Between now and 2050 risk management authorities will help places plan and adapt to flooding and coastal change for a range of climate scenarios.

**1.8 – Wainfleet Flood Resilience Scheme**

Project	Map Reference
<p data-bbox="288 808 715 837">Wainfleet Flood Resilience Scheme</p> 	
<b>Lead Organisation</b>	Environment Agency
<b>Start Date</b>	October 2022
<b>End Date</b>	October 2025
<b>Total project cost</b>	£4,896,639
<b>Partnership Funding required?</b>	No
<b>Total Partnership Funding</b>	£0
<b>Who is contributing?</b>	Anglian Water, Network Rail
<b>Households better protected</b>	51

**Background:**

In June 2019 two and a half times the month’s average rainfall fell in 3 days in the Steeping catchment. This led to overtopping of the defences and ultimately a breach in the right bank of the Wainfleet Relief Channel on 12 June 2019. As a direct result 75 homes and businesses were flooded as well as 2000 acres of agricultural land. In response to this the Steeping River Steering Group was set up and published a Catchment action Plan which was recently refreshed and published in May 2021. This contains an action to increase the resilience of the raised defences that protect the western side of Wainfleet against overtopping and the effects of climate change. This capital project seeks to deliver this action.

**Update since last meeting:**

The Strategic Outline Case (SOC) of the Wainfleet Flood Resilience Project is complete and is currently going through the assurance process. The project team is currently addressing questions raised by the reviewers in preparation for resubmission. Once approved it will then progress onto the development of an Outline Business Case (OBC) for which resources are already being secured. More work will then be undertaken to develop options, obtain outline costs and then undertake a more detailed analysis on the economic benefits to build the case for investment. This will be done in partnership with RMA partners to ensure delivery of other projects in the catchment.

**How this Scheme is aligned with the FCERM Strategy Delivery Plan:**

The project is aimed at improving the resilience of the raised banks to be from failure caused by overtopping or weaknesses in the structure. It therefore contributes to the following National Strategy objective to better protect people from flooding by building and maintaining defences. Strategic objective 1.1: Between now and 2050 the nation will bolster its resilience to flooding and coastal change.

**3. Consultation**

**a) Risks and Impact Analysis**

N/A

**4. Appendices**

These are listed below and attached at the back of the report	
Appendix A	N/A

**5. Background Papers**

No background papers as defined in the Local Government Act 1972 were relied upon in the writing of this report.

This report was written by Morgan Wray, who can be contacted on 02030253344 or [morgan.wray@environment-agency.gov.uk](mailto:morgan.wray@environment-agency.gov.uk).