

Steeping Catchment Action Plan 2020 +

Refresh May 2021

...from the Wolds to the sea



Foreword

“Welcome to the update of the Steeping Catchment Action Plan.

Many of you will have seen that the first phase of de-silting the Steeping River has been successfully completed.

Before I talk about future works that the Steering Group wish to carry out, I want to pay tribute to all those involved in completing this first important phase that has undoubtedly reduced flood risk.

It has demonstrated the value of partnership working to deliver real benefit to the community.

The next phase of works will include further de-silting on the relief channel and natural flood management measures in the upper catchment to slow the flow in times of extreme rainfall.

There are many other interventions which will add to the sustainability of the Steeping Catchment that are detailed in this updated Action Plan.

I ask that whole community in the Steeping Catchment supports this plan for the benefit of all.

We still face funding challenges, but we are determined to find ways of delivering projects to reduce flood risk to homeowners and businesses (including farmland) and a river and environment that all can enjoy and grows the local economy.”

Robert Caudwell, Chair of the Steeping River Catchment Steering Group



Steeping Steering Group Chair Robert Caudwell, centre, is with local councillors from the partnership, Joe Taylor and Wendy Bowkett, near Bycroft's Bridge.

The following tables are an update to the first Catchment Action Plan that was published in April 2020. This document should be read alongside the original one. The actions remain substantially the same with the following changes:

- Action 1.2 – some additional lengths of river have been added to the dredging programme.
- Actions 3.6 and 3.7 - these previously separated projects between the Wainfleet Relief Channel and the Steeping River. They have been reworded to split projects looking at the raised defences to the west and to the east of Wainfleet St Mary. The same lengths of defence are still covered and the aim is still looking to improve their resilience to overtopping on the effects of future climate change.
- Action 3.10 – a new action to monitor silt volumes following the completion of the dredging project.
- Action 3.11 – a new action to prevent river water escaping through the surface water drainage system adjacent to the Steeping River on Haven Side in Wainfleet.
- Action 4.1 – the wording of the action has been updated to include more detail on what is being worked on.

Some delivery dates for the actions have also been revised where necessary.

All the tables now provide further information on prioritisation of the action (including if other actions need to be delivered first), progress made to date and future challenges or opportunities in their delivery. Comments in **green** have solutions that are being explored, comments in **red** are outstanding issues e.g. predominantly around funding that the partners are working to resolve.

1. Improving flow through the system

Action Number	Model run (if applicable)	Action	Where	Who is involved	Cost	Funding Source	Prioritisation	Progress to Date	Challenges/Opportunities
1.1	12c	Continue effective weed management throughout the catchment.	Steeping catchment	EA, LMDB	TBC	EA maintenance	HIGH – annual programme Effective weed management important for ensuring flow through the system.	Two weed cuts were undertaken in 2020.	Maintenance bids submitted annually through internal EA process.
1.2	12c	Investigate dredging to achieve a minimum water depth of 1.5m all year round to reduce weed growth. See silt distribution diagrams on page 9 and page 10 in the original Steeping Catchment Action Plan.	<u>Steeping River</u> : Confluence with Wainfleet Relief Channel to Thorpe Culvert. <u>Wainfleet Relief Channel (WRC)</u> : Lenton’s Bridge to Thorpe Culvert and downstream of the railway culvert east of Wainfleet.	EA, LMDB	Approx. £1m	EA Maintenance, LMDB, Lincolnshire County Council, East Lindsey District Council	HIGH – 2020 to 2022	Phase 1 completed. This included the Steeping River from Thorpe Culvert to the WRC and short sections at the upstream and downstream extents of the WRC.	Phase 2 of the dredging is funded and due to begin in September 2021 with lagoon construction in May/June 2021. Investigations continue to ascertain if additional dredging is required and how it will be funded.
1.3	5c	Investigate ways of reducing the use of Wainfleet Relief Channel until it is needed. In normal conditions, more flow in the Steeping River will help to flush out the channel and be a more sustainable way of reducing silt build-up	Wainfleet Relief Channel	EA	Further investigations required	TBC	MEDIUM - 2022 Follows delivery of action 1.2		Funding needs to be identified and allocated. To be considered in the longer-term strategy for managing the Wainfleet Relief Channel.
1.4	3c	Explore the opening of Haven House and Burgh Sluices to lower river levels ahead of potential higher river levels.	Haven House, Burgh Sluice	EA	Minimal	EA	HIGH – 2021 to 2022	Follows delivery of action 2.5 as the updated catchment hydraulic model will contribute further information.	Evidence to be gathered to consider the flood risk benefit, impact on the raised defences, water resources and ecology Some aspects of this work are dependent on the delivery of action 2.5.

1.5	10	Investigate reducing pumping from Thorpe Culvert Pumping Station during times of increased flow – either by short term storage in the lowland system or by emergency discharge to Bell Water Drain.	Thorpe Culvert Pumping Station, Bell Water Drain	EA, LMDB, W4DIDB	Up to £350k	LMDB revenue + grant if available	HIGH – 2020 to 2021	Modelling of Witham 4 th IDB system currently ongoing.	Inspection of culverts under Steeping River planned for 2021 with refurbishment if required in 2022. Modelling of Thorpe Culvert Pumped System to be undertaken in 2021/22.
1.6	n/a	Continue refining the operation and effectiveness of Burgh Sluice, Wainfleet Clough Outfalls and Haven House Sluice (including door opening mechanisms) for all flow conditions.	Burgh Sluice, Wainfleet Clough	EA	Minimal	EA	HIGH – 2021 to 2022	Follows delivery of action 2.5 as the updated catchment hydraulic model will contribute further information.	Evidence to be gathered to consider the flood risk benefit, impact on the raised defences, water resources and ecology Some aspects of this work are dependent on the delivery of action 2.5.

2. A resilient community and infrastructure

Action Number	Model run (if applicable)	Action	Where	Who is involved	Cost	Funding source	Prioritisation	Progress to Date	Challenges/Opportunities
2.1	n/a	Work with town and parish councils to help them understand their local flood risk now and in the future by supporting them with the creation, and testing, of Community Emergency Plans that cover all locally identified emergencies. This to include exploring community flood mitigation measures such as fixed/demountable barriers.	Across the Steeping Catchment	LCC, EA, ELDC, LMDB, W4DIDB, AW, NFU, Town and Parish Councils	Minimal		HIGH – 2020 to 2021 (started)	Wainfleet Town Council and the surrounding Parishes are working together on a joint Community Emergency Plan for the area.	The current community focus on responding to Covid 19 has slowed this work. The intention is to progress this in the coming year with support from LCC, ELDC and the EA.
2.2	n/a	Work with residents to help them understand their flood risk now, and in the future, so they can be prepared. This means they will know how to reduce the impact of any flooding and recover more quickly.	Across the Steeping Catchment	LCC, EA, ELDC, LMDB, W4DIDB, AW, NFU, Community	Minimal		HIGH – 2020 to 2021 (started)	Regular community updates continue to be shared with residents that feature related articles. A total of 7 have been produced over the past year. These are shared with the town and parish councils as well as left in up to 15 key community locations in Wainfleet, when possible to do so.	Direct engagement, with events and door-knocking, to ensure residents understand their flood risk and are signed up to appropriate flood warnings will take place when government guidance permits.
2.3	n/a	Work with businesses, the agricultural sector and infrastructure owners to help them understand their flood risk and how they can be prepared to reduce the impact of any future flooding and recover more quickly.	Across the Steeping Catchment	NFU, EA, LCC, ELDC, LMDB, W4DIDB, AW, Businesses	Minimal		HIGH – 2020 to 2021 (started)	Regular community updates are shared via the NFU and left with local businesses when possible. A total of 7 have been produced over the past year.	More direct engagement will be planned when government guidance permits.
2.4	n/a	Develop an understanding of how the community, businesses, agricultural sector and infrastructure owners can adapt to a changing climate.	Across the Steeping Catchment	LCC, EA, ELDC, LMDB, W4DIDB, AW, NFU	Minimal		HIGH – Ongoing	The National Flood and Coastal Erosion Risk Management Strategy has been published. With long term ambitions to be resilient to the impacts of a changing climate and ensuring communities understand their risk of flooding and how to take action.	The ambitions of the National Flood and Coastal Erosion Risk Management Strategy will be embedded in the actions delivered as part of this plan.

Action Number	Model run (if applicable)	Action	Where	Who is involved	Cost	Funding source	Prioritisation	Progress to Date	Challenges/Opportunities
2.5	n/a	Continue improving the EA Flood Warning Service by updating the catchment and flood forecasting models. This will improve the timeliness and accuracy of flooding warnings and enable work towards a community-based flood warning service.	Across the Steeping Catchment	EA	£150k ring-fenced from National Modelling And Forecasting Budget	EA National Modelling And Forecasting Budget	HIGH – 2020 to 2021 (started)	Funding secured and project has commenced. Additional channel survey has been collected, new computer model nearing completion before being ready to run simulations and produce results.	Project is fully funded and work has commenced.

3. Strengthening and maintaining defences

Action Number	Model run (if applicable)	What action is being taken	Where	Who is involved	Cost	Funding source	Prioritisation	Progress to Date	Challenges/Opportunities
3.1	n/a	Undertake annual visual inspection of flood defences as part of a routine inspection programme to identify defects.	Steeping catchment downstream of Great Steeping	EA	Minimal	EA	MEDIUM – annual programme	Inspection undertaken in September 2020	None - Part of established EA maintenance activity.
3.2	n/a	Prioritise repairs for the identified defects to flood defences.	Steeping catchment	EA	TBC	EA + partnership funding	HIGH – 2020/21	Repairs undertaken have included vermin repair and toe protection covered by actions 3.3 and 3.4.	Works are covered by Recovery funding secured for works in the Steeping Catchment for 2020 to 2022.
3.3	n/a	Review, plan and carry out routine maintenance to flood defences e.g. grass cutting, vermin control, protected species etc.	Steeping catchment	EA		EA maintenance + partnership funding	HIGH – annual programme	Grass cutting of the embankments was undertaken. Works to exclude vermin and burrowing animals has been undertaken and continues when areas are identified.	Maintenance bids submitted annually through internal EA process.
3.4	n/a	Plan and deliver a phased programme of toe protection (Steeping River – Warth’s Bridge to Salem Bridge and downstream of A52; Wainfleet Relief Channel).	Wainfleet Relief Channel & Steeping River	EA	TBC	EA + Partnership funding	HIGH – 2020/21	Work had been delayed by poor weather but now due to commence in March 2021	Works are covered by Recovery funding secured for works in the Steeping Catchment for 2020 to 2022.
3.5	n/a	Plan and deliver a phased programme of bank top levelling (Burgh Sluice Relief Channel, Wainfleet Relief Channel).	Wainfleet Relief Channel & Burgh Sluice Relief Channel	EA	TBC	EA + Partnership funding	HIGH - 2023		Programme to be developed and funding bid for.
3.6	n/a	Plan and deliver works to increase the resilience of the raised embankments protecting the western side of Wainfleet to overtopping and the effects of climate change.	Wainfleet Relief Channel and Steeping River	EA + partners	£3m +	FCERMGiA + partnership funding	HIGH 2021 to 2023 For business case and scheme development 2023 to 2024 For delivery of the scheme All dependent on confirmation of funding	Work has commenced on developing the business case to get government funding. The action has been updated to look at all the raised defences protecting the western side of Wainfleet All Saints.	Application for Grant in Aid funding has been submitted to the FCRM capital programme – formal approval expected February/March 2021. Details of scheme need to be developed. Business case needs to be produced. Additional partnership funding needed; options are currently being explored but not confirmed.

Action Number	Model run (if applicable)	What action is being taken	Where	Who is involved	Cost	Funding source	Prioritisation	Progress to Date	Challenges/Opportunities
3.7	n/a	Investigate how the raised embankments protecting the eastern side of Wainfleet can be made more resilient to overtopping and the effects of climate change.	Wainfleet Relief Channel and Steeping River	EA + partners	£5m +	FCERMGiA + partnership funding	MEDIUM – 2025	The action has been updated to look at all the raised defences protecting the eastern side of Wainfleet All Saints. Some of the work being delivered for Action 3.6 will identify the benefits that can be used to apply for FCERMGiA.	No funding currently allocated, additional partnership funding will also be required.
3.8	n/a	Investigate, plan and deliver a project to reduce the risk of flooding from Lady Wath's Beck (upstream of the B1195 bridge). Investigate bank raising of Lady Wath's Beck (upstream of B1195 Bridge).	Lady Wath's Beck	EA + partners	TBC	FCERMGiA + partnership funding	HIGH - 2022	Opportunities to bring this action forward have been explored but this has so far not been possible due to the work required and lack of funding available.	EA has applied for funding for 2022 but this is currently unconfirmed. Limited access along bank to undertake bank raising, alternative approaches will need to be considered e.g. controlled upstream storage. Unable to accelerate work due to limited resources available.
3.9	n/a	Liaise with adjacent landowners/occupiers to improve access to defences for inspection and maintenance. Discuss activities which could impact on defences such as land management, Environmental Permitting regulations and protected species etc.	Steeping catchment	EA	Minimal	EA staff time	MEDIUM – ongoing	Work has started on this long-term action.	EA have commenced this work, delivered through local teams. Identifying priority locations and landowners.
3.10 *new action	n/a	Monitor the success of the dredging delivered under Action 1.2.	Steeping River and Wainfleet Relief Channel	EA	Minimal	EA staff time	HIGH – annual programme	To be commenced once the dredging works are complete.	Can be delivered using internal EA resources.
3.11 *new action	n/a	Undertake works on the surface water drainage outfall at Haven Side to prevent river water flowing back up and onto the road	Haven Side/Church Lane adjacent to Steeping River	EA/LCC Highways	TBC	TBC	HIGH - 2021	Planned as part of EA recovery works for 2021/22.	Solution will not prevent build-up of surface water whilst river levels are also high.

4. Flood water storage

Action Number	Model run (if Applicable)	Action	Where	Who is involved	Cost	Funding source	Prioritisation	Progress to Date	Challenges/Opportunities
4.1	11	Investigate methods and locations in the upper catchment for natural flood management/working with natural processes to achieve flow reductions/natural water storage and wider multiple benefits. The opportunities in the upper catchment would be the focus for biodiversity net gain, compensatory habitat and any species relocation as a result of limitations to consider such in more sensitive lower catchment defence areas. The right partners being involved in opportunity decision making is important when the time is right for upper catchment design and implementation.	Steeping catchment	EA, NFU + partners	Initial £60k	RFCC Local Levy	HIGH – 2020/21 and ongoing	Desktop studies and site walkovers have been completed. Several opportunities have been identified where further conversations with interested landowners may yield opportunities for natural flood management measures.	Covid 19 has limited face to face discussions with landowners and slowed progress of initial liaison but different techniques such as questionnaires and phone discussions have been/continue to be undertaken until lockdown restrictions are lifted.
4.2	11	Work with landowners to investigate changes to land management practices across the catchment to reduce silt coming into the system.						As above.	As above.
4.3	11	Investigate provision of multi-use formal flood water storage area/s within the catchment and appropriate payment.	Steeping catchment	EA, NFU + partners	TBC	Potential through agri-environment, FDGiA and partnership funding	MEDIUM/LOW - Date TBC (2025+)	Previous investigations have found that storage options still require the raised banks so greater priority has currently been placed on delivering actions 3.6 and 3.7.	Funding not currently secured Resources need to be identified to undertake the detailed investigations which will identify options and expected costs to support a funding bid.