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17 May 2019

## **Flood and Water Management Scrutiny Committee**

A meeting of the Flood and Water Management Scrutiny Committee will be held on **Tuesday, 28 May 2019 at 10.00 am in Committee Room One, County Offices, Newland, Lincoln LN1 1YL** for the transaction of the business set out on the attached Agenda.

Yours sincerely

Debbie Barnes OBE  
Head of Paid Service

## **Membership of the Flood and Water Management Scrutiny Committee** **(11 Members of the Council and 7 Other Voting Members)**

Councillors P A Skinner (Chairman), C Matthews (Vice-Chairman), W J Aron, T R Ashton, Mrs A M Austin, Mrs W Bowkett, A G Hagues, Mrs C J Lawton, C R Oxby, C E Reid and R A Renshaw

### **Other Voting Members**

District Councillors Vacancy (Boston Borough Council), P Vaughan (City of Lincoln Council), Vacancy (East Lindsey District Council), I Carrington (North Kesteven District Council), M D Seymour (South Holland District Council), Vacancy (South Kesteven District Council) and Vacancy (West Lindsey District Council)



**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE AGENDA**  
**TUESDAY, 28 MAY 2019**

Item	Title	Pages
1	<b>Apologies for Absence/Replacement Members</b>	
2	<b>Declarations of Councillors Interests</b>	
3	<b>Minutes of the meeting held on 11 February 2019</b>	5 - 12
4	<b>Announcements by the Chairman, Executive Councillors and Lead Officers</b>	
5	<b>Update on the Sustainable Drainage and Design and Evaluation Guide</b> <i>(To receive an update from Warren Peppard (Flood Risk &amp; Development Manager), concerning the Sustainable Drainage and Design Evaluation Guide)</i>	13 - 16
6	<b>Environment Agency Update</b> <i>(To receive a verbal update from Peter Riley (Environment Agency), on the activities of the Environment Agency including progress of key capital schemes)</i>	Verbal Report
7	<b>Reviewing the draft Joint Lincolnshire Flood Risk and Water Management Strategy</b> <i>(To receive a report from Matthew Harrison, (Senior Commissioning Officer – Flood Risk), which asks the Committee to review and comment on the consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy)</i>	17 - 98
8	<b>Wrangle Bank Flood Defence Project</b> <i>(To receive a presentation from Peter Bateson, (Witham Fourth District IDB), which provides the Committee with an update on the completion of the Wrangle Bank Flood Defence Project)</i>	
9	<b>To report progress on the investigations made in the County under Section 19 of the Flood and Water Management Act 2010 (FWMA)</b> <i>(To receive a report from Paul Brookes (Flood Risk Manager), which provides the Committee with an update on the latest position of all current investigations in the County under Section 19 of the Flood and Water Management Act 2010)</i>  <i>(Members are asked to view the current Section 19 spreadsheets online (also contained in Appendix A) and inform Democratic Services in advance of the meeting if they wish to highlight any particular sites at the meeting)</i>	99 - 106

**10      Flood and Water Management Scrutiny Committee Work  
Programme**

*(To receive a report from Daniel Steel (Scrutiny Officer), which invites the Committee to consider its work programme for the coming year)*

107 - 110

Democratic Services Officer Contact Details

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E Mail Address [katrina.cope@lincolnshire.gov.uk](mailto:katrina.cope@lincolnshire.gov.uk)

**Please note:** for more information about any of the following please contact the Democratic Services Officer responsible for servicing this meeting

- Business of the meeting
- Any special arrangements
- Copies of reports

Contact details set out above.

All papers for council meetings are available on:  
[www.lincolnshire.gov.uk/committeerecords](http://www.lincolnshire.gov.uk/committeerecords)



## FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE 11 FEBRUARY 2019

### PRESENT: COUNCILLOR B ADAMS (CHAIRMAN)

Councillors P A Skinner (Vice-Chairman), W J Aron, T R Ashton, Mrs A M Austin, Mrs W Bowkett, Mrs C J Lawton, C R Oxby, C E Reid and R A Renshaw.

District Councillors R Austin (Boston Borough Council), P Vaughan (City of Lincoln Council), Mrs F M Martin MBE (East Lindsey District Council), M D Seymour (South Holland District Council), B Russell (South Kesteven District Council) and I G Fleetwood (West Lindsey District Council).

External Agencies –

Councillors C J Davie and D McNally (Executive Support Councillor for Commercial and Environmental Management), attended the meeting as observers.

Officers in attendance:-

Paul Brookes (County Flood Risk Manager), Deborah Campbell (Environment Agency), Katrina Cope (Senior Democratic Services Officer), Steve Eason-Harris (Emergency Planning & Business Continuity Officer), David Hickman (Growth & Environment Commissioner), Adam Robinson (Boston Barrier Project Director, Environment Agency), Daniel Steel (Scrutiny Officer), Warren Peppard (Flood Risk & Development Manager) and Adrian Clack (Local Delivery lead, Environment Agency).

### 55 APOLOGIES FOR ABSENCE/REPLACEMENT MEMBERS

Apologies for absence were received from Councillors B M Dobson and I Carrington (North Kesteven District Council).

### 56 DECLARATION OF COUNCILLORS INTERESTS

No declarations of members' interest were received at this stage of the meeting.

### 57 MINUTES OF THE MEETING HELD ON 26 NOVEMBER 2018

RESOLVED

That the minutes of the Flood and Drainage Management Scrutiny Committee meeting held on 26 November 2018, be agreed and signed by the Chairman as a correct record.

### 58 ANNOUNCEMENTS BY THE CHAIRMAN, EXECUTIVE COUNCILLORS

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE  
11 FEBRUARY 2019****AND LEAD OFFICERS**

The Chairman invited Executive Councillors and Lead Officers to make any announcements:-

The Growth & Environment Commissioner advised the Committee that progress across the Water Resources East area, would be presented to the next meeting on 28 May 2019; and that Anglian Water would be invited to attend the meeting to present the update.

The Chairman advised the Committee that agenda item 9 – Wrangle Bank Flood Defence Project had been deferred to the 29 May 2019 meeting.

**59      UPDATE ON SUSTAINABLE DRAINAGE AND DESIGN AND  
EVALUATION GUIDE**

Warren Peppard, Flood Risk and Development Manager advised the Committee that the Sustainable Drainage Design and Evaluation Guide was continuing to be promoted with district councils and that once work on the website was completed (approximately 3 months time), formal consultation of the guide would commence; as links would then be in place to the hosting site.

**60      ENVIRONMENT AGENCY UPDATE**

Consideration was given to a report from the Environment Agency, which provided an update of the Environment Agency activities, including progress made on key schemes.

Deborah Campbell from the Environment Agency updated the Committee on the following issues:-

- That for the Lincoln defences, approval had been given to take the scheme forward and accelerate it to ensure the protection of houses. It was noted that the scheme would be completed by 2021;
- That the Interim Beach Management Scheme would be starting during the first week of May;
- That the Saltfleet to Gibraltar Point Strategy Review public consultation would be commencing after the local elections; and
- A question was asked whether the National Flood Risk & Coastal Erosion Management Strategy was being delayed as a result of Brexit. Confirmation was given that public consultation on the Strategy had been delayed until after March 2019.

During a short discussion, the Committee raised the following issues:-

- The Wainfleet Relief Channel – A question was asked regarding works to improve access. The Committee was advised that works on the relief channel were going to go ahead as planned;

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE**  
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- A request was made for the Committee to be able to see the final budget figures for the Louth and Horncastle Flood Alleviation Schemes. The Committee was advised that the contract had not been finalised yet; and that until the process had been completed, the budget information was unable to be shared. A request was also made for a final debrief meeting of the project board. Confirmation was given that arrangements for a debrief meeting of the project board was in hand;
- The effect of the Intergovernmental Panel on Climate Change report on Lincshore. The Committee was advised that the Environment Agency did not agree with the findings of the report to open the Lincolnshire coast; as information and remodelling data available to the Environment Agency disagreed with said report. A suggestion was made for the report to be considered by the Committee at a future meeting. A further suggestion made, was for a letter of support to be written from the Committee, supporting the Environment Agency's stance in relation to the beach nourishment scheme; and
- A question was asked as to why the Haven Banks scheme had been delayed. The Committee was advised that it was the intention for the Haven Bank Scheme to be completed alongside the Boston Barrier works. It was highlighted that there had been the opportunity to increase the standard of protection, as funding had been available; and that the delay had been caused by the procurement process.

**RESOLVED**

1. That the Environment Agency Update report be received.
2. That a letter be sent from the Committee in support of the Environment Agency's strategy for the coast.
3. That an item concerning the Intergovernmental Panel on Climate Change Report be considered by the Committee at a future meeting date.

**61      LINCOLNSHIRE OPERATIONS REVENUE MAINTENANCE PROGRAMME**

The Committee gave consideration to a report from Peter Riley from the Environment Agency. The report outlined the approach of the Environment Agency to asset management; and explained the Annual Revenue Programme for Flood and Costal Risk Management assets in Lincolnshire.

Adrian Clack, Local Delivery Lead, Environment Agency, presented the report to members of the Committee and responded to questions raised, which included:-

- Paragraph 3.2 - A question was asked as to whether Figure 2 was fixed and whether there were any trends. The Committee was advised that most projects were stable in Lincolnshire; and would only vary slightly when driven by the inspection regime. It was noted that the vast majority of funding in figure 2 was allocated to Toe Stabilisation, which indicated the nature of the water courses in Lincolnshire; and

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE  
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- The position relating to the use of chemicals – The Committee was advised that to catch vermin, the EA was licensed by Natural England to do control work. The Committee was advised that to reduce the number of rabbits a trial was being carried out using ferrets, which was proving to be very successful. It was reported that different methods were continually being looked at; as chemical resources were being reduced. The Committee was advised further that to help reduce weeds, a biological approach was being tested, which involved the introduction into a water course of a weevil that attacks weed.

**RESOLVED**

That the Lincolnshire Operations Revenue Maintenance programme be received.

**62      BOSTON BARRIER UPDATE**

The Committee received an update from Adrian Robinson, Boston Barrier Project Director from the Environment Agency relating to the progress being made on the Boston Barrier.

The Committee were able to see from a short pictorial presentation that the coffer dam was in place, and that this would provide a water tight workspace for the barrier.

The Committee noted that the fishing fleet had now moved into their temporary new home at the Port of Boston, which had put them downstream of the Barrier works.

It was reported that the gates for the barrier had been made and were soon to be painted.

It was highlighted that construction of the control building had commenced and was expected to be completed within 6 to 8 weeks.

In conclusion, the Committee was advised that work was due to be completed by the end of 2020.

A local member expressed thanks to the Environment Agency and the contractor for keeping local residents informed. A request was made for the most recent update information to be made available at the community hub; for people dropping in to view.

Confirmation was given that the project was on target. In response to a question raised, the depth of the coffer dam was also confirmed.

A request was made for the Committee to visit the site. Confirmation was given that a bespoke visit could be arranged for the Committee to visit the site. It was agreed that the Scrutiny Officer would look into arranging a suitable time and place for the said visit.

**RESOLVED**

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE  
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1. That the update on the Boston Barrier be received.
2. That a visit be arranged for the Committee to visit the Boston Barrier site.

**63      WRANGLE BANK FLOOD DEFENCE PROJECT**

The Chairman had advised earlier in the agenda that this item had been deferred to the next Flood and Water Management Scrutiny Committee.

**64      LOCAL RESILIENCE FORUM - RESILIENCE COMMUNITIES PROJECT  
UPDATE**

The Committee received a presentation from Steve Eason-Harris, Emergency & Business Continuity Officer, which provided the Committee with an overview of the Local Resilience Forum Resilience Communities project.

The presentation made reference to the evolution of the programme; and to the current programme, which was open to all community groups, parish, town and ward councils and councillors; and businesses.

The Committee was advised that 183 communities were engaged; and that there were 161 embryonic plans. It was highlighted that information flow was effective in small scale incidents/emergencies, and that it became more complicated when the incident(s) were spread over a larger geographical area.

The presentation highlighted that the Resilient Lincs Programme was about strengthening relationships between the community and emergency responders; and that the programme was looking to coordinate community action when and where it was needed the most. It was highlighted that the Volunteer Resilient Lincs Coordination Groups would help the flow of information and intelligence to and from emergency responders and the community. This approach would help with joint situation awareness. It was highlighted further that there would be a single point of contact for community emergency planning groups; county emergency responders; and resilient Lincs Steering and Governance. The Committee was advised that a pilot scheme was due to be launched in the Spring of 2019.

It was noted that there was a text alert system for warning and informing communities, once the County Emergency Centre had opened. It was noted further that 178 individuals had signed up across the county representing 74 communities.

The Committee was advised that a Resilient Communities Conference 2019 was going to be held in July 2019, which would be open to all community groups, and town and parish councils. The Committee was advised further that the theme for this year's conference was to be 'Understanding your Community'.

During discussion, the Committee enquired how recruitment was maintained, following the initial setup. The Committee was advised that governance procedures

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were in place and that learning was continual. It was noted that parish clerks were instrumental in the communication process.

**RESOLVED**

That the Local Resilience Forum – Resilience Project Update report and presentation be received.

- 65      **TO REPORT PROGRESS ON THE INVESTIGATIONS MADE IN THE  
COUNTY UNDER SECTION 19 OF THE FLOOD AND WATER  
MANAGEMENT ACT 2010 (FWMA)**

Consideration was given to a report from Paul Brookes, County Flood Risk Manager, which invited the Committee to consider and comment on the investigations undertaken in the county under Section 19 of the Flood and Water Management Act 2010.

The Flood Risk Manager advised the Committee that there had been no new Section 19 investigations started within the last quarter. It was noted that this had been the second quarter running during which no flood investigations had taken place. A copy of current flood investigations in the county carried out in accordance with Section 19 was attached to the report at Appendix A for the members' consideration.

A question was asked relating to works at Lincoln West. Officers agreed to respond after the meeting.

A further request was made concerning the Westborough Scheme; as some issues had arisen concerning landowners. The Committee was advised that work was on-going with the drainage board.

The Executive Councillor for Economy and Place advised that he would raise the issue of non-attendance at meetings by Anglian Water at the next Strategic meeting.

One member highlighted the need for a more readable version of Appendix A.

**RESOLVED**

That the progress made on investigations undertaken within the county under Section 19 of the Flood and Water Management Act 2010 be noted.

- 66      **FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE WORK  
PROGRAMME**

The Committee gave consideration to a report from Daniel Steel, Scrutiny Officer, which enabled the members to consider and comment on the content of its work programme, to ensure that scrutiny activity was focussed on areas of greatest benefit.

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE  
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Page 43 of the report provided the Committee with a copy of the work programme for the Flood and Water Management Scrutiny Committee up to 28 May 2019.

The Scrutiny Officer reminded the Committee of the items that had been suggested to be taken forward to a future meeting. These included Water Resources East (and that Anglian Water should be invited to attend); Climate Change report; and a visit by the Committee to see construction at the Boston Barrier.

A further item suggested was an update on IBD Special Levies and the impact this had on district councils. The Committee received reassurance that lobbying was continuing. It was agreed that a copy of the Local Government Association document should be circulated to all members of the Committee, rather than having the item included on a future agenda.

**RESOLVED**

That the Flood and Water Management Scrutiny Committee Work programme presented, be agreed subject to the addition of the items mentioned above.

The meeting closed at 11.15 am

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# Agenda Item 5



## Policy and Scrutiny

### Open Report on behalf of Andy Gutherson, Interim Executive Director of Place

Report to:	<b>Flood and Water Management Scrutiny Committee</b>
Date:	<b>28 May 2019</b>
Subject:	<b>Update on the Sustainable Drainage Design &amp; Evaluation Guide</b>

#### **Actions Required:**

Members of the Flood and Water Management Scrutiny Committee are requested to consider and comment on the information included in the report.

## 1. Background

Following the update on the guide at the last Scrutiny Committee, members requested that a formal consultation exercise was considered with the District Councils regarding the promotion of the guide.

The guide is now hosted on Lincolnshire County Councils website  
<https://www.lincolnshire.gov.uk/searchResults.aspx?qsearch=1&keywords=suds+design+and+evaluation+guide&x=0&y=0>

The Community Engagement Team have been commissioned to produce a survey, which will be sent to all District Councils. It is expected that the survey will be sent to all District Councils during May 2019.

Warren Peppard has verbally discussed this approach with the Planning Managers of the District Councils, who all seem supportive, and a copy of the Design and Evaluation Guide has been re-sent to all District Councils (for dissemination to interested managers/officers/members) in preparation of the survey.

The current draft of the Snap Survey can be found below.

## 2. Conclusion

The guide continues to be promoted with developers via pre-planning, planning applications and multi-agency group meetings.

## **2019 District Councils - SuDS Draft Survey**

### Introduction

Briefly say what the SuDS is for, what will it's use achieve?

*Our understanding of the negative impacts of conventional drainage are now well understood. Pipe drainage collects and conveys water away from where it rains, as quickly as possible, contributing to increased risk of flooding, contamination and the loss of our relationship with water and the benefits it can bring to us all.*

*Sustainable drainage, or SuDS, is a way of managing rainfall that mimics the drainage processes found in nature and addresses the issues with conventional drainage.*

**Why are we asking people in Districts about this now?**

*Although some SuDS are being delivered across the County, more can be done by all stakeholders to deliver better quality SuDS designs.*

*In order to help achieve this SuDS Design and Evaluation Guide has been produced to facilitate consultation, in order to achieve the best possible SuDS designs. The Guide promotes the idea of integrating SuDS into the fabric of development using the available landscape spaces as well as the construction profile of buildings.*

**What will we do with what they tell us?**

*The consultation responses will help us to determine the best way to promote and utilise the Guide across the County.*

In this survey, we are not asking for personal information. To find out more about how we manage the information you give us, you can see our Privacy Notice here: <https://www.lincolnshire.gov.uk/local-democracy/information-and-data/privacy-notices/privacy NOTICE-environment-and-economy/132503.article>

If you have any questions about this survey, please contact: warren.peppard@lincolnshire.gov.uk

1. Please tell us in which capacity you are responding to this survey (please select one)

Manager  
Officer  
Elected Member

2. Please rate your level of awareness of the LCC SuDS design and evaluation guide. (where 1 is unaware and 5 is fully aware)

*Rating scale here*

3. To what extent do you support or not support the content of the LCC SUDS design and evaluation guide? (where 1 is do not support and 5 is fully support)

*Rating scale here*

Please tell us more about your response here (*2000 character limit*)

4. Would you be happy to consider adopting the SUDS design and evaluation guide as supplementary guidance?

Yes

No

5. Would you be prepared to promote the LCC SUDS design and evaluation guide?  
(please select all that apply)

No

Yes, by a link from our website to the relevant LCC web page

Yes, through our interactions with developers

Yes, but we would like our own logo on it\*

*\*If this option is selected then a reminder about additional cost for your own logo pops up*

6. Is there anything else you think we need to know?

Please tell us here (*3000 character limit*)

Thank you for completing this survey. If you have more to tell us or want to have a further conversation about this, please contact [warren.peppard@lincolnshire.gov.uk](mailto:warren.peppard@lincolnshire.gov.uk) or 01522 782070

### **3. Background Papers**

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

This report was written by Warren Peppard – Flood Risk & Development Manager, who can be contacted on (01522)782070 or warren.peppard@lincolnshire.gov.uk

# Agenda Item 7



Policy and Scrutiny

## Open Report on behalf of Andy Gutherson, Interim Executive Director of Place

Report to:	<b>Flood and Water Management Scrutiny Committee</b>
Date:	<b>28 May 2019</b>
Subject:	<b>Reviewing the draft Joint Lincolnshire Flood Risk and Water Management Strategy</b>

### **Summary:**

The report asks the Committee to review and comment on the consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy.

### **Actions Required:**

To review the consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy 2019-50, and to provide guidance to officers developing the Strategy by commenting on the present draft.

## **1. Background**

Under the Floods and Water Management Act 2010 the County Council, as Lead Local Flood Authority (LLFA) is required to implement and monitor a Local Flood Risk Management Strategy. This must be consistent with the national Flood and Coastal Erosion Risk Management Strategy for which the Environment Agency is responsible, and which is also currently released for public consultation. Within this broad framework, however, the Local Flood Risk Management Strategy responds to local needs and circumstances, and develops local strategic priorities.

As a minimum, the Strategy must specify the following;

- The risk management authorities in the LLFA's area
- The flood risk and coastal erosion functions that may be exercised by those authorities relating to the area
- Objectives for managing flood risk in the area, including any objectives prepared under the Flood Risk Regulations 2009
- Measures proposed to meet those objectives
- How and when the measures are to be implemented
- Costs and benefits of the measures and how they are to be paid for
- Assessment of local flood risk (meaning from surface runoff, groundwater and ordinary watercourses)

- How and when the strategy is to be reviewed
- How the strategy contributes to the achievement of wider environmental objectives

In developing the Strategy, the LLFA is required to consult the public and risk management authorities that may be affected by it. The LLFA must also publish a summary of the Strategy, including guidance about the availability of relevant information.

### **Progress to date**

The proposals for the strategy update were supported by the Flood and Water Management Scrutiny Committee when presented in September 2018. The Committee also emphasised the need to secure economic benefits when addressing flood risk and water related issues. This has been incorporated into the consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy, which is presented to members for examination and comment.

The consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050 is a fully revised and updated version of the existing Joint Flood Risk and Drainage Management Strategy, approved by the Council in 2012. The new strategy takes a wider view, not only covering partners' collaborative strategic and operational approach to flood risk management, but also strategic management of water as a resource to support economic growth and to help secure long term resilience of water supply within a new national framework.

This draft version of the strategy has been developed with key stakeholders and partners of the Lincolnshire Flood Risk and Water Management Partnership in preparation for formal public consultation. During January and February 2019 a partner and stakeholder consultation exercise was undertaken for 6 weeks, during which time a half day workshop was also undertaken to ensure we captured the views and aspirations of key partners moving forward.

These comments, together with views provided by Scrutiny Committee in and since September 2018, have been incorporated into the consultation draft of the strategy attached to this report (see Appendix A).

### **Scope and Timescale for the Review**

Public consultation will be undertaken for an eight-week period beginning in late May 2019. Six public drop-in sessions will be undertaken as part of this exercise. At the conclusion of the public consultation, all comments and contributions will be assessed and where appropriate incorporated into a final draft version of the strategy. This will then be circulated further amongst members of the Flood Risk Partnership to seek endorsement, presented to both Flood and Water Management Scrutiny Committee and Economic and Environment Scrutiny Committee, prior to submission to the Executive with the results of the consultation and final draft for approval.

As indicated above the local Strategy must be consistent with the National Flood Risk and Coastal Erosion Management Strategy of which a national review is underway and the eight-week consultation period for the draft FCERM strategy commenced on 9<sup>th</sup> May 2019. Officers from Lincolnshire County Council and other partner authorities in the area have been engaged in the development of the draft national strategy, which has also been analysed to ensure consistency between it and the Lincolnshire Strategy.

## **2. Conclusion**

The consultation draft Joint Lincolnshire Flood Risk and Water Management Strategy is intended to provide the County Council and its partners in the Lincolnshire Flood Risk and Water Management Partnership with a means of outlining their collective aspirations for flood risk, water management and future water supply resilience, along with additional economic and social benefits that can be achieved for the county.

The Strategy will align closely with other key initiatives such as the Local Industrial Strategy, the Strategic Economic Plan and long term planning for infrastructure and housing provision, as well as environmental improvement and sustainability in the long term. Formal public consultation is a key element in working towards adoption of the strategy and it is requested that committee continue to support officers and the Flood Risk and Water Partnership in developing the strategy for completion and final approval later in 2019.

## **3. Consultation**

### **a) Have Risks and Impact Analysis been carried out??**

No

### **b) Risks and Impact Analysis**

N/A

## **4. Appendices**

These are listed below and attached at the back of the report	
Appendix A	draft Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050 & Strategic Vision

## **5. Background Papers**

This report was written by Matthew Harrison, who can be contacted on 01522 555172 or matthew.harrison@lincolnshire.gov.uk.

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## **Lincolnshire Flood Risk and Water Management Partnership Framework**



# **Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050**

(A review and update to the existing Joint Lincolnshire Flood Risk and Drainage Management Strategy 2012-2025)

## Contents

1. Introduction
2. The Lincolnshire Flood Risk and Water Management Partnership
3. The previous Joint Flood Risk & Drainage Management Strategy 2012-2025
4. Understanding Flood Risk
5. Roles and responsibilities of Lincolnshire Flood Risk Management Authorities
6. Future Look
7. Delivering the Strategy
8. Find out more

### Glossary

**Key strategies and initiatives developed since 2012 that will influence our strategic approach within Lincolnshire**

## 1 Introduction

### Reviewing the existing Joint Lincolnshire Flood Risk and Drainage Management Strategy

Lincolnshire County Council is the Lead Local Flood Authority (LLFA) for the administrative county of Lincolnshire. Because of this role, since 2010 the Council has been responsible for implementing and monitoring a Local Flood Risk Management Strategy.

The purpose of the Strategy is to manage the impact of flood risk to people, businesses and the environment across Lincolnshire. The basic contents of the Strategy are outlined in legislation as follows:

- The risk management authorities operating in the LLFA's area
- The flood risk and coastal erosion functions that may be exercised by those authorities relating to the area
- Objectives for managing flood risk in the area
- Measures proposed to meet those objectives
- How and when the measures are to be implemented
- Costs and benefits of the measures and how they are to be paid for
- Assessment of local flood risk (meaning from surface runoff, groundwater and ordinary watercourses)
- How and when the strategy is to be reviewed
- How the strategy contributes to the achievement of wider environmental objectives

In developing the Strategy, the LLFA must consult the public and risk management authorities that may be affected by the strategy. The Strategy must be consistent with the National Flood Risk and Coastal Erosion Management Strategy and the LLFA must publish a summary of the Strategy, including guidance about the availability of relevant information.

In Lincolnshire our strong partnership approach meant that we were able to put together our Strategy as a joint venture between all the organisations with a role in flood risk management. Completed in 2012, the Joint Lincolnshire Flood Risk and Drainage Management Strategy was one of the first of its kind in the country. It also established a trend that has grown since to join up the work of different organisations and to tackle flood risk and water in a more co-ordinated way than in the past.

The existing Joint Lincolnshire Flood Risk and Drainage Management Strategy was developed as a partnership venture during 2011 and 2012, and was approved for the County Council by the Executive on 4 December 2012 and by Full Council in January 2013. Part 3 of the Strategy, the action plan, was made available from April 2013 and continues to be updated annually. As a consequence Lincolnshire was one the first areas in England to publish and implement a Local Flood Risk Management Strategy, and was forward looking in implementing a strategy that sought to co-ordinate the work of all Risk Management Authorities within the LLFA

area and to consider flood risk in the round.

In effect, the Strategy co-ordinates all the work delivered by the Lincolnshire Flood Risk and Water Management Partnership as a whole, overseen by the Flood Risk and Water Management Scrutiny committee.

This co-ordinated approach was embedded by establishing the Common Works Programme in 2013. This includes the major capital programmes of all partners, as well as the programme of joint activities that address solutions where responsibility is shared or where there is no clear single authority with the capacity or responsibility to act. The Common Works Programme allows the partnership to prioritise works across the county according to need, and within the constraints imposed by availability of local and national funding.

The current Strategy consists of

- Part 1: Strategic Vision (including high level objectives)
- Part 2 (A & B): Implementation Plan for the Strategy
- Part 3: Common Works Programme (annually updated action plan)

It can be found in full on the LCC website at the following link:

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

**Figure 1** Map of Strategy area



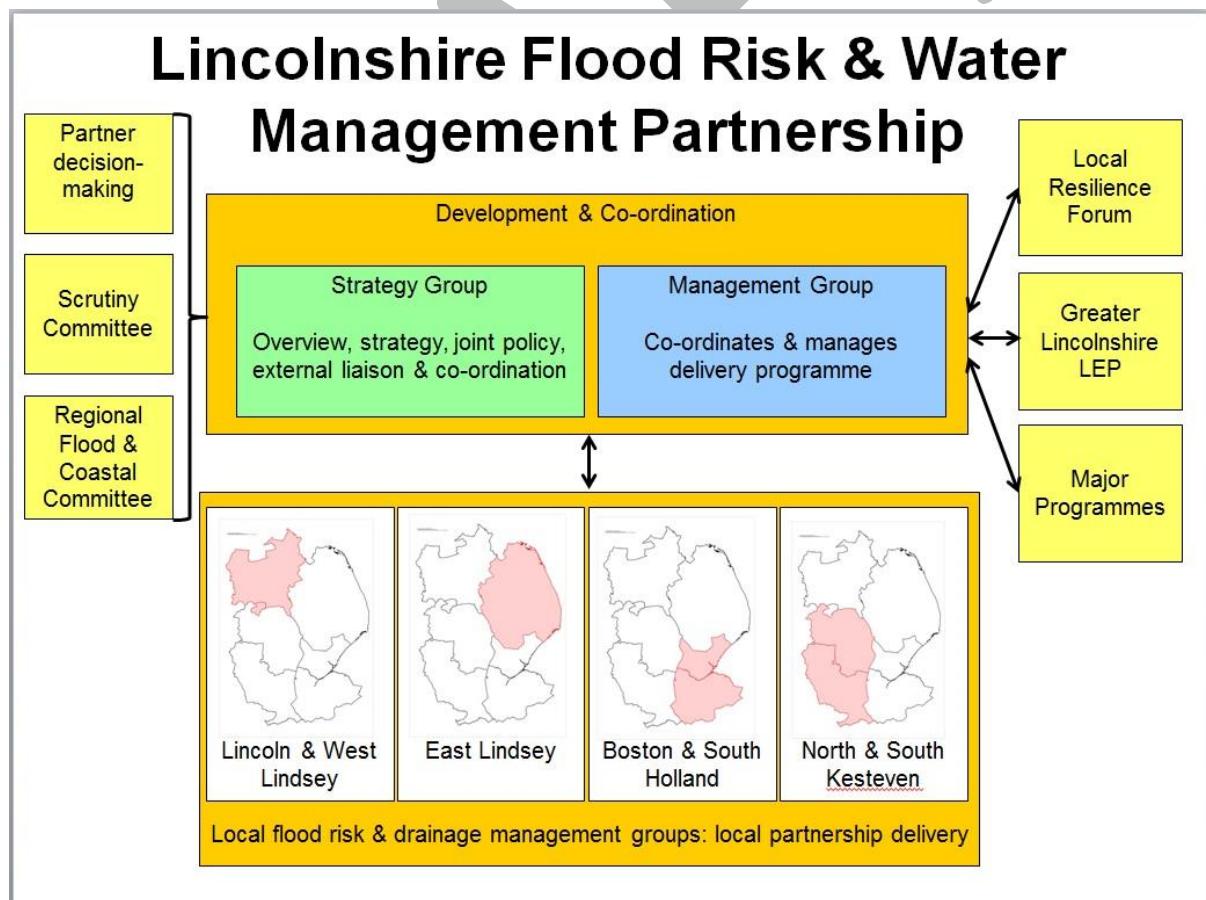
## 2 The Lincolnshire Flood Risk and Water Management Partnership

The Lincolnshire Flood Risk and Drainage Management Partnership was established in 2010 in advance of the [Flood Risk and Water Management Act](#) (2010). It was created in order to provide the level of co-ordination needed to develop the joint Strategy described above.

Since 2012 flood risk management has increasingly been recognised as an integral part of a wider issue of managing water as a resource that is essential to economic growth nationally and, particularly, in the east of England. To recognise this a review of the existing partnership role and structure was undertaken during 2017/18. The revised governance and functions of the Lincolnshire Flood Risk & Water Management Partnership can be found at the following link

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

**Figure 2** The Lincolnshire Flood Risk and Water Management Partnership



When determining priorities and actions, the Lincolnshire Flood Risk and Water Management Partnership directs its resources to areas where there is the greatest need, and where investment will bring the greatest benefits.

Following the refresh, the partnership now includes wider water interests. Water Resources East (WRE), a regional initiative looking at water availability from a multi-sectoral position and the Greater Lincolnshire Local Enterprise Partnership and its Water Management Board (WMB) are now full members.

As such, investment is considered in the round by attempting to take a truly systemic view of the water cycle to include the economic benefits it supports and unlocks.

The refreshed partnership has reviewed the key issues it believes Lincolnshire faces in terms of water. This includes flood and drought and the associated economics. It will focus on locations which exemplify these issues or themes and will facilitate discussions across partners, businesses, communities and central government as to how to best tackle these issues in the long term.

These locations are shown on the map in Figure 3 overleaf.

### **Lincolnshire Coastal Strip**

The Lincolnshire open coast is susceptible to significant flood risk from tidal inundation. It is protected by a mix of defenses which are described in the Environment Agency's Saltfleet to Gibraltar Point Strategy. Located immediately behind these defenses are large communities, businesses and tourist attractions. Our ability to support these communities and interest to grow sustainably brings together a great number of partners and policies. These include land use planning, infrastructure provision and flood risk. The partnership aims to bring these concerns together to deliver a sustainable plan and vision for our open coastline.

### **Agri-food**

Agriculture and the Agri-Food Industry are vital to a thriving Lincolnshire economy. It is dependent on the provision of water and the drainage of land. At present these concerns are not linked through strategy or policy. Moreover agricultural land does not attract as much government grant for flood risk protection as housing and at present rates for drainage are subject to the local authority council tax cap. As such the partnership has two aims. To raise the importance of our contribution to the agricultural production of the UK in a post Brexit Britain. To ensure policies reflect the need adequately fund land drainage and flood protection for agricultural land.

### **Catchment Based Approach**

Current strategic approaches to managing water are delivered generally in silos. This separates the management of flood risk, water resources provision and land drainage. By taking a holistic view of the management of water we believe it is possible to provide multiple benefits to the environment, businesses and communities. The government's 25 Year Environment Plan identifies that land should be used and managed more sustainably and this approach will be tested in the South Forty Foot Catchment under the South Lincs Water Partnership (SLWP) supported by the Lincolnshire Flood Risk and Water Management Partnership.

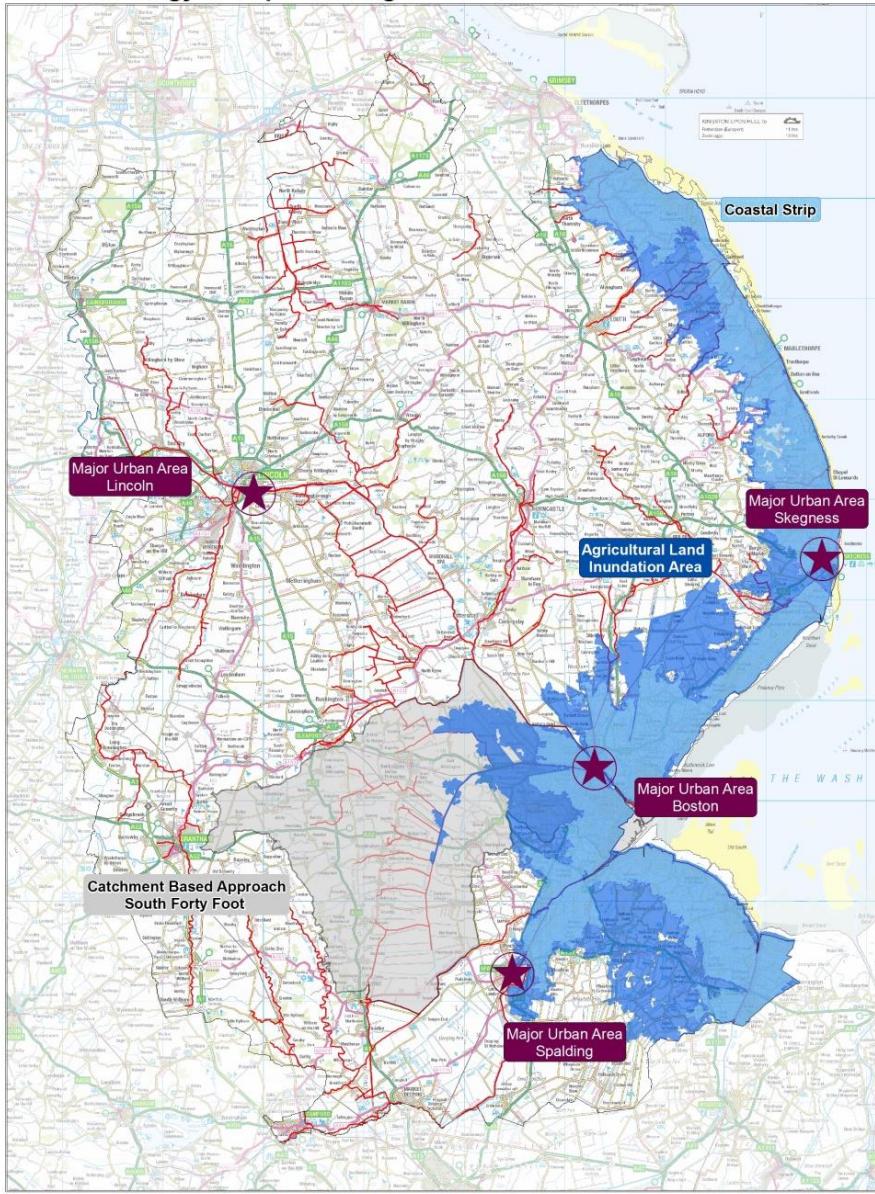
## Urban Areas

Major urban areas provide a particular challenge. Flood risk arises from a number of sources including surface water, sewers, rivers and the sea. Growth and economic development can often be focused here. Our aim is to collectively manage these risks whilst allowing our urban centers to flourish and grow sustainably.

The below map demonstrates these areas, however it must be remembered that the partnership co-ordinates day to day operational works throughout the county to manage the risk from all sources of flooding. The current programme of these works can be in Part 3 of the current strategy found [here](#).

**Figure 3** Map showing examples of areas and locations that exemplify key issues

FRWM Strategy Group 4 Strategic Themes



The history of the Lincolnshire Flood and Water Management Partnership, means it has developed a key role in managing flood risk in particular. This includes deploying resources and coordinating risk across a range of partners and risk management authorities.

The type of action that will be undertaken to manage flood risk and drainage will depend on the severity of the risk in each circumstance, including factors such as the likelihood of flooding, the level of danger posed by flooding, its impacts and the physical and economic feasibility of implementing a specific scheme or activity.

Since 2012 flood risk management authorities in Lincolnshire have been very successful in securing National funds for works, known as 'Grant in Aid' and funding provided by the Government to the Environment Agency allocated at regional level by the Regional Flood and Coastal Committee. This is also true of funds raised locally (called 'Local Levy') and provided to the Environment Agency by the County Council.

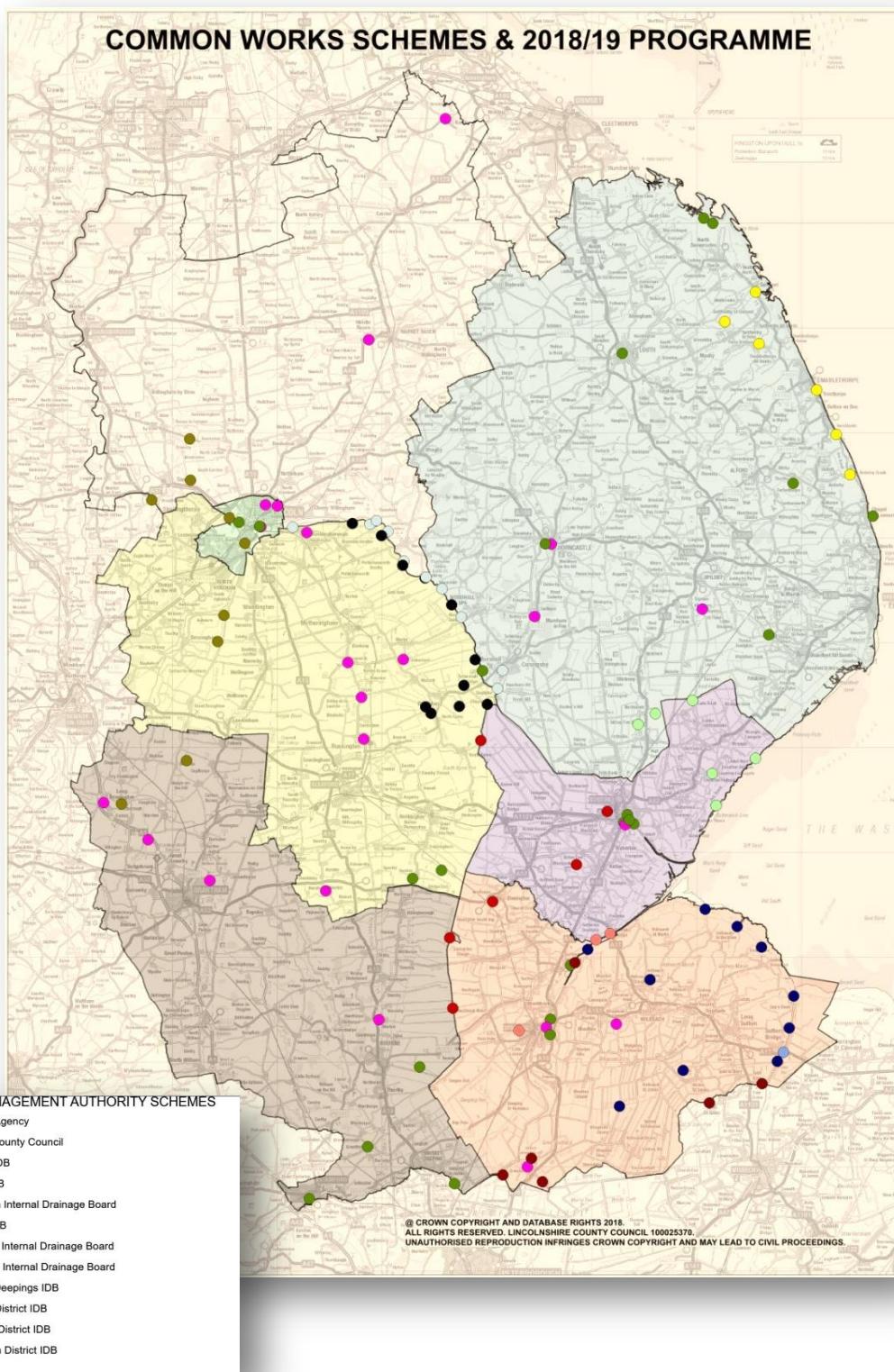
**Figure 4**



Many of the flood risk management activities undertaken are already the responsibility of individual organisations, such as the maintenance of an organisation's own assets, or the fulfilment of particular legal obligations. The Common Works Programme includes schemes, works and other initiatives undertaken by flood risk management authorities across Lincolnshire where, in some cases, two or more authorities have come together through the Lincolnshire partnership to deliver work that would not have been possible, or would have

taken longer to achieve, if undertaken by one organisation alone. These works form the Common Works Programme which is refreshed annually with all risk management authorities retaining the maximum flexibility to respond to schemes and works needs as they arise. By combining resources, partners have been able to attract inward investment at a national level and raise the priority of proposed schemes regionally

**Figure 5** Location of Partnership work that have received national funding and undertaken by Lincolnshire Risk Management Authorities since 2012



### **3 The previous Joint Flood Risk & Drainage Management Strategy 2012-2025**

Since the original Flood Risk and Drainage Management Strategy was completed and approved in 2012 considerable progress has been made to tackle the challenges faced from flood risk and water resource issues. Flood risk management authorities in Lincolnshire have been recognised by Government as among those leading nationally in the development and co-ordination through the Lincolnshire Flood Risk and Drainage Management Partnership Framework. In the period 2012-2018 we have deployed a total of £106,000,000 funding locally on flood risk management works in Lincolnshire, which has levered in £94,000,000 national capital funding, and has led to 33,084 being better protected from flood risk. In addition we have delivered numerous smaller schemes across the county, and completed investigations into 205 flooding incidents affecting one or more residential properties.

The partnership has taken a flexible approach as circumstances change and has identified and embraced new initiatives and opportunities that are emerging. The partnership continues to adapt in its approach to deal with changes since the original strategy was launched in 2012 such as expected legislation not enacted.

The previous strategy identified **9 strategic outcomes**, which have either seen significant progress, have been achieved or remain the fundamental approach to achieving positive outcomes in how the Flood Risk and Water Management Partnership operate. Outcomes specifically achieved and which are now firmly embedded in how the partnership function include:

Outcome 1	There will be a common works programme of measures to manage flood risk and drainage by 2013.
Outcome 2	Existing resources will be used in the most efficient way possible. We will attract as much external funding as possible, and will secure new resources locally and nationally
Outcome 6	Local communities and businesses will be more aware of flood risk, and with the help of public authorities, will take steps to protect themselves through individual and community action.
Outcome 7	Planning and development control across the county will take account of all forms of flood risk and sustainable drainage; development which could increase flood risk will be minimised, as will inappropriate development in areas of significant flood risk.

Outcome 9	Flood risk and drainage management will be more accountable to the public through the local democratic process, and through more freely available information about flood risk and measures taken to control it.
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A series of Strategic objectives were also identified within the original strategy to demonstrate how the vision and outcomes would be met. Once again some significant progress has been made in these areas, most notably:

- The **Register of Lincolnshire assets** which was launched in April 2013. This is a web-base mapping system available to the public that brings together information about flood risk assets that are managed by as many flood risk management authorities as possible
- As a county we now have more information and better ways of assessing flood risk from all sources, significantly improved by the launch of the **Risk of Flooding from Surface Water Map** launched by the Environment Agency in 2013
- The **Common Works Programme** was first published on 1<sup>st</sup> April 2013. This, Part 3 of the existing Strategy, is the Action Plan and identifies the flood risk works being undertaken in partnership across the county and is updated annually.
- Risk Management Authorities in Lincolnshire have been efficient in securing partnership funding to deliver flood risk mitigation work. A major step forward in securing efficient work practices at a local level has been the development and implementation of The **Public Sector Cooperation Agreement** (PSCA). This provides arrangements for Risk Management Authorities to deliver flood risk maintenance works and similar activities by a partnership approach. The development and national roll out of PSCAs was modelled on the existing innovative approach between Lincolnshire County Council and Internal Drainage Boards to deal with consenting and enforcing of ordinary water courses under a Memorandum of Understanding. These arrangements implemented the principles of our partnership arrangements to achieve the most effective flood risk and drainage management in the county by the most effective and appropriate partner to deliver it.
- The partnership continues to work together to enable sustainable growth in the county. New links with the **Greater Lincolnshire Local Enterprise Partnership** ensure that this is embedded in the approach to flood risk and water management and is a fundamental part of the revised objectives of the new strategy
- Partnership activities continue to be overseen by elected members by the **Flood and Water Management Scrutiny Committee**

Legislation which was expected to establish the County Council as a sustainable drainage approving body during 2014, was not enacted and elements of this role have been passed to the Local Planning Authorities, with the LLFA providing an advisory service to the Local Planning authorities.

***Overview of some key developments since publication of the first Flood Risk and Drainage Management Strategy in 2012***

**Planning and Development Control**

Significant areas within Lincolnshire are in need of growth and regeneration and these areas can be affected by flood risk. A balance needs to be struck between promoting sustainable growth and responsible mitigation of flood risk and provision of water resources.

Across the County, local planning authorities are at varying stages of production of their Local Plans, and some have come together to produce joint Local Development Frameworks, for example Central Lincolnshire and South-East Lincolnshire.

In guiding future sustainable development it is important that we take greater account of all forms of flood risk. Individual development proposals will need to be appropriately considered in respect of all forms of flood risk.

**Revised National Planning Policy Framework**

In July 2018 the revised [National Planning Policy Framework](#) was published. This is the first revision of the National Planning Policy Framework since 2012 and implements around 85 reforms announced previously through the [Housing White Paper](#), the [planning for the right homes in the right places consultation](#) and the [draft revised National Planning Policy Framework consultation](#).

The revised National Planning Policy Framework will be a vital tool in ensuring that we get planning for the right homes built in the right places of the right quality at the same time as protecting our environment. The National Planning Policy Framework sets out the Government's planning policies for England and how these should be applied<sup>1</sup>. It provides a framework within which locally-prepared plans for housing and other development can be produced.

The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

- 1) an economic objective
- 2) a social objective

3) an environmental objective

Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Plans should also take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

Local Planning Authorities have an important role in the county with regard to strategic thinking on land use planning and the effects of flood risk, water provision and environmental need should be paramount in future planning decision making.

### **Sustainable Drainage Systems**

The Government wishes to mitigate the impact of future development by promoting the use of sustainable drainage systems. The purpose of sustainable drainage systems is to; mimic nature and typically manage rainfall close to where it falls; take account of water quantity (flooding), water quality (pollution) biodiversity (wildlife and plants) and amenity. The variety of sustainable drainage techniques available means that virtually any new development should be able to deliver a drainage scheme around these principles.

Sustainable drainage systems can be designed to transport (convey) surface water, slow runoff down (attenuate) before it enters watercourses, they provide areas to store water in natural contours and can be used to allow water to soak (infiltrate) into the ground or evaporated from surface water and lost or transpired from vegetation (known as evapotranspiration). They are drainage systems that are considered to be environmentally beneficial, causing minimal or no long-term detrimental damage. They are often regarded as a sequence of management practices, control structures and strategies designed to efficiently and sustainably drain surface water, while minimising pollution and managing the impact on water quality of local water bodies.

It will also be possible in certain circumstances to consider 'retrofitting' sustainable drainage systems to existing developments, providing a range of benefits including improved management of surface water, separation of surface water runoff from foul water sewerage and improvements to local environmental amenity.

Unfortunately Schedule 3 of the Flood and Water Management Act has not been enacted in England by the UK Government, which means that SuDS provisions outlined therein will not commence.

In order to fill this void, and to give developers, local planning authorities and Lead Local Flood Authorities more certainty with regards to the operation and

maintenance of sustainable drainage systems, the water industry has, for the first time, included certain sustainable drainage features within Sewers for Adoption. This means that those features that meet certain criteria can be adopted as public sewers.

Features that are adoptable by the Water and Sewerage Companies' must serve more than one property. Therefore, any features that only drain the highway for example would be adopted by Lincolnshire County Council Highways.

### **Managing surface water in existing urban areas**

Disposing of surface water places stress on existing drainage systems utilising hydraulic during times of peak flow, which can result in flooding of homes, pollution of the environment and an increased carbon footprint associated with pumping.

The approach taken to managing surface water has largely remained unaltered for generations. A new approach to managing rainwater closer to where it lands and reducing the impact of surface water is a cultural change that will take many years to implement.

This new approach involves the delivery of sustainable drainage within the existing built environment, often known as 'retrofitting'. This often involves the installation of small scale features such as water butts, rain gardens and tree pits, as well as larger features such as ponds and wetlands. As these features will be installed into existing areas, local communities will be at the heart of decision making and design opportunities.

Taking a long term approach allows partners to create resilient drainage systems can help all Risk Management Authorities to meet the challenges of a changing future driven by climate change and future housing growth.

### **Register of Lincolnshire assets**

Lead Local Flood Authorities are required, under Section 21 of the Flood and Water Management Act 2010, to 'establish and maintain:

- (a) a register of structures or features which, in the opinion of the authority, are likely to have a significant effect on a flood risk in its area, and
- (b) a record of information about each of those structures or features, including information about ownership and state of repair'.

The Act goes on to state that 'the lead local flood authority must arrange for the register to be available for inspection at all reasonable times'.

In Lincolnshire we have opted to adopt a web-based system that will be accessible to the public at all times, and that brings together information about flood risk assets that are managed by as many flood risk management authorities as possible.

The asset register shows structures (such as Pumping Stations, Flood Defence

Banks, Weirs and Sluices) currently being used to manage flood risk and drainage across the county, along with the relevant Flood Risk Management Authority.

As far as possible, the information links existing databases so that information about flood risk and assets can be shared by operating Authorities without unnecessary duplication. Each Authority retains responsibility for updating and maintaining its own data, but now has greater capacity to access and make use of data held by other Authorities.

Every endeavour has been made to make the first release of the asset register as comprehensive as possible, but it is important to note that this is a system that will be developed and improved over time. It has not been possible yet to include every asset of which we are aware, and it is likely that there are others for which an owning or managing organisation cannot, at present, be identified. The asset register will be updated regularly, and additional information will be added as it is identified and verified.

**Please follow this link to access the Asset Register.**

### **Public Sector Co-operation agreements**

The Public Sector Cooperation Agreement (PSCA) provides arrangements for the Environment Agency (EA) and an Internal Drainage Board (IDB), Lead Local Flood Authority (LLFA), District Council (DC) or other Risk Management Authority (RMA) to deliver flood risk maintenance works and similar activities by a partnership approach. This is a major step forward in securing efficient work practices at a local level. The agreement places both parties on a sound legal basis to deliver work as agreed – either party may undertake work for the other.

Based on section 13(4) of the Floods and Water Management Act 2010, a PSCA can cover any maintenance or similar activity such as inspections, obstruction removal, weed control, grass cutting, tree work, vermin control, dredging, pump operation etc. It also provides for mutual RMA support in managing flood incidents. In some cases it can be used for capital asset improvement or replacement works.

### **The Benefits of PSCAs**

- Securing efficient local working arrangements which will achieve value for money in delivering operational maintenance activities.
- Taking advantage of local skills and experience including local knowledge of geography, associated river/drainage systems and operational practices, to benefit local communities.
- Sound legal basis for either party to undertake work for the other party, as agreed.
- Having flexible partnership working arrangements. Agreements typically cover a period of up to 5 years, with annual reviews to discuss/agree the specific extent of activities to be carried out under the PSCA.
- Standardised documents which are simple to apply to local needs.

## **Greater Lincolnshire LEP**

The [Greater Lincolnshire LEP](#) is a business led partnership made up of private and public sector leaders. Working with government and stakeholders to find solutions enables the LEP to deliver strategic projects and programmes that will drive local prosperity and economic growth. Greater Lincolnshire is now widely regarded as a very successful LEP and has gained a strong reputation for delivery and influence, with many schemes and investments now taking shape. The LEPs £307 million growth plan is progressing at pace and they are firmly driving some crucial national agendas from food to water to skills, as well as being recognized by Government as offering some unique opportunities for national pilots.

In 2014 the LEP launched its [Strategic Economic Plan](#) which highlights the important role Greater Lincolnshire plays in the national economy by contributing to food security, manufacturing output, the UK visitor economy and our country's housing needs. It sets out priorities and driver's for success to drive the growth of the area's three defining and strongest sectors that offer the most competitive advantage, namely agri-food, manufacturing and visitor economy. The plan identified Water Management as key with security from flooding a key infrastructure requirement for our economy. The threat of flooding affects developer confidence and development viability whilst water management in the whole is seen as fundamental to Greater Lincolnshire, not only because it provides valuable services that underpin our environment, economy and quality of life, but also because of our geography.

Subsequently the LEP developed an integrated approach to water and in 2015 developed the [Water Management Plan](#). The plan identifies the effective management of flood risk and water resources to be a critical factor in enabling economic growth across the area. The strength of the existing long-standing partnership working in flood risk management in the county provided the opportunity to develop this further and drive links with organisations responsible for water supply and management.

### **A partnership approach to catchment management**

In October 2015, the Anglian Northern Regional Flood and Coastal Committee ([RFCC](#)) raised significant concerns over watercourse systems that, following the Defra Cost Benefit Analysis process, would be 'unfunded' for Flood and Coastal Risk Management (FCRM) funding. As a result of this the Partnership Approach to Catchment Management (PACM) Project was formed to understand other options for these systems. Despite the additional maintenance funding from Government in 2016, there is still a need to address unfunded systems, find efficiencies and develop a sustainable, forward look for asset management in the area. Asset management is the key driver, but also alignment with flood risk and environmental benefits by applying and embedding catchment management principles

The PACM approach provides a framework of assessment for Risk Management Authorities and other local delivery partners to use in order to deliver a partnership approach to water management on a catchment scale. The work focuses on all issues relevant to the movement and management of water in a defined

catchment or area. This work offers a unique opportunity to identify the most appropriate authority/authorities, organisation or community to lead on asset management, delivering efficiencies and enhancing opportunities for reinvestment locally.

This project is being delivered across the Anglian Northern RFCC area and will provide a foundation for all organisations which have an interest in the catchment. This can range from Risk Management Authorities to volunteer groups and the general public to understand and agree how a catchment is to be managed.

### **Regional water resource planning**

During 2017/18 a clear direction from government and water regulators emerged making it clear that greater coordination of water resource management plans is required to meet the challenges we face. It is recognised that the water company sector has been thinking about better ways to co-ordinate, for example [Water Resources East](#) (WRE) has demonstrated innovation by taking a cross-sector approach and is making important links with the initial priority catchments identified in the Abstraction Plan. The WRE initiative includes significant areas of Lincolnshire within its ambitious regional plans and more detail on this can be found within section 6 of this strategy.

Government is clear that the water industry now needs to turn thinking into action and that water companies should take a genuinely regional approach to producing plans that transcend company boundaries and identify optimum solutions for the region as a whole. This planning should then provide the basis for individual water company plans. In doing so it is expected they will engage with other water users to develop cross-sector solutions as well as work with regional groups such as Local Economic Partnerships (LEPs) to understand regional economic and population forecasts.

There is great potential for strategic water resource management initiatives developed through Water Resources East (WRE) to provide strong support for Lincolnshire's priorities in resilience to flood risk, growing the agri-food and visitor economies, and protecting and sustaining the county's environment and local communities for the future.

Locally, it has been agreed that the South Lincolnshire Water Partnership (SLWP), the local partnership delivery forum for WRE, will work within the framework of the Flood Risk and Water Management Partnership. The SLWP is developing a detailed technical understanding of the catchments, involving use of instrumentation to provide accurate data on rainfall, water levels, flow rates and water quality. That data can then inform partner decisions on strategic and local priorities for water management to take forward through WRE.

### **Rationalising the Main River Network (RMRN) project**

During 2017/18 an innovative approach was trialled on a small number of selected water courses in England as part of a pilot project – Rationalising the Main River Network (RMRN). The Environment Agency worked closely with key partners, local communities and stakeholders to develop proposals for re-designating

sections of selected watercourses in England. The proposals allow the transfer of flood risk activities to willing internal drainage boards or county and district councils. One of these pilot areas was in the South Forty Foot catchment in Lincolnshire where stretches of low flood risk watercourses were re-designated from Main river to ordinary watercourse.

Changes brought about by the project mean that the Environment Agency will no longer be responsible for the overall management of the watercourse. Instead, maintenance and flood risk management will be done at a more localised level by Black Sluice Internal Drainage Board. This process is known as ‘de-maining’ and will help ensure that the right people are managing the right watercourses and assets in the right places

The proposals came about as the Environment Agency looked at new and innovative ways to deliver more for the environment by changing their ways of working and how they use their resources. As part of this, they worked closely with Black Sluice Internal Drainage Board who wished to take more responsibility for maintaining and regulating their local, low flood risk, watercourses in Lincolnshire.

De-maining aims to bring more choice to communities and local organisations in how watercourses are managed and maintained. In the South Forty Foot Catchment, this means decisions on watercourse maintenance will be made at a local level and be better informed through greater collaboration between all area stakeholders.

The success of the South Forty Foot Catchment Pilot means this process could now be rolled out more widely across the county in suitable areas where watercourses are not major rivers or near population centres, have a low flood risk and where IDB or lead local flood authorities/district councils are willing and the local community is supportive.

## 4 Understanding Flood Risk

The risk of flooding is affected by a range of factors. These can be natural, such as the weather, or man-made like urban development and the presence of flood risk management schemes. Risk Management Authorities who manage flood and coastal erosion risk are continually seeking to improve their understanding of risk and the way in which they communicate this to the public.

Information about the risk of flooding and coastal erosion has many uses, including:

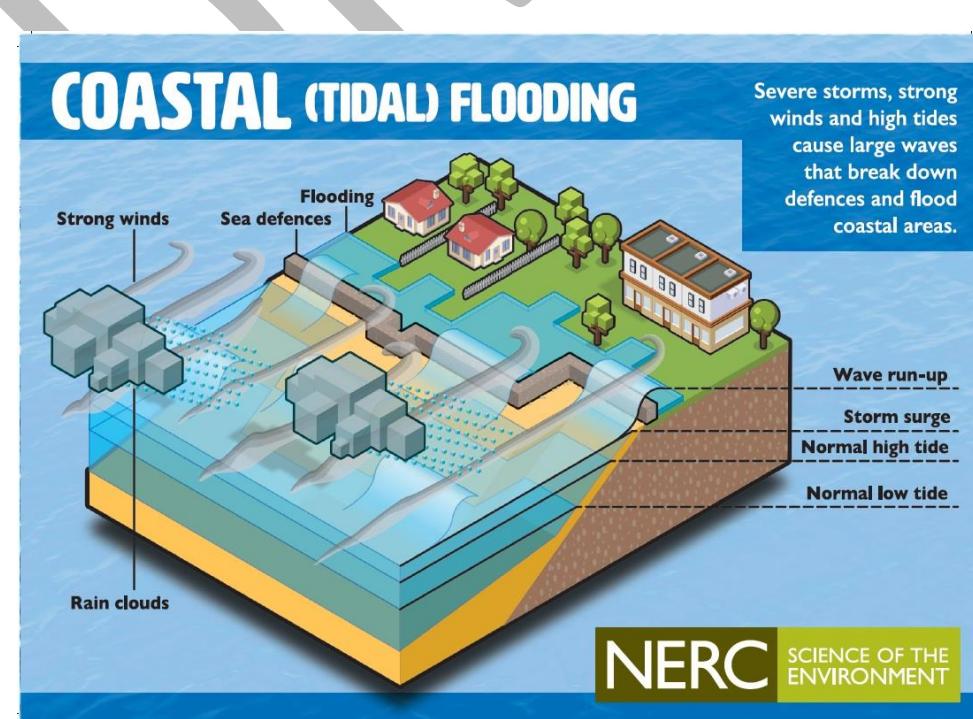
- ensuring that investment in flood and coastal erosion schemes is proportionate to need and directed to where it achieves the best value
- informing developer and local planning authority decisions on future development and infrastructure
- helping emergency planners to prepare how they will respond to floods
- enabling people to understand and make decisions about the risk they face

### The different types of flooding

There are different types of flooding that can happen depending on where the water comes from. Each of these flooding types are managed by different organisations across Lincolnshire. The information below details seven types of flooding that are likely to be experienced under certain climatic conditions.

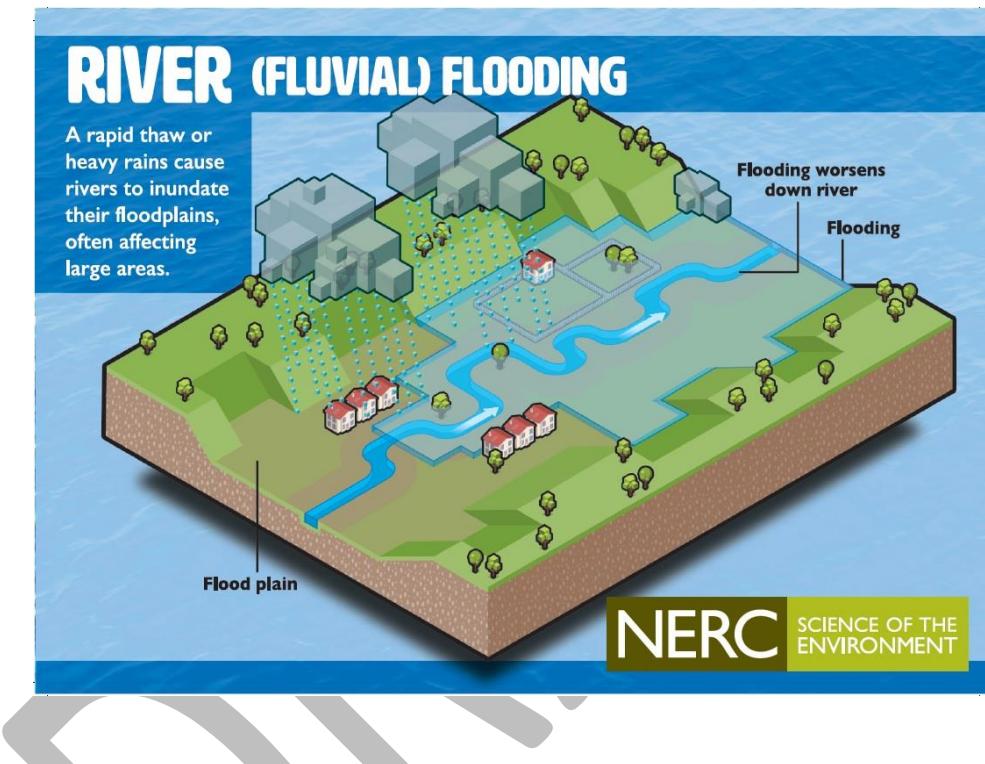
#### Coastal flooding

Coastal flooding happens when there are high tides and stormy weather conditions that can result in a "tidal surge", which could cause sea levels to rise over flood defences. Lincolnshire was affected by significant coastal tidal surge events in 1953 and 2013.



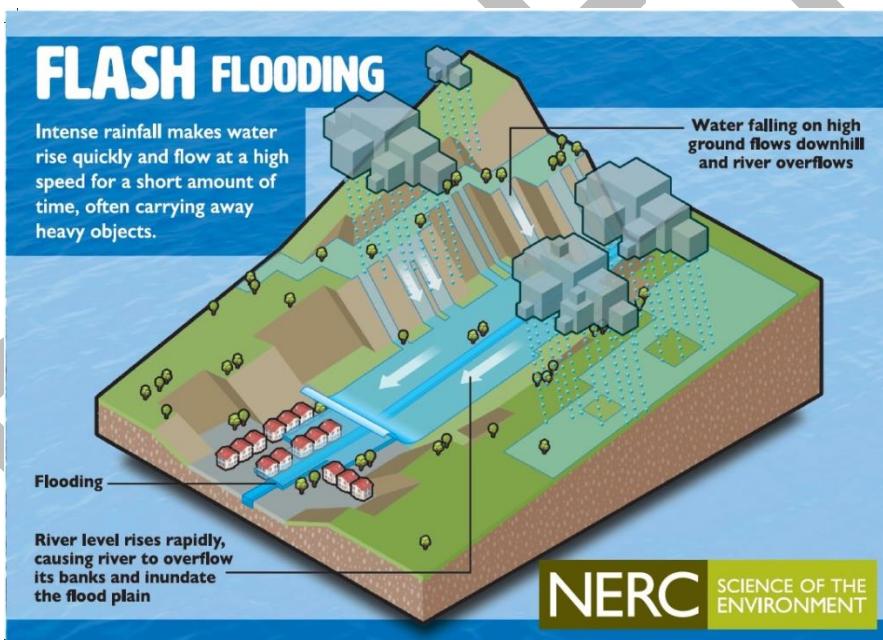
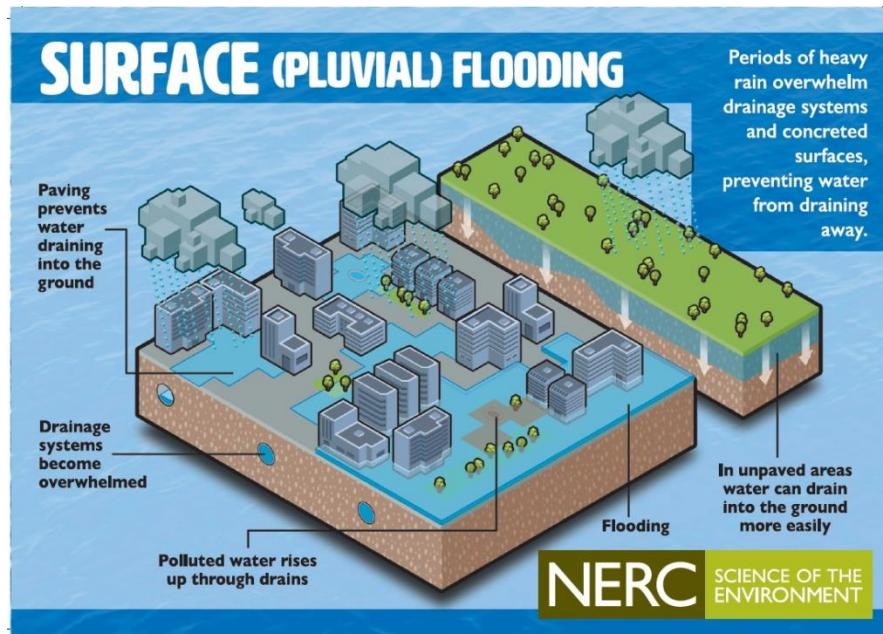
## River flooding

River flooding happens when a stream or river (watercourse) cannot cope with the amount of water that is flowing into it from the surrounding land. Rivers are separated into "main rivers" and "ordinary watercourses". Main rivers are usually the larger ones in the county such as the River Witham, Welland, Slea and Steeping but also some smaller streams that are important for drainage. Ordinary watercourses are any other smaller rivers, streams or ditches.



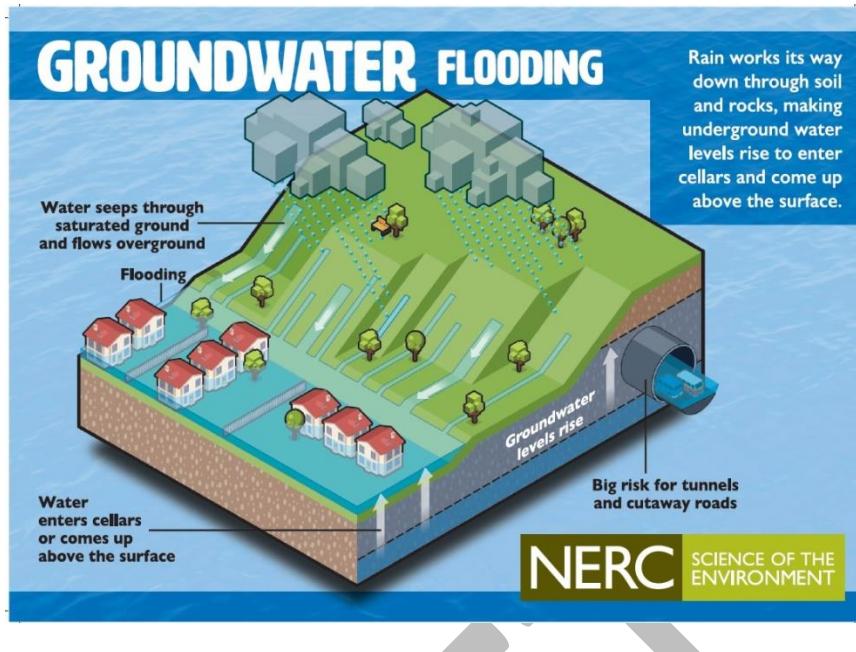
## Surface water flooding

Surface water flooding happens when rainwater flows or ponds over the surface of the ground and does not soak into the land or enter a drain or river. It usually happens during heavy rainfall (more than 30mm per hour) and is made worse by blocked ditches, drains, very dry soils after periods of drought and compacted or waterlogged soil. There is no early warning system for surface water flooding and it is difficult to predict, however our Surface Water Flood Risk Maps do show the risk across the county.



### Groundwater flooding

Groundwater flooding happens when water levels in the ground rise above the surface. It is common after long periods of constant heavy rainfall and likely in low lying areas, those with natural springs and where chalk is present under the ground (which acts like a sponge to store water).



### Sewer flooding

Sewer flooding happens either when the pipes in the network are blocked or when there is heavy rainfall and the sewers cannot cope with the amount of water because they are not designed to cope with heavy, prolonged rainfall. The danger of this type of flooding is that water can become contaminated with raw sewage and enter land and property, or the river system.

### Snowmelt flooding

Snowmelt can cause significant flooding. Unlike rainfall, which reaches the soil almost immediately, snow stores the water for some time until it melts. Long periods of snowfall can therefore result in a large volume of water being released in a short space of time (around 1cm of water is released for every 10cm of snow). Snowmelt flooding is made worse when the ground remains frozen and snow melts, as the water cannot enter the ground, and so acts like surface water flooding.

### Reservoir flooding

Reservoir flooding is extremely rare. It happens when there is a failure in the dam holding back the water as a result of erosion, accidental damage or water levels rising above/over-topping the dam. Whilst the risk is low, the resulting flooding can be very destructive.

*With thanks to - NERC and Ben Gilliland for the use of the graphics which support this section*

## Communicating the Risk

Since 2012 the way in which information on flood risk is shared with the public and partner organisations has also improved. The Environment Agency now offers more information to people about their flood risk and flood maps can now be downloaded free of charge. Part of this is linked to the many recent advances in data and modelling methods.

Many people and organisations need access to flood and coastal erosion risk information. It is important that this information is easily understandable and provides clear instruction on what action to take in the event of flooding. Since 2000 the Environment Agency has published its [National Flood Risk Assessment](#) which is now the main source of information on flooding from rivers and the sea.

The Environment Agency has worked in partnership with local authorities to improve the quality and accessibility of coastal erosion data. The national coastal erosion risk map ([NCERM](#)), published on the Environment Agency website in 2012 uses local authority verified data and provides the first consistent assessment of coastal erosion risk around England. These maps show what is expected to happen where the shoreline management plan (SMP) policies are implemented and what is likely to happen if there is no active intervention along the coast. The Environment Agency worked with local authorities to update the national coastal erosion risk map between 2015 and 2017 and will continue to maintain this information in the future.

## Surface Water Flood Maps

One key area of data which has been made available since 2012 is the surface water flood maps. The maps provide information on all the major types of flooding which affect England including, for the first time, the risk of flooding from surface water.

They are presented in a clear, simple and consistent way, making it easier for people, communities and partners to understand flood risk and make decisions about how to manage it.

[To access the maps, please click here.](#)

The Risk of Flooding from Surface Water Map shows the flood risk from surface water from the impact of heavy rainfall. Using the latest data, technology and modelling techniques it shows areas at risk of flooding from surface water and includes potential depth and velocity.

There are four categories of risk:

high - the chance of flooding in any year is greater than 3.3 percent (1 in 30 year chance)

medium - the chance of flooding in any year is 3.3 percent (1 in 30 year chance) or less, but greater than 1 per cent (1 in 100 year chance)

low - the chance of flooding each year is 1 percent (1 in 100 year chance) or less, but greater than 0.1 per cent (1 in 1000 year chance)

very low - the chance of flooding each year is 0.1 percent (1 in 1000 year chance) or less

There are some simple steps you can take to reduce the impact of flooding on your home and business. You can find more information on how to take these actions on the [Environment Agency's website](#).

### **Awareness and Preparing against Flood Risk**

There are various steps that can be taken to help prepare for flood risk from rivers and the sea if you live in a high or medium risk area. These include;

- Sign up for free flood warnings
- Complete a flood plan
- Find out how to prepare your property for flooding

It is important to remember that even if living in a low risk area, the risk of flooding can never be eliminated and there are lots of things that you can do such as those outlined above.

There is no warning service for surface water flooding but you can keep up to date with local weather bulletins to forewarn you of heavy rainfall. There are also simple steps you can take to prepare for this type of flooding.

- Complete a flood plan
- Find out how to prepare your property for flooding
- Check the three-day flood risk forecast

It is always important to keep an eye on what the weather is doing in your local area so you can be best prepared for the days ahead. This becomes even more important if there is severe weather approaching that could lead to flooding in your community or across the county.

The below link will show any severe weather warnings released by the Met Office for the next 5 days as well as any flood warnings from the Environment Agency. If a warning is showing, click on it to find out more.

<https://www.metoffice.gov.uk/public/weather/warnings#?date=2018-11-20>

### **Flood Defences**

It is important to remember that whilst a flood defence may reduce the risk of flooding from rivers or sea, it is less likely that it will reduce the chance of flooding from surface water. While flood defences reduce the level of risk they do not completely remove it. As described above they can be overtapped or fail in

extreme weather conditions, or if they are in poor condition.

If you would like further information on the risk of flooding from rivers, the sea and reservoirs in your area, speak to your local Environment Agency office on 0345 988 1188.

If you would like more information on existing or planned surface water reduction measures in your area then you can contact Lincolnshire County Council's customer services team on 01522 782070.

## **Insurance**

To find out whether you can insure your home for flooding, contact a range of insurers to obtain quotes.

If you live in an area of high flood risk or where there have been previous insurance claims for flooding, you may need to find a specialist insurer, or use a broker to obtain insurance. The National Flood Forum also provides advice on obtaining flood insurance. [National Flood Forum](#)

The Environment Agency makes their flood risk information available to insurers who may use it alongside other information to inform their decisions about provision and cost of insurance. It is worth noting that insurers already have other/their own surface water information, so this is an additional dataset which they may decide to license. The Environment Agency is always clear that the maps estimate flood risk for areas of land, not individual properties.

The Environment Agency and Lincolnshire County Council have no role in determining insurance cover or setting premiums. Insurers are free to use whichever data they like to determine whether to offer insurance and at what price.

If the Risk of Flooding from Rivers and Sea or Risk of Flooding from Surface Water map shows your area to be at risk of flooding, then the flood risk may affect whether flood insurance is available and at what cost. Flood risk in an area is defined as 'significant' according to an agreement between the government and the Association of British Insurers (ABI). The agreement - the 'Statement of Principles' - is about offering insurance, not about pricing.

For more information about what this means got to [www.abi.org.uk](http://www.abi.org.uk).

For more information on the future of flood insurance go to [www.gov.uk](http://www.gov.uk).

## 5 Roles and Responsibilities of Lincolnshire Flood Risk Management Authorities

The Lincolnshire Flood Risk and Water Management Partnership has been a feature of the way Risk Management Authorities work in Lincolnshire for a number of years now. It has successfully driven a partnership approach to working, with particular reference to inland and coastal flood risk and received considerable praise from Central Government and other counties as a result.

Amongst many other things, the partnership has secured a long term common works programme for Lincolnshire that has brought together the work of all relevant partner organisations to allow for more efficient delivery. It has allowed authorities to respond as one to key government challenges and facilitated the delivery of long needed schemes at Louth, Horncastle, Stamp End, Lincoln and Waddingham. It has built partnerships between risk management authorities leading to greater efficiency in working, for instance through IDB consenting and enforcement of ordinary water courses. It has also been instrumental in building resilience in our emergency response through the Local Resilience Forum.

In addition to the strong partnership working arrangements in the county individual Risk Management Authorities have their own roles and responsibilities with regard to their duties and responsibilities under the Flood and Water Management Act. Many of these remain unchanged from those published in the original strategy, however there have been some changes, most notably around sustainable drainage.

### **Lincolnshire County Council**

Under the [Flood and Water Management Act 2010](#), Lincolnshire County Council as a Lead Local Flood Authority is responsible for managing the following types of flooding:

- **Surface water flooding** – this includes flooding from rainfall run off from surfaces such as roads, roofs, and patios
- **Ordinary Watercourses** – this includes drains which can be easily overwhelmed after heavy rain, but excludes main rivers that are managed by the Environment Agency.
- **Groundwater flooding** – this includes flooding caused by heavy and sustained levels of rainfall capable of increasing the groundwater table.

The Lead Local Flood Authority role includes assessing the risk of surface water flooding across Lincolnshire as well as working with organisations responsible for water management across the county, so that we can bring people and resources together more effectively so that we can reduce the likelihood of flooding happening, and provide the best possible help when it does happen. See [Lincolnshire County Council Flood Risk Management](#)

Specifically, Lincolnshire County Council Highways are responsible for fixing drainage and flooding issues on highways and roads across the county. This includes blocked drains and gullies on the roads, however they are not normally

responsible for ditches alongside roads. In most cases the responsibility is with the adjacent landowner.

Contact LCC Highways to report flooding on a highway, including blocked drains and gullies on roads. [Lincolnshire County Council Highways Drains and Flooding](#)

### **Stamp End Flood Alleviation Scheme**

The Stamp End Flood Alleviation Scheme in Lincoln was completed in March 2018. The £1million project is Designed to protect 119 homes from the type of adverse weather which caused untold damage to homes and local businesses in 2007.



The area suffered flooding after prolonged heavy rainfall, 84 homes were affected, leading to the evacuation of 200 residents. It is estimated that over half a million pounds of damage was initially caused but the knock on economic effect for local businesses and travel infrastructure is likely to be significantly higher.

The flooding closed a local road which was the single means of access to major factories and a Western Power substation.

The project was jointly funded by Lincolnshire County Council, Anglian Water, Witham Third District Internal Drainage Board and a DEFRA grant provided by the Environment Agency as well as numerous local businesses who contributed in kind.

In 2007 the drains and sewers at Stamp End were unable to move the excessive surface water to the nearby River Witham, which itself was over-pouring.

The new scheme provides flood resistance to the residential area with a low flood barrier, whilst the new pump station which has been installed will alleviate pressure at times of heavy rainfall thereby making improvements to the Anglian Water surface water sewers so that they can carry more water to the new pump.

## Environment Agency

The Environment Agency is responsible for coastal management in Lincolnshire, managing the risk of flooding from main rivers and regulating reservoirs. The Agency has a duty to contribute to sustainable development when delivering its statutory functions.

[For more information and advice about flooding please follow this link.](#)

### Louth and Horncastle flood alleviation schemes

Two Flood Alleviation Schemes in Louth and Horncastle collectively reduce flood risk to over 350 properties. Construction on the £6.5m Louth scheme and the £8.1m Horncastle scheme started in summer 2015, and were finalised in July 2017. The two projects were delivered in a partnership of the Environment Agency, Lincolnshire County Council, East Lindsey District Council, Anglian Water and the Lindsey Marsh and Witham Third Internal Drainage Boards. Louth and Horncastle Town Councils will fund ongoing maintenance on the schemes. The development of the two schemes was led by the Environment Agency, with construction being carried out by its contractors.

Communities in Louth and Horncastle were significantly affected by the floods of summer 2007, when over 200 properties in the area were flooded. Close partnership working has since helped fund and made the two Flood Alleviation Schemes possible.

The Horncastle Flood Alleviation Scheme consists of a single flood storage reservoir on the River Bain, upstream of the town of Horncastle. As part of this scheme, a number of residents whose homes are at risk of flooding from the river Waring were offered property-level flood protection, such as air brick covers and flood doors. The Louth Flood Alleviation Scheme consists of a flood storage reservoir on the Northern branch of the River Lud, and one on the Southern branch of the river.

In addition to reducing flood risk to hundreds of properties in Louth and Horncastle, the two schemes also deliver benefits to the environment. In Horncastle, partners have created a large lake and wetland area which will provide a habitat for water voles. At the reservoirs in Louth, additional water vole habitat will also be created.

Over the Easter bank holiday weekend in 2018, 37mm of rainfall fell in two events over both the Louth and Horncastle catchments. Following the second event the reservoir at Louth filled for 12 hours and the reservoir at Horncastle filled for nearly 24 hours before commencing a controlled release with both reservoirs operating as expected.



## **Anglian Water Services and Severn Trent Water**

Water and Sewerage Companies manage the supply and quality of drinking water, as well as the disposal and treatment of sewage and, in urban areas, the disposal of surface water runoff from properties.

All water and sewerage companies maintain a register of properties at risk of flooding due to a hydraulic overload in the sewerage network.

The flooding register is a register of properties and areas that have suffered or are likely to suffer flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant period. There are 3 at risk reporting categories: '1 in 20 year', '1 in 10 year' and '2 in 10 year'. The reporting category reflects the frequency of flooding incidents in properties/areas and not the return period of the storm that causes the flooding. A sewer is overloaded when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded from the register, but dealt with immediately when required. It is also worth noting that properties will be removed from the register once a solution is in place.

As part of a Water and Sewerage Companies' business planning process, they will agree with customers their priorities for future work. This may include delivering traditional sewerage capacity schemes, or more likely in the future, managing surface water through the use of sustainable drainage measures. Sustainable drainage schemes will need to be delivered in partnership with risk management authorities and local communities.

For more information please visit;

- [Anglian Water](#)
- [Severn Trent Water](#)

## **Internal Drainage Boards**

Internal Drainage Boards (IDBs) are a type of local public authority that manages water levels in England where there is a special need for drainage. IDBs undertake works to reduce flood risk to people, property and infrastructure, and manage water levels for agricultural and environmental needs. Each IDB has permissive powers to manage water levels within their drainage district, carefully maintaining rivers, drainage channels, culverts, sluices, weirs, embankments and pumping stations. They also play an important regulatory role, using powers to keep watercourses clear of obstructions. They set byelaws to ensure the watercourse network works efficiently, and they scrutinise planning and development in their area to mitigate its impact on the water environment and flood risk. They have statutory duties with regard to the environment and recreation when exercising their functions.

IDBs are defined as a Risk Management Authority within the Flood & Water Management Act 2010 working alongside the Environment Agency, local authorities and water companies to actively manage and reduce the risk of flooding. Their activities and responsibilities are principally governed by the Land Drainage Act 1991 as amended by subsequent legislation.

The 14 Internal Drainage Boards which operate in Lincolnshire manage an extensive network of drainage channels, pumps and sluices which combine to maintain low-lying, high-quality agricultural land, as well as managing water levels across large areas of the county.

More information on Internal Drainage Boards can be found here [ADA - Association of Drainage Authorities](#)

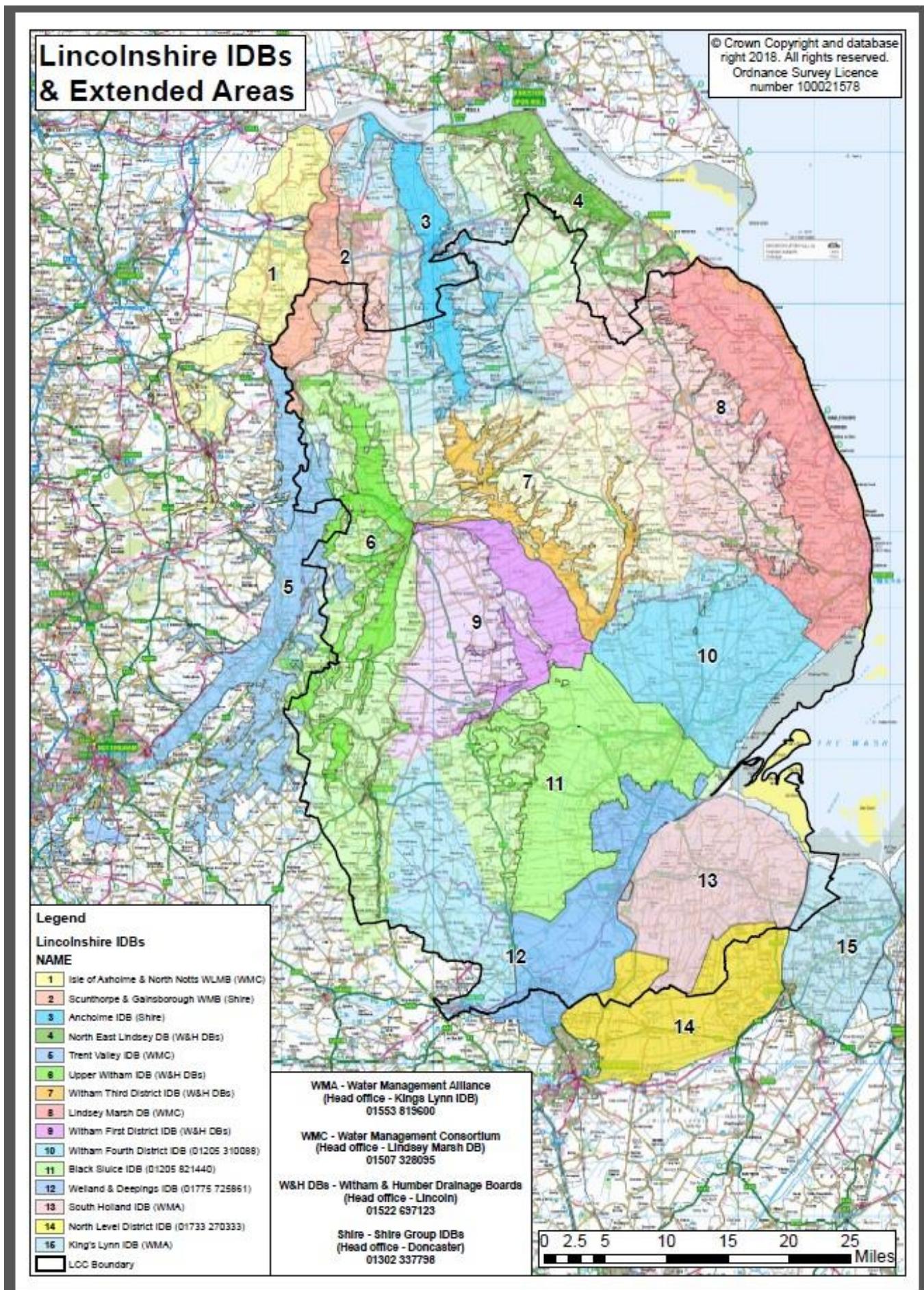
### ***IDB Consenting and Enforcement of Ordinary or Riparian Watercourses***

A riparian watercourse is any natural or artificial channel, above or below ground, through which water flows, such as a ditch, stream, culvert or pipe. If you own land adjoining or above a watercourse, or with a watercourse running through it, you are a 'riparian owner'. This brings with it certain rights and responsibilities which can be found via the following link - [Owning a watercourse](#)

Under the Land drainage Act 1991 you need consent to carry out works to ordinary watercourses, including changes to dams, weirs and other structures, or to pipe or culvert a watercourse. Within IDB Districts it is the relevant IDB which would normally process such applications, and the County Council as Lead Local Flood Authority (LLFA) outside those Districts. However, in Lincolnshire the LLFA has delegated its powers under the Land Drainage Act to the IDBs, who now operate within extended areas for the purposes of consent and enforcement. Further information can be obtained from the appropriate IDB (see **Figure 6** below).

The approach taken in Lincolnshire has been an innovative way in dealing with these powers, implementing the principles of our partnership arrangements to achieve the most effective flood risk and drainage management in the county by the most effective and appropriate partner to deliver it. The Internal Drainage Boards have agreed to undertake these powers across the whole county, establishing extended catchment areas to ensure consistent coverage across Lincolnshire.

**Figure 6** Lincolnshire Internal Drainage Boards and their extended areas



## District and Borough Councils

The 7 district and borough councils in Lincolnshire retain existing powers to undertake works on ordinary watercourses, but also obtained new roles and responsibilities under the Flood and Water Management Act. Most recent of these, and a new role established since 2012 is that they now act as the SuDs Approving Body (SAB) for major developments with surface water drainage

## Lincolnshire Prepared

Emergency planning in Lincolnshire is co-ordinated by the County Council's Emergency Planning and Business Continuity Service - [Lincolnshire Prepared](#). Preparing for emergencies at the local level is carried out under a piece of legislation called the Civil Contingencies Act (2004). The purpose of the Civil Contingencies Act is to establish a statutory framework for civil protection at the local level. It sets out clear expectations and responsibilities for front line responders to ensure that they are prepared to deal effectively with the full range of emergencies from localised incidents through to catastrophic emergencies.

The Civil Contingencies Act sets out clearly how organisations, particularly local responders, should go about preparing for emergencies and tells us:

- what scale of emergencies we should be preparing for
- what organisations have to be involved in preparing for emergencies
- what these organisations have to do

Under the Act there is a requirement to produce a Community Risk Register as part of the wider work in preparing for, responding to and recovering from emergencies. The register covers all types of risks and this is used as a basis for planning to protect Lincolnshire

### LINCOLNSHIRE'S TOP RISKS 2018

1. Pandemic Flu
2. East Coast Flooding
3. Inland Flooding
4. Impacts from disease / contamination
5. Severe Weather
6. Loss of critical infrastructure
7. Fuel shortages
8. Malicious Acts

As can be seen some of the highest risks within the county are from the risks of flooding and the effects of severe weather. Lincolnshire prepared works very closely with the Environment Agency and many other professional partners both in planning to reduce the effects of flooding and in the response to an incident. There is much that can be done in preparing for the risks and effects of flooding such as signing up to flood warnings, making a flood plan and preparing an emergency kit. Much more information is available through the Lincolnshire Prepared [webpages](#).

## **Other organisations and individuals that have an important role in flood risk and water management within Lincolnshire**

### **Highways England**

Highways England is responsible for drainage of a small section of the A roads (trunk roads) in Lincolnshire. These are the A1, A46 (from the Nottinghamshire border to Lincoln bypass Carholme Roundabout) and the A52 west of Grantham to the Nottinghamshire border. Contact Highways England for flooding issues on these roads - [Highways England](#)

### **Town and Parish Councils/Communities**

Town and Parish Councils as well as Communities both play an important role in managing flood risk at the community level. They can help gather information on areas at risk of flooding by reporting any flood incidents.

Communities and individuals at risk of flooding should prepare Community and Household Flood Plans. Residents can also get involved with the community and local councils by becoming a Flood Warden. In addition Communities and Parish or Town Councils can be crucial in raising additional funding for local flood defence measures and for undertaking regular maintenance. [Find your town or parish council](#)

### **Riparian Owners**

All landowners and tenants whose property has a watercourse within or adjacent to the boundaries of their land, are riparian owners of that watercourse. Riparian owners have a responsibility for maintaining the watercourse and bank, clearing debris and keeping any ditches or structures clear to allow water to flow naturally and prevent flooding. This ownership extends to watercourses that are piped (culverted) under the land.

Riparian owners can face legal action if the lack of maintenance of their watercourse causes flooding. Land ownership is sometimes unknown, disputed or difficult to work out. To find out who owns certain parcels of land (and therefore whether or not they have a riparian responsibility), obtain copies of title registers and title plans using the online Land Registry services.

The revised and updated functions of the Lead Local Flood Authority and other Risk Management Authorities are identified in **Table 1** below.

**Table 1 - Key responsibilities of Risk Management Authorities**

<b>Authority</b>	<b>Risk Management Functions</b>
Environment Agency	<ul style="list-style-type: none"> <li>• strategic overview for all forms of flooding</li> <li>• development of National Strategy for Flood and Coastal Erosion Risk Management (FCERM) to cover all forms of flooding</li> <li>• conversion of Regional Flood Defence Committees into Regional Flood and Coastal Committees with new remit to include coastal erosion issues</li> <li>• powers to request information in connection with FCERM functions</li> <li>• power to designate structures and features that affect flooding or coastal erosion</li> <li>• duty to exercise FCERM consistently with the national and local strategies</li> <li>• duty to report to Ministers on FCERM including implementation of the strategies</li> <li>• responsibility for coastal flooding</li> <li>• responsibility for fluvial flooding from main rivers</li> <li>• duty to contribute to sustainable development in discharging their FCERM functions</li> <li>• ability to issue levies to lead local flood authorities: levies can now also apply to coastal erosion issues as well as flooding</li> <li>• duty to have regard to lead local flood authority scrutiny processes</li> <li>• updated provisions for the regulation of reservoirs</li> </ul>
County or Unitary Council  (Lead Local Flood Authority)	<ul style="list-style-type: none"> <li>• development, maintenance, application and monitoring of Local Flood Risk Management (FRM) Strategy</li> <li>• powers to request information in connection with FRM functions</li> <li>• duty to investigate and publish reports on flooding incidents in its area (where appropriate or necessary) to identify which authorities have relevant FRM functions and what they have done or intend to do</li> <li>• duty to maintain a register of assets which have a significant effect on flood risk, in the view of the lead local flood authority</li> <li>• power to undertake works to manage flood risk from surface runoff or groundwater</li> <li>• power to designate structures and features that affect flooding</li> <li>• established as the statutory consultee for major development with surface water drainage</li> </ul>

	<ul style="list-style-type: none"> <li>regulation of ordinary watercourses under the Land Drainage Act 1991, including consenting and enforcement outside Internal Drainage Board areas: in Lincolnshire these duties have been delegated to Internal Drainage Boards</li> <li>duty to exercise FCERM functions consistently with the national and local strategies</li> <li>duty to contribute to sustainable development in exercising FCERM functions</li> </ul>
Internal Drainage Board	<ul style="list-style-type: none"> <li>regulation of ordinary watercourses under the Land Drainage Act 1991, including consenting and enforcement</li> <li>power to designate structures and features that affect flooding or coastal erosion</li> <li>duty to act consistently with local and national strategies</li> <li>duty to be have regard to lead local flood authority scrutiny processes</li> <li>ability to work in consortia with other Internal Drainage Boards</li> <li>power to undertake works on ordinary watercourses flooding within their boundary and, with the Environment Agency's consent, the sea</li> </ul>
District Council	<ul style="list-style-type: none"> <li>power to designate structures and features that affect flooding or coastal erosion</li> <li>duty to act consistently with local and national strategies</li> <li>duty to have regard to lead local flood authority scrutiny processes</li> <li>as local planning authority, responsible for ensuring that development proposals have adequately considered flood risk and sustainable drainage.</li> <li>power to undertake works on ordinary watercourses and, with the Environment Agency's consent, the sea</li> </ul>
Water and Sewerage Company	<ul style="list-style-type: none"> <li>provide water supply</li> <li>remove and treat foul water</li> <li>drain surface water</li> <li>duty to have regard to national strategies and to have regard to local strategies</li> <li>duty to have regard to lead local flood authority scrutiny processes</li> <li>Stat consultee to local plans</li> <li>Delivery of Drainage and Wastewater Management Plans (DWMPs)</li> <li>Business planning</li> <li>adoption of private sewers</li> </ul>

## 6 Future Look

Overall the Lincolnshire partnership will maintain its key role within the county and build on its ability to galvanise support and consensus around key strategies, economic growth and influence Central Government. The work of the partnership and delivery of our strategic aims is far from complete and significant challenges and opportunities lie ahead.

### Climate Change

It is widely accepted that climate change is occurring and will affect our weather patterns. Climate change poses a major challenge in our planning, adaptation and resilience to managing flood risk and water resource issues in Lincolnshire. In November 2018 the Met Office published its projections for future climate change - [UK Climate Projections 2018 \(UKCP18\)](#), which are the first major update to the UK's national climate change projections for nearly 10 years. The information available will help government, business and other interested parties to assess the challenges and opportunities we face from our changing climate.

In the most part trends show that the UK climate is continuing to warm and that sea levels continue to rise. We need to take into account however that these latest predictions were released whilst this strategy was being reviewed and therefore due to the complexity of the new projections, it is likely to be some time before clear guidance emerges as to what this may mean for Lincolnshire in respect of both land use planning and scheme/ project development. Some of the headline findings that have been identified are summarised below.

#### Overview

By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter.

Hot summers are expected to become more common.

Rainfall patterns across the UK are not uniform and vary on seasonal and regional scales and will continue to vary in the future.

A new set of marine projections show that sea level around the UK will continue to rise to 2100 under all emission pathways.

There is now no doubt the continuation and likely increase in the weather extremes will provide significant challenges in managing flood risk and water resources in the future, with examples of some of the variances highlighted below.

### **Some Key findings from UKCP18**

The average temperature over the most recent decade (2008-2017) has been on average 0.3 °C warmer than the 1981-2010 average and 0.8 °C warmer than the 1961-1990 average. Nine of the ten warmest years have occurred since 2002.

The most recent decade (2008-2017) was around 1 °C warmer than the pre-industrial period (1850-1900). This temperature rise in the UK is consistent with warming that has been observed at a global scale, of around 1 °C since pre-industrial.

Summers in the UK, for the most recent decade (2008-2017), have been on average 17% wetter than 1981-2010 and 20% wetter than the 1961-1990 average. However, very long-period natural variations are also seen in the longer observational record.

Total rainfall from extremely wet days (days exceeding the 99th percentile of the 1961-1990 rainfall) has increased by around 17% in the most recent decade (2008-2017), for the UK overall. However, changes are largest for Scotland and not significant for most of southern and eastern England.

Mean sea level around the UK has risen by about 16 cm since the start of the 20th century (when corrected for land movement).

The pattern of sea level rise is not uniform across the UK. Sea level rise is less in the north and more in the south, this is mainly due to the movement of land, up and down.

We can continue to expect increases to extreme coastal water levels driven mainly by increases in mean sea level rise, although we cannot rule out additional changes in storm surges.

### **Recent developments in Lincolnshire**

Since 2012 flood risk management has increasingly been recognised as an integral part of a wider issue of managing water as a resource that is essential to economic growth nationally and, particularly, in the east of England. The Greater Lincolnshire Local Enterprise Partnership (GLLEP) has recognised the importance of managing water in this way through its Water Management Plan (2016), which incorporates key strategic flood risk management issues where they can directly support or influence the growth agenda. This has particular relevance in Lincolnshire because of the importance of sustainable water supply and resilience to major sectors of the county's economy, notably with regard to agri-food and the visitor economy.

## Greater Lincolnshire LEP's Water Management Plan 2015-2040

The strength of an existing long-standing Partnership working in flood risk management in Greater Lincolnshire provides an opportunity to develop this further and to drive links with organisations responsible for water supply and management. The aim is for Greater Lincolnshire to be seen as a national exemplar for water management, in both flood reduction and water supply, and to act as an incentive for investors in the LEP's priority sectors of Agri-food, visitor economy and manufacturing & engineering. This will enable effective water management to be a positive contributor to economic growth.

In achieving this aim, the LEP believes that close collaboration with the neighbouring Humber LEP, Greater Cambridge and Greater Peterborough LEP, and the New Anglia LEP is essential, as these areas share many important economic challenges and opportunities. Because of this, the Greater Lincolnshire LEP has established a Water Management Board and launched a Water Management Plan.

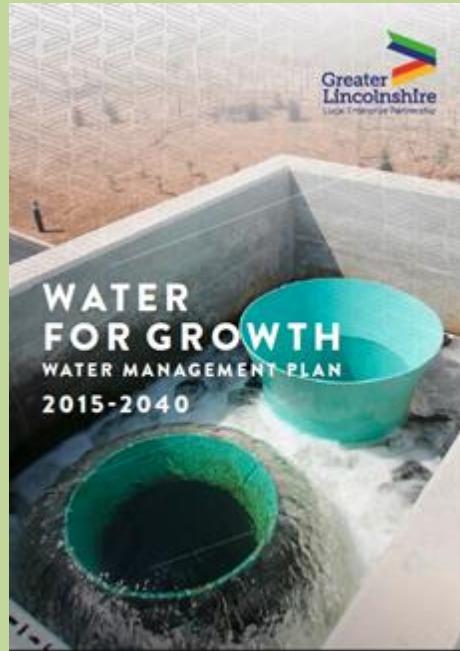
Greater Lincolnshire faces significant challenges from the risk of flooding and future availability of water. Around 45% (2,843km<sup>2</sup>) of Greater Lincolnshire lies within the floodplain - representing 17% of England's total floodplain area - and has been affected by a number of significant coastal and inland floods, most notably in 1953, 2007, 2012 and 2013.

The Greater Lincolnshire area is also one of the driest in the country and is prone to drought. The two dry winters experienced in 2010/11 and 2011/12 demonstrated the challenges and raised awareness of the need to adapt to this element of our changing climate. In April 2012, the second of these two dry winters was followed by an exceptional summer which led to significant problems for our priority sectors and illustrates the need to prepare for more weather extremes.

The importance of water management in Greater Lincolnshire and its established expertise in managing flood risk, a critical part of the solution, provides an opportunity to explore innovative approaches across the whole range of water management activities. No other part of the country is taking this comprehensive approach or has identified water management as so essential a factor in bringing about economic growth.

Find out more at:

<https://www.greaterlincolnshirelep.co.uk/documents/water-management-plan/>



A related development is the growing importance of water resource management since major droughts (interspersed with significant surface water flooding events) in 2012 and 2013. Flood risk is increasingly seen as part of a bigger picture that includes resilience to drought and planning for sufficient supplies of water where and when it is needed. This future planning for water availability has led to further consideration of potential opportunities for strategic linkage between water resource, flood risk, growth and environmental management, as reflected in Anglian Waters draft Water Resources Management Plan. These are key elements in supporting economic growth across Lincolnshire, and of direct interest to key economic sectors in Lincolnshire and its neighbouring authorities.

Most recently, future planning for water availability has led to the Water Resources East initiative within the Anglian region and further consideration of potential opportunities for strategic linkage between water resource, flood risk, growth and environmental management. These are key elements in supporting economic growth across Lincolnshire, and of direct interest to key economic sectors in Lincolnshire and its neighbouring authorities.

Water Resources East (WRE) is a collaboration between Partners in the East of England to develop a more integrated approach to water resource planning and management.



The WRE vision is for a strong economy and a flourishing environment with a purpose to build capacity in the region to deliver this. It operates at a number of different scales (see graphic overleaf):

- a) Regional: the WRE has developed the first multi-sector long-term regional water resource strategy in England using modern planning techniques. The strategy covers an area from the Humber to North London and is designed to meet the needs of the public water supply, environment, power and agricultural sectors in a future where impacts from climate change, growth and severe drought are expected but uncertain. The strategy combines far-reaching demand management, including large reductions in leakage, with a combination of new resource and transfer options. These include a multi-sector winter storage reservoir in South Lincolnshire
- b) Catchment: the WRE is working in South Lincolnshire and elsewhere to develop a partnership based water resource planning process at catchment level. This will use the techniques developed for the regional planning effort, but will apply them at local scale. In South Lincolnshire the aim is to produce a sustainable water resource strategy for an area where water supply, drought and flood risk are constraints on economic development. The project is being delivered by the South Lincolnshire Water Partnership (SLWP) and aims to ensure that future reservoir development in the area meets local economic and environmental needs, as well as the needs of the wider region, and
- c) Sub-catchment level: the WRE also works with landowners at farm and estate level to develop "Water Plans" based on the principle of Integrated Water Resource Management (IWRM). A number of these are being developed in Lincolnshire where water quality issues are being examined, along with measures to capture high flows in streams and rivers so as to reduce flood risk, increase the volume of water available for irrigation and increase the sustainability of irrigation operations

## Where does the WRE fit in?

WRE works at regional and catchment level



The catchment level work of the WRE & SLWP is supporting implementation of the Environment Agency "Water Abstraction Plan". This programme will reform the current abstraction licensing system, helping maintain abstraction at sustainable levels and improving access to the available resources.

In Lincolnshire, the WRE & the SLWP report through to the Lincolnshire Flood Risk and Water Management Strategy Group.

Emerging initiatives are supporting our approach of improved flood risk that also provides greater water resource sustainability which in turn supports economic growth. These methods also support the catchment approach in managing an area from source to sea rather than in isolation.

This broader integration of water related activities was explicitly recognised when the flood risk and drainage partnership was renamed the Lincolnshire Flood Risk and Water Management Partnership in 2015. The review of partnership during 2017-18 consolidated these developments and confirmed the need to embed a wider approach in its membership and terms of reference. The review of the partnership's Strategy provides the opportunity to continue this process of alignment and co-ordination and be formally recognized as the **Joint Lincolnshire Flood Risk and Water Management Strategy** to reflect the broader scope of our ambitions.

Since 2012 there has been the development and emergence of a number of local, regional and national strategies and initiatives which moving forward as a partnership we will need to take into account when considering our role in managing water more holistically within Lincolnshire. A list of these is provided on page 51 of this document.

The **25 Year Environment Plan**, published in early 2018 sets out the government's ambition to protect and enhance England's natural landscape for now and the long-term. How we manage flood and coastal risk will be a key part of how the plan is implemented and Lincolnshire's Risk Management Authorities are well positioned to take on the challenge. Collaboration between RMAs and their partners in managing all sources of flooding and coastal risk and at all spatial scales is essential if we are to achieve this and increase both the county's and our nations resilience to such pressures. [25 Year Environment Plan](#)

The Environment Agency has is in the process of reviewing its **national strategy for flood and coastal erosion risk management**. It is working in partnership with RMAs and a range of other partners to form a collective vision for the future of flood and coastal risk management. The aim of this coalition of partners is to identify the initial measures needed in order to achieve a shared vision and then to deliver it together. It is encouraging that the ambitions in this emerging national strategy reflects the goals and ambitions which are set out in the Lincolnshire Flood Risk and Water Management Strategy. Formal public consultation is expected to commence in early 2019. [Flood & Coastal Erosion Risk Management National Strategy Information](#)

In a Lincolnshire context the vital work the Environment Agency carry out along the open coast is also being reviewed as part of the **Saltfleet to Gibraltar Point strategy review**. How management of flood risk on the Lincolnshire coastline is undertaken remains vital to over 20,000 homes, approx. 24,500 static caravans, 35,000 hectares of farmland and a bustling tourist industry that lie within the strategy area.

#### **Interim Beach Management Lincolnshire Coast 2018 to 2021**

The Environment Agency annually place around 550,000 cubic metres of sand in key locations along a 20km frontage of the east coast of Lincolnshire. The Environment Agency have been artificially supplying sand to recharge the beach in this area since 1994. The beach re-nourishment scheme, in combination with the existing hard defences, reduces the risk from tidal flooding with a 0.5% chance of occurring in any one year. This flood risk management approach benefits 20,000 households, 24,500 static caravans, 1,700 businesses and up to 35,000Ha of agricultural land. The Environment Agency are currently reviewing our strategy for managing tidal flood risk over the next 100 years between Saltfleet to Gibraltar Point with the public and partner organisations. The strategy once approved will recommend the continuation of beach re-nourishment in combination with additional measures to reduce future beach erosion.



A preferred strategy and delivery plan for flood risk management on the Lincolnshire coast over the next 100 years is being developed as the Environment Agency work closely with partners in local and central government to finalise the draft strategy document, which is planned to be taken forward to a public consultation in 2019.

While work is undertaken to finalise the draft strategy, planning continues for the 2019 beach nourishment campaign which will protect the sea defences and to manage the risk of flooding to communities across the Lincolnshire coast. For further information on the revised strategy please see [Saltfleet to Gibraltar Point Strategy](#)

Intrinsically linked to our approach around water management is the provision to enhance amenity benefits and environmental betterment. This approach is demonstrated by the **South Lincolnshire Fenlands Partnership**. The partnership is a group of organisations, land managers and community representatives all with an interest in enhancing and protecting the unique and special qualities of the cultural, natural and historical heritage of the Lincolnshire Fenlands. The area covered by the project lies between Bourne, Spalding, and Market Deeping and includes the villages of Baston, Langtoft, Thurlby Fen, Tongue End and Twenty. The Project Officer facilitates and engages a broad spectrum of people from land owners and local residents to politicians and national statutory bodies to discuss approaches to managing natural assets in a changing world to secure benefits for wildlife and people. This area is low lying with rich farming soils and astonishing amounts of water flowing through courses, some of which are rich in botanical diversity and rare fauna. As the impacts of climate change become more apparent, then the partnership's role in finding solutions of a landscape scale approach to water management for people and wildlife will increasingly become more critical.

Over the past 6 years Lincolnshire Risk Management Authorities and partners have adapted to ever-changing and growing pressures, learning lessons through collaboration and continuously seeking to evolve. Funding will remain one of the key challenges faced in delivering the aspirations of this strategy. The current national 6 year capital investment programme ends in March 2021 and consideration is being given to what a future programme may look like. As this strategy is being reviewed Defra and Treasury are still in discussions, but this will be informed by the next Long Term Investment Scenarios (LTIS) analysis which will provide an updated view on the optimal amount to spend on flood risk management. The new analysis will build on the existing information and address a number of emerging questions and issues including high range climate change scenarios, development controls, standards of protection, property level resistance and resilience, temporary community defences, natural flood management, and risks to infrastructure.

These current uncertainties mean it is as ever important for Lincolnshire organisations to pull together to seek collaborative solutions to address these challenges and continue to seek innovative and forward thinking methods to do so.

## Wrangle Sea Banks

This £1.8million project, completed in September 2018, was the first major improvement to coastal flood defences in the area for over 30 years. Over 3,400 hectares of prime grade one farmland, and 460 domestic and industrial properties in this area of the Wash are now better protected, thanks to the co-ordinated efforts of flood risk management authorities and local landowners.

An Environment Agency review in 2012 had identified a 5km stretch of The Wash sea defences near the village of Wrangle, as particularly vulnerable, with the lowest sea banks along the Wash frontage, and only a single line of defence.

Witham Fourth District IDB (W4IDB) agreed to be the lead risk management authority on the project as they were able to deliver efficiencies using local landowner agreements and local contractors. This partnership approach, combined with the number of households and businesses protected, enabled an application of support through £1.3 million of DEFRA and half a million pounds of EU funding.

The project involved re-profiling the sea banks and raising them to over 7 metres high, with a 1 in 3-rear slope leading to a soke dyke to cope with future over-topping. During high tides, these accommodate the water that permeates up through the ground and during heavy rainfall, they enable surplus water to flow to the W4IDB managed pumping stations. This also enabled at least 10 hectares of habitat creation behind the banks including grassland and semi-wetland habitats. Landowners contributed around 40 linear metres of farmland to provide the spoil to re-profile the sea banks.

It was the tidal surge of December 2013, again breaching the main line of defence as it had 60 years earlier, that galvanised farmers and landowners to push for action. W4IDB were by partner representatives from Lincolnshire County Council, landowners, EA and Natural England to deliver the project.



## 7 Delivering the Strategy

### Vision

**Our vision statement for working in partnership to tackle flood risk and water resource issues to 2050**

*"Working in partnership for a resilient future"*

In order to work towards this vision, the Partnership has developed and agreed a new set of high-level aims. These aims take account of changes and developments since 2012 in how we consider the effective management of water and flood risk whilst recognising the ambition to seek wider benefits for Lincolnshire in not only flood risk but broader water resource issues.

In collectively developing these aims the partnership are clear that a 'do nothing' approach is clearly not an option. Climate change will bring significant challenges for both flood risk (such as rising sea levels and more extreme weather events) and water resources issues (i.e. drought). Water is the essential component that brings organisations together to seek a resilient future to the extreme challenges we face. Through partner and stakeholder engagement the following themes are considered key in moving forward to deal with these challenges.

### Catchment based approach

Currently when taking a strategic approach to managing water such as management of flood risk, water resources provision and land drainage this is largely looked at in isolation. In adopting a holistic view of the management of water it is possible to provide multiple benefits to the environment, businesses and communities by managing water sustainably through a whole catchment approach. As indicated through the innovative approaches being looked at as part of the WRE initiative in the South Forty Foot catchment and the pilots which formed part of the PACM project the lessons learned will provide a sound evidence base that can be tested on catchments in other areas. Ultimately the ambition is to cover all catchments within the county as well as maximizing opportunities with other neighbouring authorities encouraging cross boundary working.

### Ecosystem services

The natural environment is one of Lincolnshire's greatest strengths. If the ecosystem services that the natural environment provides are restored and recreated across the county, and delivered in a sympathetic way, it is possible to combine effective flood risk and water resource management solutions. Multiple benefits can support;

- Sustaining & Growing Business & the Economy
- Protecting & Sustaining the Environment
- Protecting and enhancing the natural & built Environment

In certain situations adaptations to existing, or new, environmental features can improve flood defence through an increase in capacity to store water (both for flood risk management and irrigation), improve connecting habitat, improve water quality and accommodate leisure and tourism activities. All of these have the added value of bringing economic benefits to the area.

### **Strategic thinking on land use planning**

Our approach to land use planning will become even more critical moving forward to balance the challenges faced from flood risk and managing water resources. Planned for, and managed in a sustainable way, this will aid in securing economic growth and environmental enhancement but there are likely to be challenges meeting different government targets. Housing, flood risk and growth will need to be considered collectively across a range of organisations to meet aspirations and manage the cumulative effects of the climatic conditions we will face in the future. The partnership will build on its influencing role and ensure it is in a strong position in negotiating key policy developments.

### **Asset management**

It is recognised there is a need to have a joint approach to resolving issues with obsolete legacy assets such as old navigation assets, weirs, outfalls, embankments and culverts. These are currently maintained by Risk Management Authorities and consideration needs to be given, where appropriate, to decommission or transferring assets to a more appropriate body. The recent Rationalising the Main River Network (RMRN) project highlighted the success of this approach which can lead to the streamlining of operations, make efficiency savings and bring opportunities to achieve more for the environment.

### **Establish an evidence base for Lincolnshire**

Flood Risk Management Authorities in Lincolnshire have been recognised by government as among those leading nationally in the development of partnership and co-ordination through the creation of the Lincolnshire Flood Risk and Water Management Partnership framework. These same authorities, along with other stakeholders, are determined that such recognition is maintained through our broader aspirations around water management in the whole.

To ensure Lincolnshire remains at the forefront of such activities it is essential a sound proof and evidence base is developed to demonstrate how we will collectively face the flood risk and water resource challenges in our region. Agri-food, housing growth, tourism, the environment and energy sectors are all nationally strategically important within the county and will be a priority for investment and infrastructure needs in the future. All are highly reliant on water to function effectively whether it be protection from flood the risk of flooding and

tidal inundation or the need to have a guaranteed supply of water. A supporting evidence base will be key in lobbying government and engaging key stakeholder groups to ensure we achieve the support and backing to deliver against our aims.

As a result of partner and stakeholder engagement, 4 aims have been developed. Outlined below, they will be the key drivers for the delivery of this strategy.

<b>Aim</b>	<b>Key area of focus</b>	<b>How this will be achieved</b>
<b>Aim 1.</b>	To move from flood risk management to cover water management	<p>To have clear objectives for supporting and developing linkages between effective water management and securing economic growth and environmental enhancement</p> <p>To have a greater emphasis on managing water in catchments, both locally and at a strategic level</p> <p>To promote a greater mix of measures including water retention &amp; attenuation and natural flood risk management methods</p>
<b>Aim 2.</b>	To develop a more strategic approach to development and land use planning	<p>To have alignment with major regional and national strategic infrastructure initiatives, particularly involving water resources linking flood risk solutions with improved resilience to drought.</p> <p>To have a greater integration of flood risk and water resource management with local planning policy development</p> <p>To ensure the effects of climate change are included in long term planning for flood risk and water resources</p>
<b>Aim 3.</b>	To build on the existing strong profile of the Lincolnshire Partnership ensuring it has a strong influencing role	<p>To ensure awareness of the partnership is maintained with proactive engagement regionally and nationally in key policy developments</p> <p>To proactively support national</p>

		<p>initiatives that can enhance local approaches to flood risk and water management such as IDB boundary extension</p> <p>To build a proof and evidence base to government and key stakeholder groups that support the ambitions of the partnership</p>
<b>Aim 4.</b>	<p>To build and develop key lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership</p>	<p>To Develop a public and stakeholder communications &amp; engagement strategy</p> <p>To develop a partnership action plan detailing key priorities moving forward</p>

**Collectively our combined aim is that by 2050 Lincolnshire will be an area resilient to flood risk and water resources issues with a long term strategic vision delivering local benefits.**

#### **Strategy review process**

Delivery of the Strategy will be managed by the Lincolnshire Flood Risk and Water Management Partnership, with regular progress reports against targets to the Management Group, and from there to Strategy Group and the Scrutiny Committee.

The strategic delivery common works programme will continue to be reviewed annually, and the Strategy as a whole will be subject to a five-yearly review process, including full public involvement, to ensure it is kept up-to-date, takes account of objectives achieved, and continues to maintain a focused forward programme at strategic, tactical and operational levels.

The Lead Local Flood Authority will be responsible for ensuring that monitoring and reviews are undertaken according to plan, but the partnership as a whole will contribute to the review and refresh of the Strategy.

## 8 Find out more

This Strategy is available online at:

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

Hard copies are available on request. Postal enquiries should be sent to:

Joint Lincolnshire Flood Risk and Water Management Strategy  
Lincolnshire County Council  
Environment and Economy  
Lancaster House  
36 Orchard Street  
Lincoln  
LN1 1XX

Email enquiries should be sent to [floodrisk@lincolnshire.gov.uk](mailto:floodrisk@lincolnshire.gov.uk)

For telephone enquiries please contact (01522) 782070

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## Glossary

Assets	Structures or a system of structures used to manage flood risk.
Catchments	An area that serves a river with rainwater. Every part of land where the rainfall drains to a single watercourse is in the same catchment.
Defences	A structure that is used to reduce the probability of floodwater or coastal erosion affecting a particular area (for example a raised embankment or sea wall)
Defra	Department for Environment, Food and Rural Affairs
GLLEP	Greater Lincolnshire Local Enterprise Partnership
Groundwater	Water which is below the surface of the ground and in direct contact with the ground or subsoil.
IDBs	Internal Drainage Boards
LLFA	Lead Local Flood Authority (Lincolnshire County Council)
Local flood risk	Flood risk from sources other than main rivers, the sea and reservoirs, principally meaning surface runoff, groundwater and ordinary watercourses.
LPA	Local Planning Authority
Main river	A watercourse shown as such on the Main River Map, and for which the Environment Agency has responsibilities and powers
NFM	Natural Flood Management
Ordinary watercourses	All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, IDBs.
Resilience	The ability of the community, services, area or infrastructure to withstand the consequences of an incident.
Risk	Measures the significance of a potential event in terms of likelihood and impact.

RMA	Risk Management Authorities
Source	The origin of a hazard (e.g. heavy rainfall, strong winds, surge etc).
Surface runoff	Rainwater (including snow and other precipitation) which is on the surface of the ground (whether or
WRE	Water Resources East

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## **Key strategies and initiatives developed since 2012 that will influence our strategic approach within Lincolnshire**

- Current review of National Flood Risk and Coastal Erosion Management Strategy
- Humber Estuary Strategy
- Current national review of Shoreline Management Plans
- Saltfleet to Gibraltar Point Strategy
- Wash Banks Strategy
- Partnership Approach to Catchment Management
- Flood Plan for Lincolnshire (Emergency Response)
- Water Resources Management Plan
- Water Resources East Initiative
- Local Planning Policy – Local Plans
- GLLEP Strategic Economic Plan
- GLLEP Water Management Plan
- GLLEP Energy Strategy for Greater Lincolnshire
- National and Local Industrial Strategies
- Defra 25 Year Environment Plan

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## **Lincolnshire Flood Risk and Water Management Partnership Framework**



## **Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050**

### **Strategic Vision**

## Contents

- 1. Introduction**
- 2. The Lincolnshire Flood Risk and Water Management Partnership**
- 3. The previous Joint Flood Risk & Drainage Management Strategy 2012-2025**
- 4. Future Look**
- 5. Delivering the Strategy**
- 6. Find out more**

### Glossary

**Key strategies and initiatives developed since 2012 that will influence our strategic approach within Lincolnshire**

## 1 Introduction

### Reviewing the existing Joint Lincolnshire Flood Risk and Drainage Management Strategy

Lincolnshire County Council is the Lead Local Flood Authority (LLFA) for the administrative county of Lincolnshire. Because of this role, since 2010 the Council has been responsible for implementing and monitoring a Local Flood Risk Management Strategy.

The purpose of the Strategy is to manage the impact of flood risk to people, businesses and the environment across Lincolnshire. The basic contents of the Strategy are outlined in legislation as follows:

- The risk management authorities operating in the LLFA's area
- The flood risk and coastal erosion functions that may be exercised by those authorities relating to the area
- Objectives for managing flood risk in the area
- Measures proposed to meet those objectives
- How and when the measures are to be implemented
- Costs and benefits of the measures and how they are to be paid for
- Assessment of local flood risk (meaning from surface runoff, groundwater and ordinary watercourses)
- How and when the strategy is to be reviewed
- How the strategy contributes to the achievement of wider environmental objectives

In developing the Strategy, the LLFA must consult the public and risk management authorities that may be affected by the strategy. The Strategy must be consistent with the National Flood Risk and Coastal Erosion Management Strategy and the LLFA must publish a summary of the Strategy, including guidance about the availability of relevant information.

In Lincolnshire our strong partnership approach meant that we were able to put together our Strategy as a joint venture between all the organisations with a role in flood risk management. Completed in 2012, the Joint Lincolnshire Flood Risk and Drainage Management Strategy was one of the first of its kind in the country. It also established a trend that has grown since to join up the work of different organisations and to tackle flood risk and water in a more co-ordinated way than in the past.

The existing Joint Lincolnshire Flood Risk and Drainage Management Strategy was developed as a partnership venture during 2011 and 2012, and was approved for the County Council by the Executive on 4 December 2012 and by Full Council in January 2013. Part 3 of the Strategy, the action plan, was made available from April 2013 and continues to be updated annually. As a consequence Lincolnshire was one the first areas in England to publish and implement a Local Flood Risk Management Strategy, and was forward looking in implementing a strategy that sought to co-ordinate the work of all Risk Management Authorities within the LLFA area and to consider flood risk in the

round.

In effect, the Strategy co-ordinates all the work delivered by the Lincolnshire Flood Risk and Water Management Partnership as a whole, overseen by the Flood Risk and Water Management Scrutiny committee.

This co-ordinated approach was embedded by establishing the Common Works Programme in 2013. This includes the major capital programmes of all partners, as well as the programme of joint activities that address solutions where responsibility is shared or where there is no clear single authority with the capacity or responsibility to act. The Common Works programme allows the partnership to prioritise works across the county according to need, and within the constraints imposed by availability of local and national funding.

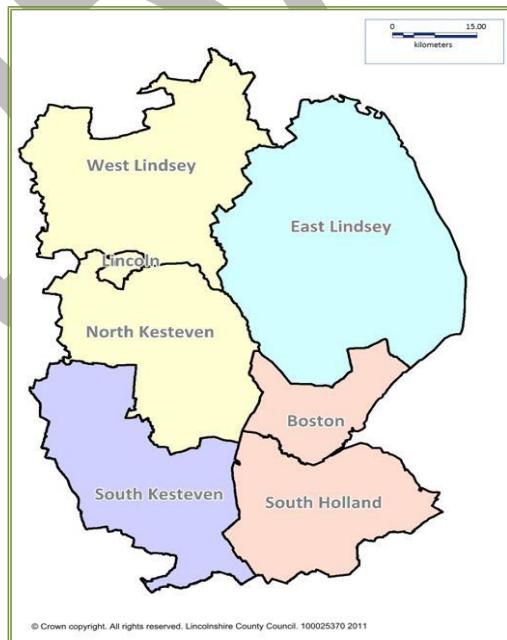
The current Strategy consists of

- Part 1: Strategic Vision (including high level objectives)
- Part 2 (A & B): Implementation Plan for the Strategy
- Part 3: Common Works Programme (annually updated action plan)

It can be found in full on the LCC website at the following link:

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

**Figure 1** Map of Strategy area



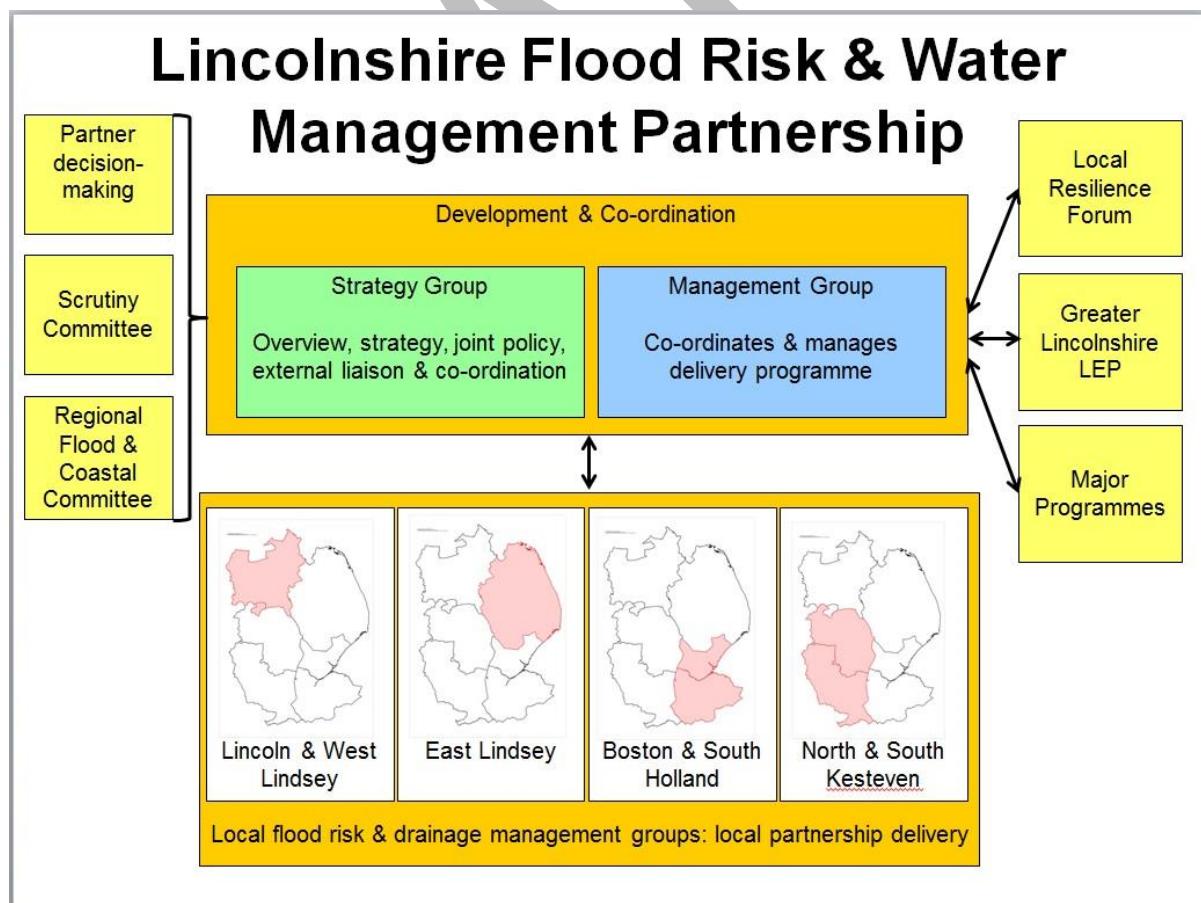
## 2 The Lincolnshire Flood Risk and Water Management Partnership

The Lincolnshire Flood Risk and Drainage Management Partnership was established in 2010 in advance of the Flood Risk and Water Management Act (2010). It was created in order to provide the level of co-ordination needed to develop the joint Strategy described above.

Since 2012 flood risk management has increasingly been recognised as an integral part of a wider issue of managing water as a resource that is essential to economic growth nationally and, particularly, in the east of England. To recognise this a review of the existing partnership role and structure was undertaken during 2017/18. The revised governance and functions of the Lincolnshire Flood Risk & Water Management Partnership can be found at the following link

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

**Figure 2** The Lincolnshire Flood Risk and Water Management Partnership



When determining priorities and actions, the Lincolnshire Flood Risk and Water Management Partnership directs its resources to areas where there is the greatest need, and where investment will bring the greatest benefits.

Following the refresh, the partnership now includes wider water interests. Water Resources East (WRE), a regional initiative looking at water availability from a multi-sectoral position and the Greater Lincolnshire Local Enterprise Partnership and its Water Management Board (WMB) are now full members.

As such, investment is considered in the round by attempting to take a truly systemic view of the water cycle to include the economic benefits it supports and unlocks.

The refreshed partnership has reviewed the key issues it believes Lincolnshire faces in terms of water. This includes flood and drought and the associated economics. It will focus on locations which exemplify these issues or themes and will facilitate discussions across partners, businesses, communities and central government as to how to best tackle these issues in the long term.

These locations are shown on the map in Figure 3 overleaf.

### **Lincolnshire Coastal Strip**

The Lincolnshire open coast is susceptible to significant flood risk from tidal inundation. It is protected by a mix of defenses which are described in the Environment Agency's Saltfleet to Gibraltar Point Strategy. Located immediately behind these defenses are large communities, businesses and tourist attractions. Our ability to support these communities and interest to grow sustainably brings together a great number of partners and policies. These include land use planning, infrastructure provision and flood risk. The partnership aims to bring these concerns together to deliver a sustainable plan and vision for our open coastline.

### **Agriculture**

Agriculture and the Agri-Food Industry are vital to a thriving Lincolnshire economy. It is dependent on the provision of water and the drainage of land. At present these concerns are not linked through strategy or policy. Moreover agricultural land does not attract as much government grant for flood risk protection as housing and at present rates for drainage are subject to the local authority council tax cap. As such the partnership has two aims. To raise the importance of our contribution to the agricultural production of the UK in a post Brexit Britain. To ensure policies reflect the need adequately fund land drainage and flood protection for agricultural land.

### **Catchment Based Approach**

Current strategic approaches to managing water are delivered generally in silos. This separates the management of flood risk, water resources provision and land drainage. By taking a holistic view of the management of water we believe it is possible to provide multiple benefits to the environment, businesses and communities. The government's 25 Year Environment Plan identifies that land should be used and managed more sustainably and this approach will be tested in the South Forty Foot Catchment under the South Lincs Water Partnership

(SLWP) supported by the Lincs FRWMP.

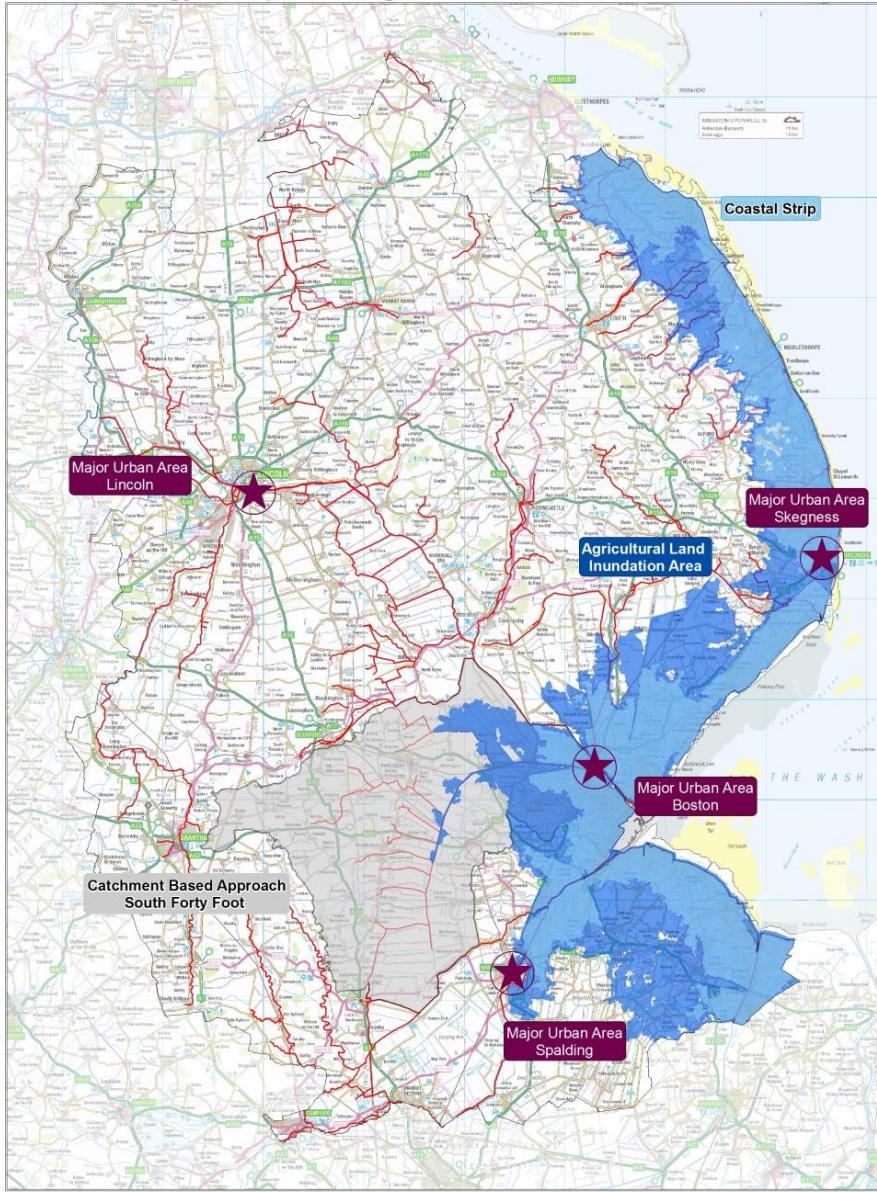
### **Urban Areas**

Major urban areas provide a particular challenge. Flood risk arises from a number of sources including surface water, sewers, rivers and the sea. Growth and economic development can often be focused here. Our aim is to collectively manage these risks whilst allowing our urban centers to flourish and grow sustainably.

The below map demonstrates these areas, however it must be remembered that the partnership co-ordinates day to day operational works throughout the county to manage the risk from all sources of flooding. The current programme of these works can be in Part 3 of the current strategy found [here](#).

**Figure 3** Map showing examples of areas and locations that exemplify key issues

**FRWM Strategy Group 4 Strategic Themes**



The history of the Lincolnshire Flood and Water Management Partnership, means it has developed a key role in managing flood risk in particular. This includes deploying resources and coordinating risk across a range of partners and risk management authorities.

The type of action that will be undertaken to manage flood risk and drainage will depend on the severity of the risk in each circumstance, including factors such as the likelihood of flooding, the level of danger posed by flooding, its impacts and the physical and economic feasibility of implementing a specific scheme or activity.

Since 2012 flood risk management authorities in Lincolnshire have been very successful in securing National funds for works, known as 'Grant in Aid' and funding provided by the Government to the Environment Agency allocated at regional level by the Regional Flood and Coastal Committee. This is also true of funds raised locally (called 'Local Levy') and provided to the Environment Agency by the County Council.

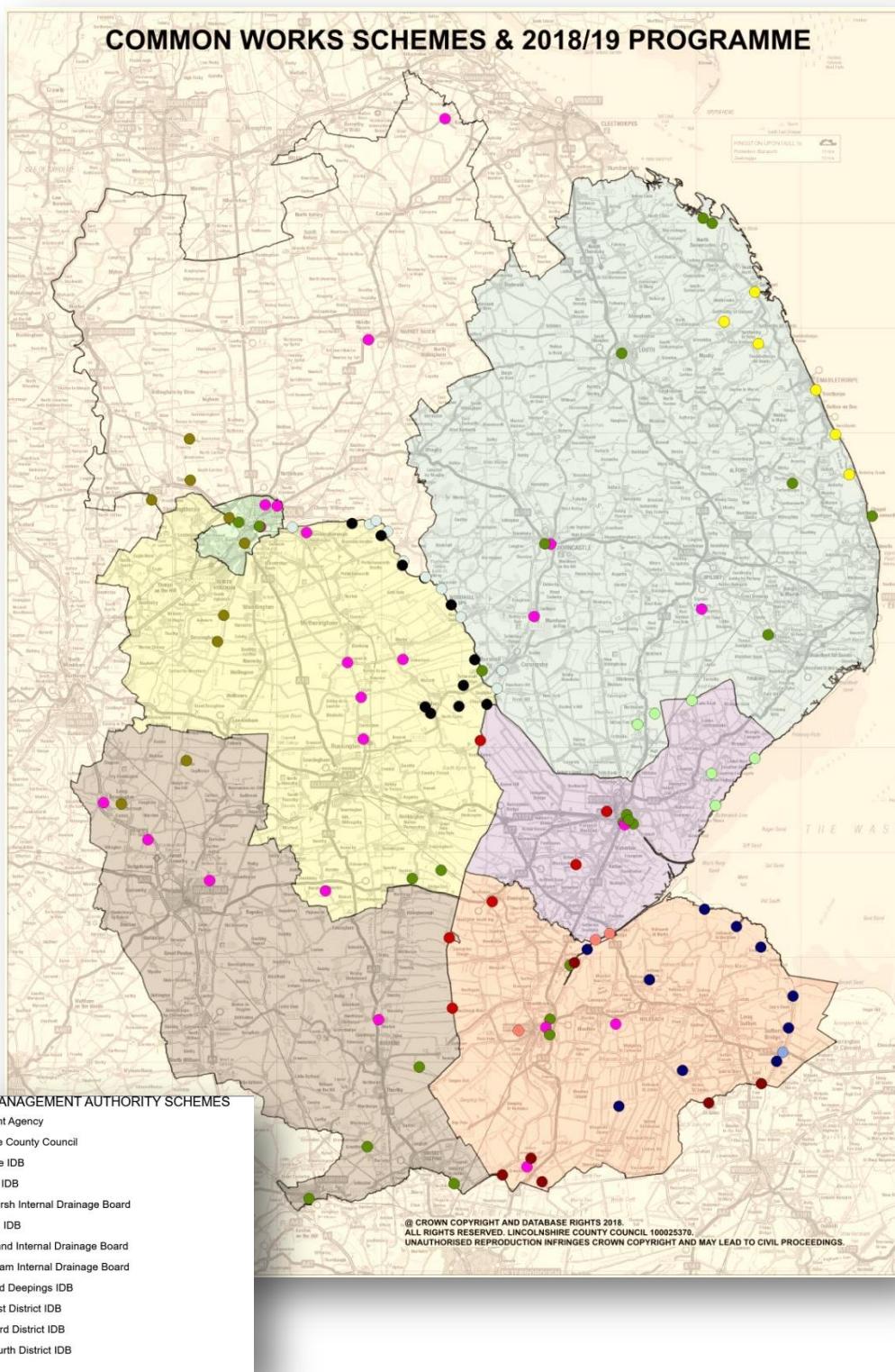
**Figure 4**



Many of the flood risk management activities undertaken are already the responsibility of individual organisations, such as the maintenance of an organisation's own assets, or the fulfilment of particular legal obligations. The Common Works Programme includes schemes, works and other initiatives undertaken by flood risk management authorities across Lincolnshire where, in some cases, two or more authorities have come together through the

Lincolnshire partnership to deliver work that would not have been possible, or would have taken longer to achieve, if undertaken by one organisation alone. These works form the Common Works Programme which is refreshed annually with all risk management authorities retaining the maximum flexibility to respond to schemes and works needs as they arise. By combining resources, partners have been able to attract inward investment at a national level and raise the priority of proposed schemes regionally

**Figure 5** Location of Partnership work that have received national funding and undertaken by Lincolnshire Risk Management Authorities since 2012



### 3 Future Look

Overall the Lincolnshire partnership will maintain its key role within the county and build on its ability to galvanise support and consensus around key strategies, economic growth and influence Central Government. The work of the partnership and delivery of our strategic aims is far from complete and significant challenges and opportunities lie ahead.

#### Climate Change

It is widely accepted that climate change is occurring and will affect our weather patterns. Climate change poses a major challenge in our planning, adaptation and resilience to managing flood risk and water resource issues in Lincolnshire. In November 2018 the Met Office published its projections for future climate change - **UK Climate Projections 2018 (UKCP18)**, which are the first major update to the UK's national climate change projections for nearly 10 years. The information available will help government, business and other interested parties to assess the challenges and opportunities we face from our changing climate.

In the most part trends show that the UK climate is continuing to warm and that sea levels continue to rise. We need to take into account however that these latest predictions were released whilst this strategy was being reviewed and therefore due to the complexity of the new projections, it is likely to be some time before clear guidance emerges as to what this may mean for Lincolnshire in respect of both land use planning and scheme/ project development. Some of the headline findings that have been identified are summarised below.

#### Overview

By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter.

Hot summers are expected to become more common.

Rainfall patterns across the UK are not uniform and vary on seasonal and regional scales and will continue to vary in the future.

A new set of marine projections show that sea level around the UK will continue to rise to 2100 under all emission pathways.

There is now no doubt the continuation and likely increase in the weather extremes will provide significant challenges in managing flood risk and water resources in the future, with examples of some of the variances highlighted below.

### **Some Key findings from UKCP18**

The average temperature over the most recent decade (2008-2017) has been on average 0.3 °C warmer than the 1981-2010 average and 0.8 °C warmer than the 1961-1990 average. Nine of the ten warmest years have occurred since 2002.

The most recent decade (2008-2017) was around 1 °C warmer than the pre-industrial period (1850-1900). This temperature rise in the UK is consistent with warming that has been observed at a global scale, of around 1 °C since pre-industrial.

Summers in the UK, for the most recent decade (2008-2017), have been on average 17% wetter than 1981-2010 and 20% wetter than the 1961-1990 average. However, very long-period natural variations are also seen in the longer observational record.

Total rainfall from extremely wet days (days exceeding the 99th percentile of the 1961-1990 rainfall) has increased by around 17% in the most recent decade (2008-2017), for the UK overall. However, changes are largest for Scotland and not significant for most of southern and eastern England.

Mean sea level around the UK has risen by about 16 cm since the start of the 20th century (when corrected for land movement).

The pattern of sea level rise is not uniform across the UK. Sea level rise is less in the north and more in the south, this is mainly due to the movement of land, up and down.

We can continue to expect increases to extreme coastal water levels driven mainly by increases in mean sea level rise, although we cannot rule out additional changes in storm surges.

### **Recent developments in Lincolnshire**

Since 2012 flood risk management has increasingly been recognised as an integral part of a wider issue of managing water as a resource that is essential to economic growth nationally and, particularly, in the east of England. The Greater Lincolnshire Local Enterprise Partnership (GLLEP) has recognised the importance of managing water in this way through its Water Management Plan (2016), which incorporates key strategic flood risk management issues where they can directly support or influence the growth agenda. This has particular relevance in Lincolnshire because of the importance of sustainable water supply and resilience to major sectors of the county's economy, notably with regard to agri-food and the visitor economy.

## Greater Lincolnshire LEP's Water Management Plan 2015-2040

The strength of an existing long-standing Partnership working in flood risk management in Greater Lincolnshire provides an opportunity to develop this further and to drive links with organisations responsible for water supply and management. The aim is for Greater Lincolnshire to be seen as a national exemplar for water management, in both flood reduction and water supply, and to act as an incentive for investors in the LEP's priority sectors of Agri-food, visitor economy and manufacturing & engineering. This will enable effective water management to be a positive contributor to economic growth.

In achieving this aim, the LEP believes that close collaboration with the neighbouring Humber LEP, Greater Cambridge and Greater Peterborough LEP, and the New Anglia LEP is essential, as these areas share many important economic challenges and opportunities. Because of this, the Greater Lincolnshire LEP has established a Water Management Board and launched a Water Management Plan.

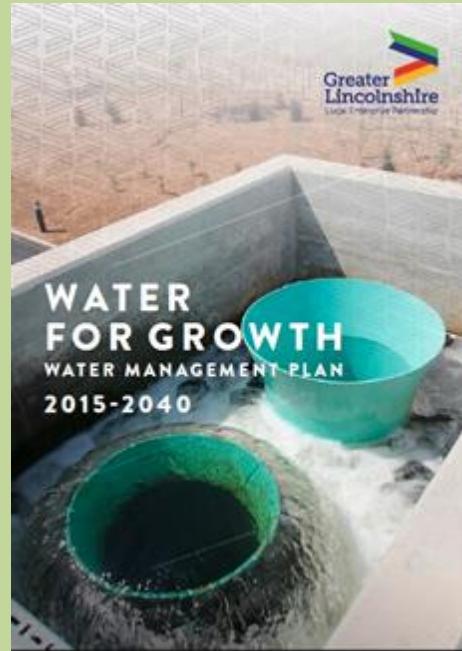
Greater Lincolnshire faces significant challenges from the risk of flooding and future availability of water. Around 45% (2,843km<sup>2</sup>) of Greater Lincolnshire lies within the floodplain - representing 17% of England's total floodplain area - and has been affected by a number of significant coastal and inland floods, most notably in 1953, 2007, 2012 and 2013.

The Greater Lincolnshire area is also one of the driest in the country and is prone to drought. The two dry winters experienced in 2010/11 and 2011/12 demonstrated the challenges and raised awareness of the need to adapt to this element of our changing climate. In April 2012, the second of these two dry winters was followed by an exceptional summer which led to significant problems for our priority sectors and illustrates the need to prepare for more weather extremes.

The importance of water management in Greater Lincolnshire and its established expertise in managing flood risk, a critical part of the solution, provides an opportunity to explore innovative approaches across the whole range of water management activities. No other part of the country is taking this comprehensive approach or has identified water management as so essential a factor in bringing about economic growth.

Find out more at:

<https://www.greaterlincolnshirelep.co.uk/documents/water-management-plan/>



A related development is the growing importance of water resource management since major droughts (interspersed with significant surface water flooding events) in 2012 and 2013. Flood risk is increasingly seen as part of a bigger picture that includes resilience to drought and planning for sufficient supplies of water where and when it is needed. This future planning for water availability has led to further consideration of potential opportunities for strategic linkage between water resource, flood risk, growth and environmental management, as reflected in Anglian Waters draft Water Resources Management Plan. These are key elements in supporting economic growth across Lincolnshire, and of direct interest to key economic sectors in Lincolnshire and its neighbouring authorities.

Most recently, future planning for water availability has led to the Water Resources East initiative within the Anglian region and further consideration of potential opportunities for strategic linkage between water resource, flood risk, growth and environmental management. These are key elements in supporting economic growth across Lincolnshire, and of direct interest to key economic sectors in Lincolnshire and its neighbouring authorities.

Water Resources East (WRE) is a collaboration between Partners in the East of England to develop a more integrated approach to water resource planning and management.



The WRE vision is for a strong economy and a flourishing environment with a purpose to build capacity in the region to deliver this. It operates at a number of different scales (see graphic overleaf):

- a) Regional: the WRE has developed the first multi-sector long-term regional water resource strategy in England using modern planning techniques. The strategy covers an area from the Humber to North London and is designed to meet the needs of the public water supply, environment, power and agricultural sectors in a future where impacts from climate change, growth and severe drought are expected but uncertain. The strategy combines far-reaching demand management, including large reductions in leakage, with a combination of new resource and transfer options. These include a multi-sector winter storage reservoir in South Lincolnshire
- b) Catchment: the WRE is working in South Lincolnshire and elsewhere to develop a partnership based water resource planning process at catchment level. This will use the techniques developed for the regional planning effort, but will apply them at local scale. In South Lincolnshire the aim is to produce a sustainable water resource strategy for an area where water supply, drought and flood risk are constraints on economic development. The project is being delivered by the South Lincolnshire Water Partnership (SLWP) and aims to ensure that future reservoir development in the area meets local economic and environmental needs, as well as the needs of the wider region, and
- c) Sub-catchment level: the WRE also works with landowners at farm and estate level to develop "Water Plans" based on the principle of Integrated Water Resource Management (IWRM). A number of these are being developed in Lincolnshire where water quality issues are being examined, along with measures to capture high flows in streams and rivers so as to reduce flood risk, increase the volume of water available for irrigation and increase the sustainability of irrigation operations

## Where does the WRE fit in?

WRE works at regional and catchment level



The catchment level work of the WRE & SLWP is supporting implementation of the Environment Agency "Water Abstraction Plan". This programme will reform the current abstraction licensing system, helping maintain abstraction at sustainable levels and improving access to the available resources.

In Lincolnshire, the WRE & the SLWP report through to the Lincolnshire Flood Risk and Water Management Strategy Group.

Emerging initiatives are supporting our approach of improved flood risk that also provides greater water resource sustainability which in turn supports economic growth. These methods also support the catchment approach in managing an area from source to sea rather than in isolation.

This broader integration of water related activities was explicitly recognised when the flood risk and drainage partnership was renamed the Lincolnshire Flood Risk and Water Management Partnership in 2015. The review of partnership during 2017-18 consolidated these developments and confirmed the need to embed a wider approach in its membership and terms of reference. The review of the partnership's Strategy provides the opportunity to continue this process of alignment and co-ordination and be formally recognized as the **Joint Lincolnshire Flood Risk and Water Management Strategy** to reflect the broader scope of our ambitions.

Since 2012 there has been the development and emergence of a number of local, regional and national strategies and initiatives which moving forward as a partnership we will need to take into account when considering our role in managing water more holistically within Lincolnshire. A list of these is provided on page 43 of this document.

The **25 Year Environment Plan**, published in early 2018 sets out the government's ambition to protect and enhance England's natural landscape for now and the long-term. How we manage flood and coastal risk will be a key part of how the plan is implemented and Lincolnshire's Risk Management Authorities are well positioned to take on the challenge. Collaboration between RMAs and their partners in managing all sources of flooding and coastal risk and at all spatial scales is essential if we are to achieve this and increase both the county's and our nations resilience to such pressures. [25 Year Environment Plan](#)

The Environment Agency has is in the process of reviewing its **national strategy for flood and coastal erosion risk management**. It is working in partnership with RMAs and a range of other partners to form a collective vision for the future of flood and coastal risk management. The aim of this coalition of partners is to identify the initial measures needed in order to achieve a shared vision and then to deliver it together. It is encouraging that the ambitions in this emerging national strategy reflects the goals and ambitions which are set out in the Lincolnshire Flood Risk and Water Management Strategy. Formal public consultation is expected to commence in early 2019. [Flood & Coastal Erosion Risk Management National Strategy Information](#)

In a Lincolnshire context the vital work the Environment Agency carry out along the open coast is also being reviewed as part of the **Saltfleet to Gibraltar Point strategy review**. How management of flood risk on the Lincolnshire coastline is undertaken remains vital to over 20,000 homes, approx. 24,500 static caravans, 35,000 hectares of farmland and a bustling tourist industry that lie within the strategy area.

A preferred strategy and delivery plan for flood risk management on the Lincolnshire coast over the next 100 years is being developed as the Environment Agency work closely with partners in local and central government to finalise the draft strategy document, which is planned to be taken forward to a public consultation in 2019.

While work is undertaken to finalise the draft strategy, planning continues for the 2019 beach nourishment campaign which will protect the sea defences and to manage the risk of flooding to communities across the Lincolnshire coast. For further information on the revised strategy please see [Saltfleet to Gibraltar Point Strategy](#)

Intrinsically linked to our approach around water management is the provision to enhance amenity benefits and environmental betterment. This is approach is demonstrated by the **South Lincolnshire Fenlands Partnership**. The partnership is a group of organisations, land managers and community representatives all with an interest in enhancing and protecting the unique and

special qualities of the cultural, natural and historical heritage of the Lincolnshire Fenlands. The area covered by the project lies between Bourne, Spalding, and Market Deeping and includes the villages of Baston, Langtoft, Thurlby Fen, Tongue End and Twenty. The Project Officer facilitates and engages a broad spectrum of people from land owners and local residents to politicians and national statutory bodies to discuss approaches to managing natural assets in a changing world to secure benefits for wildlife and people. This area is low lying with rich farming soils and astonishing amounts of water flowing through courses, some of which are rich in botanical diversity and rare fauna. As the impacts of climate change become more apparent, then the partnership's role in finding solutions of a landscape scale approach to water management for people and wildlife will increasingly become more critical.

Over the past 6 years Lincolnshire Risk Management Authorities and partners have adapted to ever-changing and growing pressures, learning lessons through collaboration and continuously seeking to evolve. Funding will remain one of the key challenges faced in delivering the aspirations of this strategy. The current national 6 year capital investment programme ends in March 2021 and consideration is being given to what a future programme may look like. As this strategy is being reviewed Defra and Treasury are still in discussions, but this will be informed by the next Long Term Investment Scenarios (LTIS) analysis which will provide an updated view on the optimal amount to spend on flood risk management. The new analysis will build on the existing information and address a number of emerging questions and issues including high range climate change scenarios, development controls, standards of protection, property level resistance and resilience, temporary community defences, natural flood management, and risks to infrastructure.

These current uncertainties mean it is as ever important for Lincolnshire organisations to pull together to seek collaborative solutions to address these challenges and continue to seek innovative and forward thinking methods to do so.

## Wrangle Sea Banks

This £1.8million project, completed in September 2018, was the first major improvement to coastal flood defences in the area for over 30 years. Over 3,400 hectares of prime grade one farmland, and 460 domestic and industrial properties in this area of the Wash are now better protected, thanks to the co-ordinated efforts of flood risk management authorities and local landowners.

An Environment Agency review in 2012 had identified a 5km stretch of The Wash sea defences near the village of Wrangle, as particularly vulnerable, with the lowest sea banks along the Wash frontage, and only a single line of defence.

Witham Fourth District IDB (W4IDB) agreed to be the lead risk management authority on the project as they were able to deliver efficiencies using local landowner agreements and local contractors. This partnership approach, combined with the number of households and businesses protected, enabled an application of support through £1.3 million of DEFRA and half a million pounds of EU funding.

The project involved re-profiling the sea banks and raising them to over 7 metres high, with a 1 in 3-rear slope leading to a soke dyke to cope with future over-topping. During high tides, these accommodate the water that permeates up through the ground and during heavy rainfall, they enable surplus water to flow to the W4IDB managed pumping stations. This also enabled at least 10 hectares of habitat creation behind the banks including grassland and semi-wetland habitats. Landowners contributed around 40 linear metres of farmland to provide the spoil to re-profile the sea banks.

It was the tidal surge of December 2013, again breaching the main line of defence as it had 60 years earlier, that galvanised farmers and landowners to push for action. W4IDB were by partner representatives from Lincolnshire County Council, landowners, EA and Natural England to deliver the project.



## 7 Delivering the Strategy

### Vision

**Our vision statement for working in partnership to tackle flood risk and water resource issues to 2050**

*"Working in partnership for a resilient future"*

In order to work towards this vision, the Partnership has developed and agreed a new set of high-level aims. These aims take account of changes and developments since 2012 in how we consider the effective management of water and flood risk whilst recognising the ambition to seek wider benefits for Lincolnshire in not only flood risk but broader water resource issues.

In collectively developing these aims the partnership are clear that a 'do nothing' approach is clearly not an option. Climate change will bring significant challenges for both flood risk (such as rising sea levels and more extreme weather events) and water resources issues (i.e. drought). Water is the essential component that brings organisations together to seek a resilient future to the extreme challenges we face. Through partner and stakeholder engagement the following themes are considered key in moving forward to deal with these challenges.

### Catchment based approach

Currently when taking a strategic approach to managing water such as management of flood risk, water resources provision and land drainage this is largely looked at in isolation. In adopting a holistic view of the management of water it is possible to provide multiple benefits to the environment, businesses and communities by managing water sustainably through a whole catchment approach. As indicated through the innovative approaches being looked at as part of the WRE initiative in the South Forty Foot catchment and the pilots which formed part of the PACM project the lessons learned will provide a sound evidence base that can be tested on catchments in other areas. Ultimately the ambition is to cover all catchments within the county as well as maximizing opportunities with other neighbouring authorities encouraging cross boundary working.

### Ecosystem services

The natural environment is one of Lincolnshire's greatest strengths. If the ecosystem services that the natural environment provides are restored and recreated across the county, and delivered in a sympathetic way, it is possible to combine effective flood risk and water resource management solutions. Multiple benefits can support;

- Sustaining & Growing Business & the Economy
- Protecting & Sustaining the Environment
- Protecting and enhancing the natural & built Environment

In certain situations adaptations to existing, or new, environmental features can improve flood defence through an increase in capacity to store water (both for flood risk management and irrigation), improve connecting habitat, improve water quality and accommodate leisure and tourism activities. All of these have the added value of bringing economic benefits to the area.

### **Strategic thinking on land use planning**

Our approach to land use planning will become even more critical moving forward to balance the challenges faced from flood risk and managing water resources. Planned for, and managed in a sustainable way, this will aid in securing economic growth and environmental enhancement but there are likely to be challenges meeting different government targets. Housing, flood risk and growth will need to be considered collectively across a range of organisations to meet aspirations and manage the cumulative effects of the climatic conditions we will face in the future. The partnership will build on its influencing role and ensure it is in a strong position in negotiating key policy developments.

### **Asset management**

It is recognised there is a need to have a joint approach to resolving issues with obsolete legacy assets such as old navigation assets, weirs, outfalls, embankments and culverts. These are currently maintained by Risk Management Authorities and consideration needs to be given, where appropriate to decommissioning or transferring assets to a more appropriate body. The recent Rationalising the Main River Network (RMRN) project highlighted the success of this approach which can lead to the streamlining of operations, make efficiency savings and bring opportunities to achieve more for the environment.

### **Establish an evidence base for Lincolnshire**

Flood Risk Management Authorities in Lincolnshire have been recognised by government as among those leading nationally in the development of partnership and co-ordinationis through the creation of the Lincolnshire Flood Risk and Water Management Partnership framework. These same authorities, along with other stakeholders, are determined that such recognition is maintained through our broader aspirations around water management in the whole.

To ensure Lincolnshire remains at the forefront of such activities it is essential a sound proof and evidence base is developed to demonstrate how we will collectively face the flood risk and water resource challenges in our region. Agri-food, housing growth, tourism, the environment and energy sectors are all nationally strategically important within the county and will be a priority for

investment and infrastructure needs in the future. All are highly reliant on water to function effectively whether it be protection from flood the risk of flooding and tidal inundation or the need to have a guaranteed supply of water. A supporting evidence base will be key in lobbying government and engaging key stakeholder groups to ensure we achieve the support and backing to deliver against our aims.

As a result of partner and stakeholder engagement, 4 aims have been developed. Outlined below, they will be the key drivers for the delivery of this strategy.

<b>Aim</b>	<b>Key area of focus</b>	<b>How this will be achieved</b>
<b>Aim 1.</b>	To move from flood risk management to cover water management	<p>To have clear objectives for supporting and developing linkages between effective water management and securing economic growth and environmental enhancement</p> <p>To have a greater emphasis on managing water in catchments, both locally and at a strategic level</p> <p>To promote a greater mix of measures including water retention &amp; attenuation and natural flood risk management methods</p>
<b>Aim 2.</b>	To develop a more strategic approach to development and land use planning	<p>To have alignment with major regional and national strategic infrastructure initiatives, particularly involving water resources linking flood risk solutions with improved resilience to drought.</p> <p>To have a greater integration of flood risk and water resource management with local planning policy development</p> <p>To ensure the effects of climate change are included in long term planning for flood risk and water resources</p>
<b>Aim 3.</b>	To build on the existing strong profile of the Lincolnshire Partnership ensuring it has a strong	To ensure awareness of the partnership is maintained with proactive engagement regionally and nationally in key policy developments

	influencing role	To proactively support national initiatives that can enhance local approaches to flood risk and water management such as IDB boundary extension  To build a proof and evidence base to government and key stakeholder groups that support the ambitions of the partnership
<b>Aim 4.</b>	To build and develop key lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership	To Develop a public and stakeholder communications & engagement strategy  To develop a partnership action plan detailing key priorities moving forward

**By 2050 Lincolnshire will be an area resilient to flood risk and water resources issues with a long term strategic vision delivering local benefits.**

#### **Strategy review process**

Delivery of the Strategy will be managed by the Lincolnshire Flood Risk and Water Management Partnership, with regular progress reports against targets to the Management Group, and from there to Strategy Group and the Scrutiny Committee.

The strategic delivery common works programme will continue to be reviewed annually, and the Strategy as a whole will be subject to a five-yearly review process, including full public involvement, to ensure it is kept up-to-date, takes account of objectives achieved, and continues to maintain a focused forward programme at strategic, tactical and operational levels.

The Lead Local Flood Authority will be responsible for ensuring that monitoring and reviews are undertaken according to plan, but the partnership as a whole will contribute to the review and refresh of the Strategy.

## 8 Find out more

This Strategy is available online at:

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-management/implementing-management-strategy/103045.article>

Hard copies are available on request. Postal enquiries should be sent to:

Joint Lincolnshire Flood Risk and Water Management Strategy  
Lincolnshire County Council  
Environment and Economy  
Lancaster House  
36 Orchard Street  
Lincoln  
LN1 1XX

Email enquiries should be sent to [floodrisk@lincolnshire.gov.uk](mailto:floodrisk@lincolnshire.gov.uk)

For telephone enquiries please contact (01522) 782070

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## Glossary

Assets	Structures or a system of structures used to manage flood risk.
Catchments	An area that serves a river with rainwater. Every part of land where the rainfall drains to a single watercourse is in the same catchment.
Defences	A structure that is used to reduce the probability of floodwater or coastal erosion affecting a particular area (for example a raised embankment or sea wall)
Defra	Department for Environment, Food and Rural Affairs
GLLEP	Greater Lincolnshire Local Enterprise Partnership
Groundwater	Water which is below the surface of the ground and in direct contact with the ground or subsoil.
IDBs	Internal Drainage Boards
LLFA	Lead Local Flood Authority (Lincolnshire County Council)
Local flood risk	Flood risk from sources other than main rivers, the sea and reservoirs, principally meaning surface runoff, groundwater and ordinary watercourses.
LPA	Local Planning Authority
Main river	A watercourse shown as such on the Main River Map, and for which the Environment Agency has responsibilities and powers
NFM	Natural Flood Management
Ordinary watercourses	All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, IDBs.
Resilience	The ability of the community, services, area or infrastructure to withstand the consequences of an incident.
Risk	Measures the significance of a potential event in terms of likelihood and impact.

RMA	Risk Management Authorities
Source	The origin of a hazard (e.g. heavy rainfall, strong winds, surge etc).
Surface runoff	Rainwater (including snow and other precipitation) which is on the surface of the ground (whether or
WRE	Water Resources East

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## **Key strategies and initiatives developed since 2012 that will influence our strategic approach within Lincolnshire**

- Current review of National Flood Risk and Coastal Erosion Management Strategy
- Humber Estuary Strategy
- Current national review of Shoreline Management Plans
- Saltfleet to Gibraltar Point Strategy
- Wash Banks Strategy
- Partnership Approach to Catchment Management
- Flood Plan for Lincolnshire (Emergency Response)
- Water Resources Management Plan
- Water Resources East Initiative
- Local Planning Policy – Local Plans
- GLLEP Strategic Economic Plan
- GLLEP Water Management Plan
- GLLEP Energy Strategy for Greater Lincolnshire
- National and Local Industrial Strategies
- Defra 25 Year Environment Plan

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# Agenda Item 9



Policy and Scrutiny

## Open Report on behalf of Andy Gutherson, Interim Executive Director of Place

Report to:	<b>Flood &amp; Water Management Scrutiny</b>
Date:	<b>28 May 2019</b>
Subject:	<b>To report progress on the investigations made in the County under Section 19 of the Flood &amp; Water Management Act 2010 (FWMA)</b>

### **Summary:**

This is a standing item to inform the Committee of the position of all current S.19 flood investigations in the County.

### **Actions Required:**

Members of the Flood and Water Management Scrutiny Committee are invited to consider and comment on the investigations undertaken in the County under Section 19 of the Flood and Water Management Act 2010 (FWMA).

**Members are asked to view the current S.19 spreadsheets online (also included at Appendix A) and inform Democratic Services in advance if they wish to highlight any particular sites at the forthcoming Scrutiny Committee meeting.**

<https://www.lincolnshire.gov.uk/residents/environment-andplanning/floodrisk-management/flood-investigations/117780.article>

### **1. Background**

This is a standing item to inform the Committee on the position of all current Section 19 investigations in the County, which are listed in Appendix A. It will be noted that in some cases the investigation is marked as being completed, but the flood incident will remain on Appendix A as there may be outstanding works arising from the investigation which have not yet been completed or programmed by the relevant Risk Management Authority.

Monthly figures from the Environment Agency indicate that March 2019 rainfall was around the long-term average, with the previous two months being below average, notably so in some areas of Lincolnshire. This relatively benign period was naturally reflected in the surface water flood risk, as for the third quarter in a row there were no flood investigations started. As before, this is of course to be

welcomed, and gives the opportunity to work towards the timely completion of the current workload of flood investigations which is outlined in Appendix A.

Following a comment made at the last meeting of this Committee in February 2019, the format of Appendix A has been revised slightly to make the document easier to read whilst retaining the essential details. Information on the sources of flooding has been rationalised and some repeated information removed for clarity.

As always, Members are invited to raise any questions about Appendix A or any other flooding queries with the Flood Risk Manager, who's contact details can be found at the end of this report.

## **2. Conclusion**

Members of the Flood and Water Management Scrutiny Committee are invited to review the investigations undertaken in the County under Section 19 of the Flood and Water Management Act 2010 (FWMA).

## **3. Consultation**

### **a) Have Risks and Impact Analysis been carried out?**

No

### **b) Risks and Impact Analysis**

N/A

## **4. Appendices**

These are listed below and attached at the back of the report	
Appendix A	Record of current flood investigations in the County carried out in accordance with S.19 FWMA.

## **5. Background Papers**

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

This report was written by Paul Brookes, County Flood Risk Manager, who can be contacted on (01522) 782070 or paul.brookes@lincolnshire.gov.uk.

Lincolnshire County Council Section 19 Investigations - North Kesteven District Council & South Kesteven District Council Network Area - Area Highways Rowan Smith (West)														
<b>Appendix A</b>														
<b>Duty to Investigate</b>														
<b>Section 19 Investigations</b>														
Date of Incident	Town / Locality	Street / Road Name	Summary Description of Flooding	No of Properties Flooded	Investigation Status	Risk Management Authorities with Responsibilities and whether they are exercising functions	Proposed Action/Works	Consideration for inclusion in future common works	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference		
28 June 2012	Digby	North Street	Blockage/Surface Water	Unconfirmed	Completed	LCC - Yes Witham 1st IDB - Yes	LCC, Witham First IDB and the Environment Agency are to undertake local maintenance and are considering improvement works following consultation with the Parish Council. A bid for an overall flood risk study for Digby has been submitted for feasibility, design and works.	Yes	LCC Witham 1st IDB EA	On-going	Possible works 2019/20	S19-048		
28 June 2012	Digby	Beck Street	Capacity/Surface Water	Unconfirmed	Completed	Environment Agency - Yes Anglian Water - Yes LCC - Yes	LCC, Witham First IDB and the Environment Agency are to undertake local maintenance and are considering improvement works following consultation with the Parish Council. A bid for an overall flood risk study for Digby has been submitted for feasibility, design and works.	Yes	LCC Witham 1st IDB EA	On-going	Possible works 2019/20	S19-048		
28 June 2012	Digby	The Hurn	Pumping Station Failure/Surface Water	Unconfirmed	Completed	Witham 1st IDB - Yes Anglian Water - Yes	LCC, Witham First IDB and the Environment Agency are to undertake local maintenance and are considering improvement works following consultation with the Parish Council. A bid for an overall flood risk study for Digby has been submitted for feasibility, design and works.	Yes	LCC Witham 1st IDB EA	On-going	Possible works 2019/20	S19-048		
28 June 2012	Thorpe Tilney	Sleaford Road - LN4 3SL Hallams Lane Church Lane	Foul Water/Surface Water	Unconfirmed - pre feasibility report mentions 8 properties.	Completed	Witham 1st IDB - Yes LCC - Yes Anglian Water - Yes	Improvement works on watercourse undertaken November 2012. Ongoing LCC investigations, further excavations to commence to provide access for CCTV survey, also minor kerbing improvements and works issued. A meeting has been held with the Parish Council/Flood Group/National Flood Forum. A bid for an overall study for Timberland has been submitted for feasibility, design and works.	Yes	LCC	On-going	Feasibility 2017/18 Possible works 2019/20	S19-054		
6 July 2012	Swaton	West End - NG34 0JL	River Overtopping/Surface Water	2	Completed	Environment Agency - Yes Black Sluice Internal Drainage Board - Yes LCC - Yes	The Environment Agency has completed its hydraulic modelling works. Black Sluice Internal Drainage Board has previously bid for an improvement scheme. Environment Agency / LCC have been asked to assist with scheme promotion.	Yes	LCC EA Black Sluice IDB	On-going	EA Feasibility Study 2017/18 Possible works 2018/19	S19-056		
6 July 2012	Harlaxton	High Street - NG32 1JA	Capacity/Surface Water	1	Completed	LCC - Yes Upper Witham IDB - Yes Anglian Water - Yes	Following detailed investigation, joint work between LCC and Upper Witham IDB has been completed. Investigation to Mow Beck required to understand overall flood risk.	Yes	LCC EA	On-going	Summer 2015	S19-060		
6 July 2012	Burton Pedwardine	White Cross Lane - NG34 0DA	Surface Water	2	Completed	Black Sluice IDB - Yes	Black Sluice IDB to carry out enforcement. Resident met and awaiting proposals which may be subject to a highway contribution. Awaiting confirmation.	No	LCC Black Sluice IDB	On-going	Summer 2015	S19-062		
6 August 2012	Caythorpe	Gorse Hill Lane - NG32 3DY	Surface Water	1	Completed	LCC - Yes	The profile of the carriageway may cause excess surface water to miss gullies at the boundary of Kings Hill. The installation of a vehicular access built to the correct specification may also prevent further occurrences of flooding by increasing the kerb height between the carriageway and the property.	No	LCC	On-going	Summer 2016	S19-068		
21 November 2012	Corby Glen	Irnham Road - NG33 4NB	Surface Water	1	Completed	LCC - Yes	Resilience measures the property owner has taken will reduce the risk of surcharge from the private drain (non-return valve added). Works that have been undertaken by LCC Highways including jetting & CCTV of the system have identified possible improvement works, this would include additional inspection chambers and updating the system. Application for additional funding has been submitted for the installation of inspection chambers and upgrade of the sewer system.	No	LCC	On-going	End 2015	S19-069		
22 May 2014	Market Deeping	Market Place - PE6 8EA	Surface Water	1	Completed	LCC - Yes Anglian Water - Yes WDIDB - Yes	LCC to carry out maintenance work on the surface water drainage system. AW to maintain utility surface drainage systems. Property owner to maintain the rainwater drainage systems and consider further drainage to allow the escape of water from the low front area.	No	LCC AW	On-going	Summer 2015	S19-107		
22 May 2014	Market Deeping	Market Place - PE6 8EA	Surface Water	1	Completed	LCC - Yes Anglian Water - Yes	LCC to carry out maintenance work on the surface water drainage system. AW to maintain utility surface drainage systems. Property owner to maintain the rainwater drainage systems and consider further drainage to allow the escape of water from the low front area.	No	LCC AW	On-going	End 2015	S19-108		
20 July 2014	Stamford	Water Street - PE9 2NJ	Surface Water	1	Completed	LCC - Yes	LCC to undertake a drainage survey of the system this work has been programmed for 2015	No	Due complete Summer 2015	On-going	End 2015	S19-116		
24 August 2015	Grantham	Coxmoor Close - NG31 9FG Cavendish Way - NG31 9FN	River Overtopping/Surface Water	4	Completed	LCC - Yes Anglian Water - Yes Environment Agency - Yes	The Witham Brook requires major maintenance works, which will need to be carried out by the EA. A trash screen will also need to be installed by the EA. They also need to investigate the possible construction of a storage lagoon in association with SKDC & LCC.	To Be Confirmed	LCC EA	On-going	To Be Confirmed	S19-136		
24 August 2015	Westborough	Town Street - NG23 5HQ	Surface Water	1	Completed	Upper Witham IDB - Yes	Upper Witham IDB is aware of the flood risk issues within the village and have designed a scheme. Currently awaiting funding.	To Be Confirmed	Upper Witham IDB	On-going	To Be Confirmed	S19-144		

Duty to Investigate Section 19 Investigations Lincolnshire County Council Section 19 Investigations - North Kesteven District Council & South Kesteven District Council Network Area - Area Highways Rowan Smith (West)												
24 August 2015	Grantham	Bridge End Road - NG31 7ES	Unknown	1	Completed	LCC - Yes Anglian Water - Yes	Initial investigations M Thornhill letter sent out to resident 14/09/2015. Awaiting confirmation of internal flooding.	No		On-going	To Be Confirmed	S19-147
4 July 2015	Tallington	Bainton Road - PE9 4RT	Blockage/Surface Water	1	Completed	LCC - Yes Anglian Water - Yes	The gullies are programmed to be cleaned and jetted out to ensure the system is flowing well. Due to the proximity to the level crossing a risk assessment is required to be signed off by Network Rail prior to any works commencing. AW to investigate the sewer system and inspect and service the flood gates at the property to ensure they are fit for purpose.	No	LCC AW	On-going	Summer 2019	S19-129
15 June 2016	Welbourn	Cliff Road - LN5 0PL	Surface Water	1	On-going	LCC - Yes	Due to no previous flooding prior to surface dressing it is recommended to lift all the centre kerbs to re-establish a 25mm upstand. In agreement with resident, it is recommended to raise the existing kerbs directly outside footpath to a full 110mm upstand. Dyke also to be unblocked to allow gully to catch surface water and outfall into dyke.	To Be Confirmed	LCC	On-going	To Be Confirmed	S19-167
16 June 2016	Potterhanworth	Station Road (Under Railway Bridge)	Unknown	0	Completed	To Be Confirmed	Repeat of previous flooding. Refer to S19-131.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-131
22 May 2014	Billingborough	West Road - NG34 0QU	Surface Water	2	Completed	LCC - Yes Anglian Water - Yes	A part CCTV survey was conducted by Anglian Water in March/April 2015. This had identified bricks missing from the soffit of the brick culvert and mass root ingestion into the culvert in a section in Station Road. At the time of writing this report Anglian Water were preparing to carry out excavations in the affect area to repair the culvert and once this was carried out, full jetting of the system was to take place and CCTV survey to continue.  Local Lead Flood Authority, Anglian Water and Lincolnshire County Council as Highway Authority to continue liaison and monitoring of the area. Upon publication of the Environment Agencies catchment study all risk Management Authorities to consider where appropriate any conclusions or recommendations derived from this study.  LCC have carried out the level survey works to protect the	No	LCC Anglian Water	On-going	Summer 2017	S19-162
24 August 2015	Long Bennington	Main Road Vicarage Lane Welbournes Lane Acklams Lane Church Street Orchards Park	Capacity/Surface Water	25	Completed	LCC - Yes LLFA - Yes Anglian Water - Yes STW - Yes SKDC - Yes UWIDB - Yes TVIDB - Yes	Investigations into conditions of drainage assets have already been carried out by LCC, AW/STW and IDBs, with remedial action taken as appropriate, mainly to do with cleansing. It is recommended that - there is further investigation undertaken to determine possible overland flow paths and storage areas, the RMAs continue to repair deficiencies, watercourses are cleansed and desilted, including those culverted lengths the planning authority or appropriate authority apply relevant policies when considering how proposals affect groundwater, current exceedance flow routes and potential loss of safe flood storage.	Yes	LCC	On-going	2019/20	S19-137
14 June 2016	Woolsthorpe by Belvoir	Sedgebrook Road Hillside Road	Unknown	6	On-going		Report and investigation being undertaken. Report expected July 2017.	To Be Confirmed		On-going	To Be Confirmed	S19-178
15 June 2016	South Witham	Great Close - NG33 5QH	Unknown	1	On-going		Written twice and no reply or evidence apart from the report which was second hand.	To Be Confirmed		On-going	To Be Confirmed	S19-173
14 June 2016	Bourne	Beech Avenue - PE10 9RR	Unknown	1	Completed	LCC - Yes W&DIDB (For LCC) - Yes Black Sluice (For SKDC) - Yes AW - Yes	The culverted watercourse does not have an adequate hydraulic capacity to accept the up stream run off. The route of the downstream public sewer system, with sharp changes of direction, could be a contributing factor to the flooding issues. Maintenance of existing system and further investigations into mitigation including improvements and other flood risk management options.	To Be Confirmed		On-going	To Be Confirmed	S19-170
14 June 2016	Bourne	Edenham Road - PE10 OLG	Surface Water	1	Completed	LCC - Yes	The cause of flooding is due to capacity issues with the whole system, this is exacerbated by wash from vehicles passing through the flooded carriageway during significant storm events onto adjacent land. The riparian owners to be made aware of their riparian responsibilities.	To Be Confirmed	LCC	On-going	To Be Confirmed	S19-194
10 April 2018	Potterhanworth	Station Road	Surface Water	0	On-going	LCC - Yes	A job is planned for the 30.04.18 for a tanker and gang to attend site and clean the system.	To Be Confirmed	LCC	On-going	To Be Confirmed	S19-131
02 June 2018	Leadenham	Main Road - LN5 0QB/LN5 0PY High Street - LN5 0PN	Surface Water	5	On-going	To Be Confirmed	Drainage survey completed.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-202
02 June 2018	Brant Broughton	High Street - LN5 0SA	Surface Water	1	On-going	To Be Confirmed	Drainage survey completed.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-205
To Be Confirmed	Billinghay	Tattershall Road - LN4 4DD	Surface Water	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-207
To Be Confirmed	Brandon	Church Lane - NG32 2AP	Surface Water	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-208
02 June 2018	Stragglethorpe	Church Lane - LN5 0QZ	Capacity/Surface Water	1	Completed	Householder	The intensity of the storm overwhelmed the private drainage system.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-215
14 August 2018	Brant Broughton	High Street - LN5 0SL	Surface Water	1	On-going	To Be Confirmed	Drainage survey completed.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-218

Lincolnshire County Council Section 19 Investigations - West Lindsey District Council & City of Lincoln Council Network Area - Area Highways Manager Mike Reed (North)													
Date of Incident	Town / Locality	Street / Road Name	Summary Description of Flooding	No of Properties Flooded	Investigation Status	Risk Management Authorities with Responsibilities and whether they are exercising functions	Proposed Action/Works	Consideration for inclusion in future common works	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
28 June 2012	Keelby	Maple Avenue - DN41 8EN Pelham Crescent - DN41 8EW Riby Road - DN41 8ER	Surface Water	4	Completed	LCC - Yes Anglian Water - Yes	Further detailed study required into the ownership, condition and capacity of the surface water sewer system with a view to providing a new pipe system to intercept flows from the A18 Barton Street; to reduce flows entering the village, and to upgrade the pipe between Riby Road and Caddie Beck. Further LCC investigation and design required. Scheme bid submitted for feasibility and works.	Yes (may also require Anglian Water investment)	LCC AW	On-going	Investigation & Feasibility 2016/17 Possible works 2020/21. Potential Grant In Aid scheme.	S19-032	
9 June 2014	Gainsborough	Caldicott Drive Darwin Street Elsham Walk Hill Crescent Limber Close Marshalls Yard Priory Close Rectory Avenue Silver Street Spring Gardens Tower Street Trinity Street Long Wood Road	Capacity/Surface Water	53	Completed	LCC - Yes WLDC - Yes Severn Trent Water - Yes	1. That all RMA's inspect their respective infrastructure and take any necessary steps to ensure it is working as well as possible.  2. Advice be made available to victims of flooding with regard to resistance measures which might be appropriate, for example air brick covers and flood gates.  3. LCC consider improvements to the highway surface water drainage where this will offer resistance to flooding from surface runoff.  4. That the LLFA investigate the feasibility of overland flood routes to manage the risk of flooding from surface water	No	To Be Confirmed	On-going	To Be Confirmed	S19-115	
14 September 2015	Lincoln	Percy Street - LN2 5ET	Blockage/Surface Water	1	Completed	LCC - Yes AW - Yes	To clean and jet through all sewer connections and ensure the drainage system is running clear	No	LCC AW	On-going	End 2015	S19-132	
15 June 2016	Cherry Willingham	Ancaster Close	Drainage/Surface Water	1	On-going	To Be Confirmed	Awaiting report	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-164	
9th August 2017	Scutter	Eminson Close - DN21 3RG	Surface Water	1	Completed	To Be Confirmed	Deficiencies have been identified in the surface water drainage system.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-154	
02 April 2018	Blyton	High Street - DN21 3LA	Capacity/Surface Water	1	Completed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-089	
To Be Confirmed	Cherry Willingham	Lime Grove - LN3 4BD	Surface Water	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-201	
10 August 2018	Lincoln	Percy Street - LN2 5ET	Surface Water	1	On-going	To Be Confirmed	Awaiting report	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-213	
10 August 2018	Lincoln	Allenby Close - LN3 4RP	Surface Water	1	On-going	To Be Confirmed	Awaiting report	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-214	

Lincolnshire County Council Section 19 Investigations - Boston Borough Council & South Holland District Council Network Area - Area Highways Andy Wharff (South)												
Date of Incident	Town / Locality	Street / Road Name	Summary Description of Flooding	No of Properties Flooded	Investigation Status	Risk Management Authorities with Responsibilities and whether they are exercising functions	Proposed Action/Works	Consideration for inclusion in future common works	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference
6 July 2012	Donington	Quadrant Road - PE11 4TB	Surface Water	1	Completed	LCC - Yes	To Be Confirmed	To Be Confirmed	LCC	On-going	To Be Confirmed	S19-039
20 July 2014	Swineshead	Market Place - PE20 3LJ	Surface Water	1	Completed	LCC - Yes	The entire drainage system has been jetted and cleaned; a new connection from both of the alleys is programmed. The drainage system requires a new chamber and new connections to the highway drainage system in the carriageway. The adjacent property owner has an irregular outfall into the alley way; he has been notified to find an alternative way to discharge surface water from the property. Additionally, the low spots in the alley way that allows surface water to flow from the highway around the back of the public house will require modifying to provide a water check to prevent this re-occurring. All works required will be programmed for 2015.	Jan-00	LCC	On-going	Summer 2015	S19-103
20 July 2014	Crowland	Chapel Street - PE6 0AR	Surface Water	1	Completed	LCC - Yes	The drainage system has been jetted; and indicated a possible blockage within the system. Excavations have been carried out and no blockage was detected within the drainage system. Since the reported incident there has been further heavy prolonged downpours within the area with no repeat of the previous flooding incident in July. It has been concluded that the current system is slow running and the surface water was exacerbated due to the excessive amount of roof water flowing onto the highway from the property opposite. Further investigations will be carried out in due course.	No	LCC	On-going	8 July 1905	S19-113
27 June 2016	Freiston	Oak House Lane	Capacity/Surface Water	1	On-going		Awaiting report	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-181
28 June 2017	Kirton	London Road - PE20 1JA	Surface Water	1	Completed	To Be Confirmed	The property reportedly flooded on 16 June 2016 also.  The report concluded that - the property was flooded by a less than extreme rainfall event. - The soakaways serving the properties were unable to deal with the flow. - The highway drainage system is unable to fully serve the highway and there is no single discharge system. - There is a culverted watercourse on both sides of London Road, which along with other riparian controlled watercourses do not appear to benefit from maintenance.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-189
Aug-18	Swineshead	Coles Lane - PE20 3NS	Groundwater/Surface Water	1	Completed	LCC AW Black Sluice EA BBC	It has not been confirmed that a property has suffered internal flooding from surface water as a direct result of deficiencies in a surface water drainage system. However, there appears to be a correlation between volume of rainfall and failure of the foul water sewerage system.	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-200
13 August 2018	Kirton	Station Road - PE20 1EE	Surface Water	3	On-going	To Be Confirmed	Awaiting report	To Be Confirmed	To Be Confirmed	On-going	To Be Confirmed	S19-217

Lincolnshire County Council Section 19 Investigations - East Lindsey District Council Network Area - Area Highways Manager Andrew Ratcliffe (East)													
Date of Incident	Town / Locality	Street / Road Name	Summary Description of Flooding	No of Properties Flooded	Investigation Status	Risk Management Authorities with Responsibilities and whether they are exercising functions	Proposed Action/Works	Consideration for inclusion in future common works	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
28 June 2012	Horn castle	South Street	Surface Water	3	Completed	Anglian Water - Yes LCC - Yes	LCC gullies and system checked and repaired. Anglian Water checking surface water systems and may consider improvement works in future asset management plans. Feasibility and design programmed for 2014/15 and if approved; works to progress in 2015/16/17. Additional minor works to be included in the future works programme.	Yes	LCC	On-going	2018/19	S19-003	
28 June 2012	Horn castle	Langton Hill	Surface Water	4	Completed	LCC - Yes Anglian Water - Yes Witham 3rd IDB - Yes	Highway drainage system repaired and functioning. Anglian Water checked the surface water system and it is working acceptably. Initial works delivered. A bid for an overall surface water study for Horn castle has been submitted with feasibility and design programmed for 2014/15 if approved; works to be programmed 2017/18.	Yes	LCC	On-going	2017/18	S19-004	
28 June 2012	New Bollingbrooke	Station Row	Surface Water	7	Completed	LCC - Yes	Dropped kerbs outside the post office replaced with full height kerbs. Drainage system found to be damaged by buildings/trees and a new outfall is required. Solution being designed and costed.	No	LCC	On-going	2014 - 2016	S19-007	
28 June 2012	Toynton St Peter	Ings Lane	Surface Water	1	Completed	Witham 4th IDB - Yes LCC - Yes	LCC have completed a feasibility report. An outline business case for FDGIA is being prepared for delivery of a scheme after 2021.	Yes	LCC	On-going	Investigation 2016/17/18 Possible works 2018/19/20	S19-010	
9 June 2014	Skegness	North Parade - PE25 2TE	Surface Water	1	Completed	LCC - Yes Anglian Water - Yes	After further investigations carried out by AW additional works are planned, including running of a new model. Recommendations advised to property owners.	No	AW	On-going	1 March 2020	S19-101	
24 June 2014	Skegness	Sunningdale Close - PE25 1BA	Capacity/Surface Water	2	Completed	LCC - Yes Anglian Water - Yes	Further investigations to be carried out by AW and IDB to establish outfall. Anglian water removed gas service pipes intruding in the surface water system in 2015.	No	AW LMIDB	On-going	Spring 2015	S19-098	
24 June 2014	Skegness	Sunningdale Drive - PE25 1AU	Capacity/Surface Water	1	Completed	LCC - Yes	Further investigations to be carried out by AW, LMIDB, LCC and ELDC.	No	AW LMIDB	On-going	Spring 2015	S19-099	
24 June 2014	Skegness	Grand Parade - PE25 2UG	Capacity/Surface Water	1	Completed	LCC - Yes	Further investigations to be carried out by AW & ELDC. AW to check new model.	No	AW ELDC	On-going	Spring 2015	S19-100	
10 August 2014	Chapel St. Leonards	South Road - PE24 5TR	Surface Water	1	Completed	LCC - Yes	CCTV drainage investigation to be carried out in due course. Along with the installation of an additional gully and increasing the upstand of the vehicular access to +25mm. Order in system programmed for 2018/19.	No	LCC	On-going	March 2019	S19-125	
31 December 2015	Langton by Spilsby	Langton Road	Blockage/Surface Water	1	On-going	LCC - Yes Anglian Water - Yes	Further investigations required to identify blockage/collapse within the sewer system. Repairs to surface water drains completed.	No	LCC AW	Completed	Summer 2017	S19-146	
27 August 2016	Chapel St Leonards	The Esplanade - PE24 5TB	Unknown	2	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-195	
27 August 2016	Chapel St Leonards	St Leonards Drive - PE24 5UZ	Unknown	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-196	
02 April 2018	Louth	Grimsby Road - LN11 0ED	Unknown	3	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-199	
02 June 2018	Woodhall Spa	Witham Road - LN10 6RA Tor-O-Moor Road - LN10 6TD	Surface Water	3	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-203	
02 June 2018	Burgh on Bain	Main Road - LN8 6JY	Surface Water	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-204	
12 March 2018	Partney	Chapel Lane - PE23 4PY	Surface Water	1	Completed	LCC Highways LMDB / EA / AW / ELDC	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-206	
27 July 2018	Skegness	Sunningdale Drive - PE25 1AU	Surface Water	6	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-210	
TBC	Horn castle	Churchill Avenue - LN9 6EP	Surface Water	2	Completed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-211	
27 July 2018	Skegness	Roman Bank - PE25 1RN	Capacity/Surface Water	1	Completed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-212	
27 July 2018	Horn castle	West Street - LN9 5AF	Surface Water	1	On-going	SHIDB - Yes LCC Highways Authority - Yes LCC LLFA - Yes	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-220	
16 August 2018	Ingoldmells	Sea Lane - PE25 1PG	Surface Water	8	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-221	
07 December 2018	Wainfleet	St Johns Street - PE24 4DJ	Surface Water	1	On-going	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	To Be Confirmed	S19-222	

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# Agenda Item 10



Policy and Scrutiny

## Open Report on behalf of David Coleman, Chief Legal Officer

Report to:	<b>Flood and Water Management Scrutiny Committee</b>
Date:	<b>28 May 2019</b>
Subject:	<b>Flood and Water Management Scrutiny Committee Work Programme</b>

### **Summary:**

This item enables the Committee to consider and comment on the content of its work programme for the coming year to ensure that scrutiny activity is focused where it can be of greatest benefit. Members are encouraged to highlight items that could be included for consideration in the work programme.

The work programme will be reviewed at each meeting of the Committee to ensure that its contents are still relevant and will add value to the work of the Council and its partners.

### **Actions Required:**

The Committee is invited to:

- (1) review, consider and comment on the work programme as set out in Appendix A to this report;
- (2) highlight for discussion any additional scrutiny activity which could be included for consideration in the work programme; and note the terms of reference of the Flood and Water Management Scrutiny Committee, as agreed by the County Council.

### **1. Background**

Overview and Scrutiny should be positive, constructive, independent, fair and open. The scrutiny process should be challenging, as its aim is to identify areas for improvement. Scrutiny activity should be targeted, focused and timely and include issues of corporate and local importance, where scrutiny activity can influence and add value.

Overview and scrutiny committees should not, as a general rule, involve themselves in relatively minor matters or individual cases, particularly where there are other processes, which can handle these issues more effectively.

All members of overview and scrutiny committees are encouraged to bring forward important items of community interest to the committee whilst recognising that not all items will be taken up depending on available resource.

## 2. Work Programme

28 MAY 2019 – 10:00am		
Item	Contributor	Purpose
Sustainable Drainage and Design Evaluation	Warren Peppard, Flood Risk & Development Manager	Progress report
Environment Agency Update	Environment Agency	Updates to Committee on Environmental Agency Activities, including progress on key schemes.
Draft Joint Lincolnshire Flood Risk and Drainage Management Strategy	Matthew Harrison, Senior Commissioning Officer – Flood Risk	Consultation item
Wrangle Bank Flood Defence Project	Peter Bateson, Witham Fourth District IDB	Review of the completion of the Wrangle Bank flood defence project.
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010	Paul Brookes, Flood Risk Manager	This item provides the latest position of all the current investigations in the County under Section 19 of the Flood and Water Management Act 2010

09 SEPTEMBER – 10:00am		
Item	Contributor	Purpose
Sustainable Drainage and Design Evaluation	Warren Peppard, Flood Risk & Development Manager	Progress report (verbal)
Environment Agency Update	Environment Agency	Updates to Committee on Environmental Agency Activities, including progress on key schemes.
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010	Paul Brookes, Flood Risk Manager	This item provides the latest position of all the current investigations in the County under Section 19 of the Flood and Water Management Act 2010

25 NOVEMBER – 10:00am		
Item	Contributor	Purpose
Sustainable Drainage and Design Evaluation	Warren Peppard, Flood Risk & Development Manager	Progress report (verbal)

25 NOVEMBER – 10:00am		
Item	Contributor	Purpose
Environment Agency Update	Environment Agency	Updates to Committee on Environmental Agency Activities, including progress on key schemes.
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010.	Paul Brookes, Flood Risk Manager	This item provides the latest position of all the current investigations in the County under Section 19 of the Flood and Water Management Act 2010

### 3. Conclusion

The Committee's work programme for the coming year is attached at Appendix A to this report.

Members of the Committee are invited to review, consider and comment on the work programme as set out in Appendix A and highlight for discussion any additional scrutiny activity which could be included for consideration in the work programme.

Consideration should be given to the items included in the work programme as well as any 'items to be programmed' listed.

### 3. Consultation

#### a) Have Risks and Impact Analysis been carried out?

Not Applicable

#### b) Risks and Impact Analysis

Not Applicable

### 4. Background Papers

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

This report was written by Daniel Steel, Scrutiny Officer, who can be contacted on 01522 552102 or via email [daniel.steel@lincolnshire.gov.uk](mailto:daniel.steel@lincolnshire.gov.uk)

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