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15 November 2019

Flood and Water Management Scrutiny Committee

A meeting of the Flood and Water Management Scrutiny Committee will be held on **Monday, 25 November 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, M Brookes, A G Hagues, Mrs C J Lawton, C R Oxby, C E Reid and R A Renshaw

Other Voting Members

District Councillors R Austin BEM (Boston Borough Council), P Vaughan (City of Lincoln Council), Mrs F M Martin MBE (East Lindsey District Council), Mrs L Hagues (North Kesteven District Council), M D Seymour (South Holland District Council), C Benn (South Kesteven District Council) and I G Fleetwood (West Lindsey District Council)

FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE AGENDA
MONDAY, 25 NOVEMBER 2019

Item	Title	Pages
1	Apologies for Absence/Replacement Members	
2	Declarations of Members' Interests	
3	Minutes of the previous meeting held on 9 September 2019	5 - 10
4	Announcements by the Chairman, Executive Councillors and Lead Officers	
5	To report progress on the investigations made in the County under Section 19 of the Flood & Water Management Act 2010 (FWMA) <i>(To receive a report by Paul Brookes, County Flood Risk Manager, which invites the Committee to consider and comment on the investigations undertaken in the County under Section 19 of the Flood and Water Management Act 2010)</i>	11 - 30
6	Environment Agency Update <i>(To receive a verbal update from a representative of the Environment Agency)</i>	Verbal Report
7	Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050 <i>(To receive a report by Matthew Harrison, Senior Commissioning Officer – Flood Risk, which invites the Committee to consider the Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050)</i>	31 - 146
8	Flood and Water Management Scrutiny Committee Work Programme <i>(To receive a report by Daniel Steel, Scrutiny Officer, which 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)</i>	147 - 150

Democratic Services Officer Contact Details

Name: **Emily Wilcox**

Direct Dial **01522 553787**

E Mail Address emily.wilcox@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



FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE 9 SEPTEMBER 2019

PRESENT: COUNCILLOR P A SKINNER (CHAIRMAN)

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

District Councillors R Austin BEM (Boston Borough Council), Mrs F M Martin MBE (East Lindsey District Council), Mrs L Hagues (North Kesteven District Council), M D Seymour (South Holland District Council) and I G Fleetwood (West Lindsey District Council)

External Agencies – Jonathan Glerum (Anglian Water), Peter Riley and Morgan Wray (Environment Agency)

Councillors Mrs W Bowkett, C J Davie, D McNally and Eddy Poll (Anglian North Regional Flood and Coastal Committee), attended the meeting as observers

Officers in attendance:-

Paul Brookes (Flood Risk Manager), Matthew Harrison (Senior Commissioning Officer - Flood Risk), David Hickman (Head of Environment), Daniel Steel (Scrutiny Officer) and Emily Wilcox (Democratic Services Officer)

11 APOLOGIES FOR ABSENCE/REPLACEMENT MEMBERS

An apology for absence was received from Councillor Mrs A M Austin.

It was reported that, under the Local Government (Committee and Political Groups) Regulations 1990, Councillor Mrs A M Newton had been appointed as replacement member for Councillor Mrs A M Newton, for this meeting only.

12 DECLARATION OF MEMBERS' INTERESTS

There were no declarations of interest.

13 MINUTES OF THE PREVIOUS MEETING HELD ON 28 MAY 2019

RESOLVED:

That the minutes of the previous meeting held on 28 May 2019 be approved as a correct record and signed by the Chairman.

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE
9 SEPTEMBER 2019****14 ANNOUNCEMENTS BY THE CHAIRMAN, EXECUTIVE COUNCILLORS
AND LEAD OFFICERS**

The Chairman extended the committee's thanks to everyone involved for their determined and dedicated actions as part of the multi-agency partnership response in Wainfleet, Holbeach and other areas that were subject to flooding in July.

The Chairman thanked those Members for attending the site visit to Wainfleet on the 03 September which allowed members to understand key aspects of the flooding in the Wainfleet area. Thanks were extended to David Sisson (Lindsey March Internal Drainage Board), David Mould (Anglian Water), Morgan Wray (Environment Agency) and David Hickman for their support throughout the visit.

**15 INVESTIGATIONS UNDER SECTION 19 OF THE FLOOD & WATER
MANAGEMENT ACT 2010 (FWMA)**

Consideration was given to a report by the Flood Risk Manager, which set 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.

It was reported that there had been 32 new flood investigations started in the first quarter of 2019/20 due to a heavy rainfall throughout June 2019.

Members were referred to Appendix A to the report which detailed the record of current flood investigations in the County carried out in accordance with section 19 of the Flood and Water Management Act (2010).

The Flood Risk Manager extended his sympathies to those affected by the heavy rainfall and flooding incidents which took place in June 2019.

Members were advised that the council were being supported by Norfolk County Council who were undertaking the Wainfleet Flooding Investigation on Lincolnshire County Council's behalf, and were engaging closely to ensure a timely resolution to the investigation. The outcome of the investigation would be reported to the scrutiny committee in due course.

Officers continued to work with partners to conclude investigations as soon as possible.

It was suggested that officers work with and encourage partners to resolve some of the long-standing cases.

It was noted that the flood alleviation scheme that had been adopted in Horncastle had helped significantly in the period of heavy rainfall in June 2019 and saved many properties from being flooded.

RESOLVED:

FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE
9 SEPTEMBER 2019

That the report be noted.

16 ENVIRONMENT AGENCY UPDATE

Consideration was given to a report by Peter Reilly (Environment Agency), which provided an update on Environment Agency activities, including progress on key capital schemes.

Members were informed that there were now at least 5000 properties that were already protected to the highest standard as part of the on-going works to the Boston Barrier Scheme.

In response to a question, Members were informed that the Boston Haven Banks scheme had been slightly delayed but the Environment Agency were working with key partners to ensure that work continued to progress.

Consideration was then given to a presentation by Morgan Wray (Environment Agency), which provided Members with an insight into the flooding incident at Wainfleet in June 2019.

It was noted that a medium flood risk had been forecast for the week of the event, however rainfall proved to be much more significant than had been expected.

Members were advised that 134mm of rain had fallen between the 10 June 2019 and the 12 June 2019, which was over twice the usual monthly average of rainfall. A breach in the southern bank of the Wainfleet Relief Channel had led to significant flooding in the area of Wainfleet and Thorpe St Peter.

Members were informed that once a full investigation of the incident had been completed, the Environment Agency and partner authorities would implement an action plan to make any necessary improvements going forward.

Officers thanked the Gold Command and the Fire and Rescue services for their amazing work during the incident.

Members were invited to ask questions, in which the following points were noted:

- It was noted that the Gibraltar Point sluice gates operated a normal tidal outfall which was restricted for certain times of the day when the tide was high. Any future works would take this into consideration.
- The Environment Agency were looking at the outfall of each sluice for the channels leading down to the sea in Wainfleet and the surrounding areas to see if there was any way to make minor changes to help that system flow altogether.
- The sluices continued to discharge at the same rate at all stages of the tide during the flood.
- The Environment Agency was currently carrying out a survey of channel and embankments to give a better understanding of silt in the water courses. The

FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE 9 SEPTEMBER 2019

results would be communicated to the Wainfleet community once the survey had been completed.

- It was noted that silt was removed in areas where it was considered that silt removal had a beneficial outcome.
- It was agreed that Environment Agency Officers would investigate whether there was any spare capacity for flood alleviation and circulate this to Members.
- Members were advised that the likelihood of a breach was increased when flows exceeded the design capacity of the channel. Exceedence creates a greater risk of erosion and breach.
- Officers advised that the river banks were made up of a poor quality material from an engineering perspective, but there had been no particular weak spots which had caused the issue.
- The defences had performed up to the standard that they were designed to but once the banks had been exceeded this increased the risk of flooding.
- Members were advised that the Environment Agency were looking at solutions to reduce the risk of a future incident.

As the elected representative for the Wainfleet Division, Councillor Mrs Wendy Bowkett reiterated the level of ongoing work by partners to help the Wainfleet residents, both during the incident and with ongoing recovery work.

RESOLVED:

That the report and comments made be noted.

17 REVIEWING THE DRAFT LINCOLNSHIRE FLOOD RISK & WATER MANAGEMENT STRATEGY

Consideration was given to a report by Senior Commissioning Officer – Flood Risk, which invited the committee to review and comment on the draft Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050.

It was explained that flood risk remained a key driver to the strategy, particularly with the increasing risks arising from the impacts of climate change. Members were advised that it was also an opportunity to look at the broader water agenda that could help support economic growth, the environment, tourism and agri-food.

Members were advised that the draft strategy had been out to public consultation and the responses received had been taken into consideration in the amended strategy, as set out in Appendix A to the report.

It was questioned whether the policy statement due to be released by the Department for Environment, Food and Rural Affairs (Defra) in December 2019 would affect the Lincolnshire Flood Risk and Water Management Strategy.

**FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE
9 SEPTEMBER 2019**

Officers advised that it would be unlikely that there would be anything in the Defra policy statement that would directly oppose the strategy set by Lincolnshire, but it may be beneficial to factor in time in the decision making process in case officers proposed further changes following the Defra policy statement.

The committee were in favour of maintaining the timelines set out in the report.

RESOLVED:

That the Draft Lincolnshire Flood Risk and Water Management Strategy be noted.

18 RESPONSE TO SALTFLEET TO GIBRALTAR POINT STRATEGY PUBLIC CONSULTATION

Consideration was given to a report by the Head of Environment, which provided an update on the response submitted by Lincolnshire County Council to the Saltfleet to Gibraltar Point Strategy Public Consultation.

Members were referred to Appendix A to the report, which provided a non-technical summary of the strategy.

Members welcomed the approach that had been approached and acknowledged that going forward; the Lincolnshire Coast would be one of the biggest challenges in terms of climate change and investments needed to be made into this.

RESOLVED:

That the report be noted.

19 FLOOD AND WATER MANAGEMENT SCRUTINY COMMITTEE WORK PROGRAMME

The Scrutiny Officer presented the committee's prospective work programme.

RESOLVED:

That the report be noted.

The meeting closed at 11.30 am

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Agenda Item 5



Policy and Scrutiny

Open Report on behalf of Andy Gutherson, Executive Director – Place

Report to:	Flood & Water Management Scrutiny Committee
Date:	25 November 2019
Subject:	To report progress on the investigations made in the County under Section 19 of the Flood & Water Management Act 2010 (FWMA)

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).

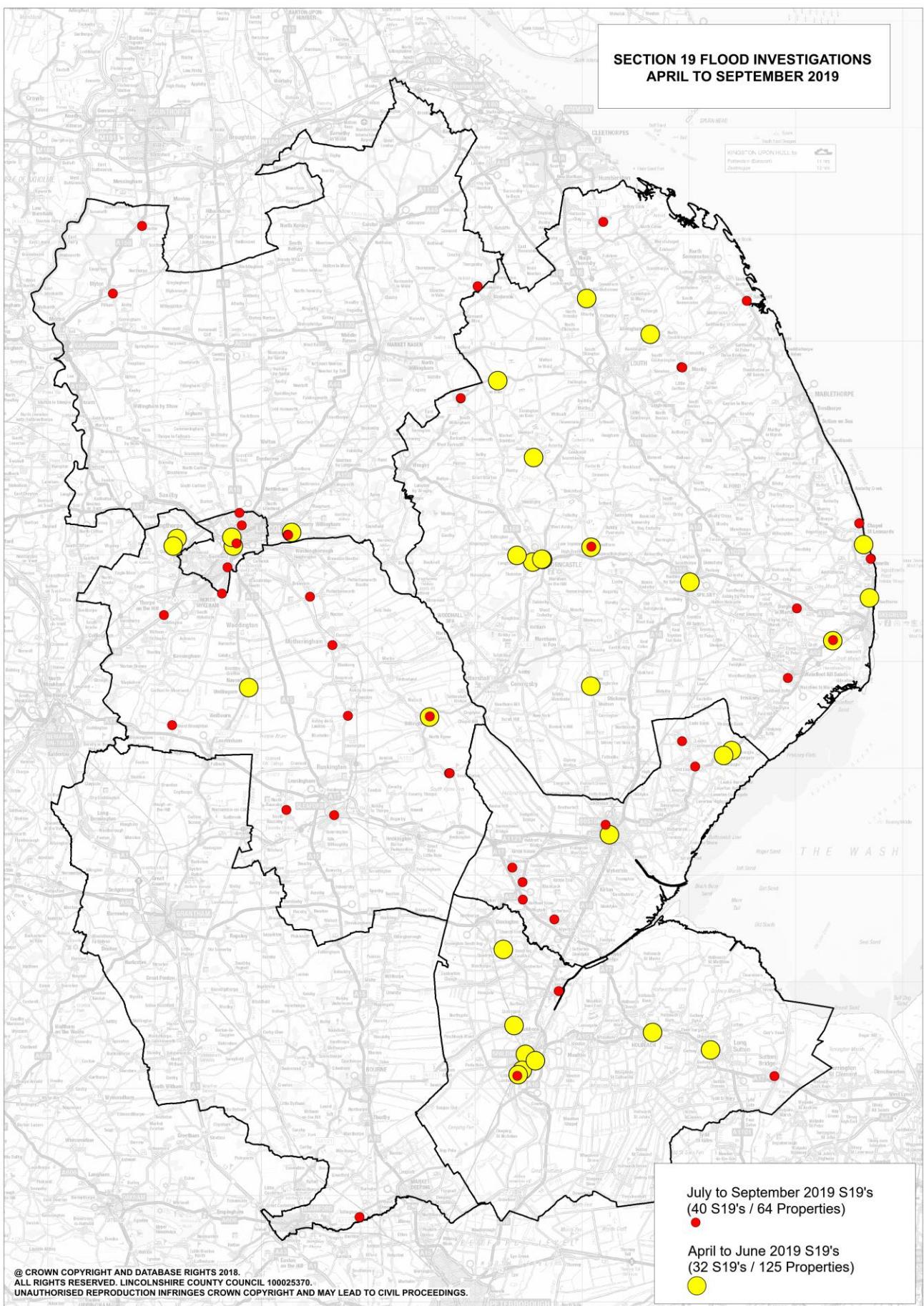
Members are asked to view the current S.19 spreadsheets online (also included at Appendix A) and inform Democratic Services in advance if they wish to highlight any particular sites at the forthcoming Scrutiny Committee meeting.

<https://www.lincolnshire.gov.uk/residents/environment-and-planning/flood-risk-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.

Members will recall that at the meeting of the committee in September 2019, it was reported that 32 flood investigations were commenced in Quarter 1 as a result of the rainfall in June. In the following Quarter (July-September) the unseasonal rainfall continued, which contributed to a further 40 flood investigations being initiated. Figure 1 below is a drawing which illustrates the geographical spread of both Quarter 1 and Quarter 2 flood investigations.



According to the Environment Agency, in terms of the long-term average the rainfall in Lincolnshire over the last six months was 'exceptionally high' in the central and southern parts of the county, and 'above normal' in the most northern areas. The table of monthly rainfall totals at Appendix B illustrates the rainfall totals in a number of catchments in the county.

When considered in conjunction with the very low soil moisture deficit (a measure of the capacity of the ground to absorb water) there is a heightened flood risk from surface water (pluvial), ground water and water courses (fluvial), which is reflected in the unprecedented number of flood investigations that have been started.

Figure 2 shows the number of flood investigations undertaken each year since the creation of Lead Local Flood Authorities in April 2012. It can be seen that the current year has been exceptional, and there is every indication that this trend is set to continue into Quarter 3 of 2019/20.

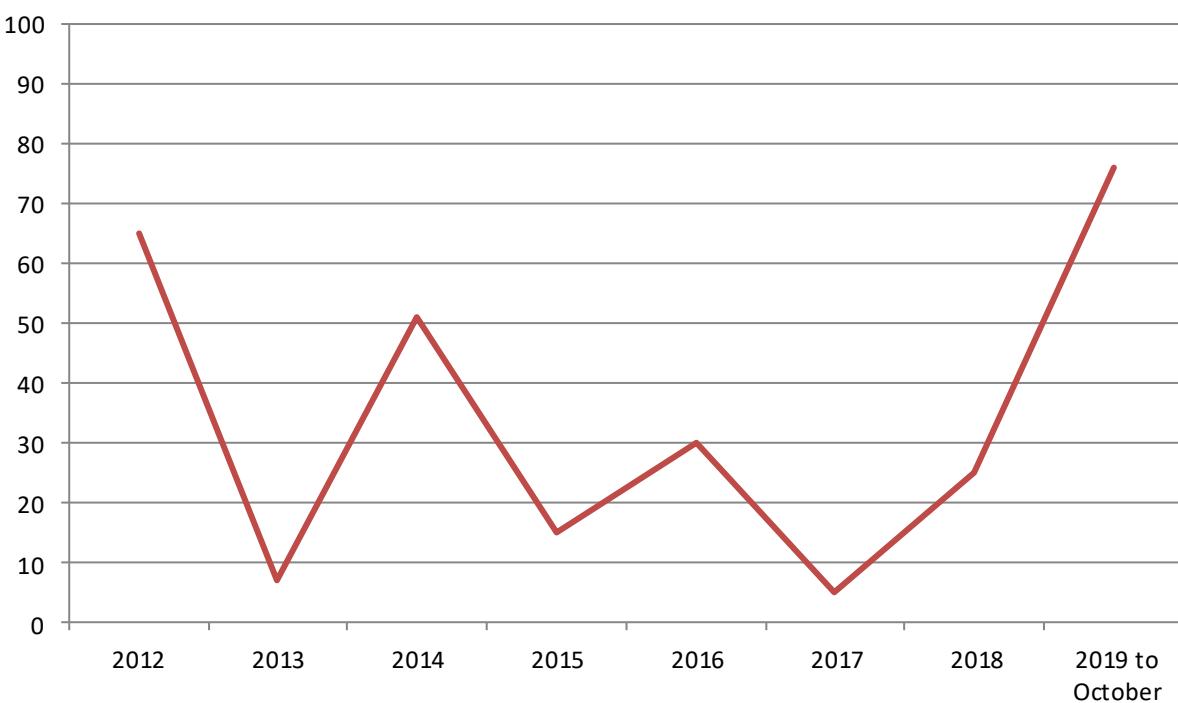


Figure 2: Annual totals of flood investigations

As noted previously, while investigations are underway it is not possible to give an indication of the local factors at play in each flood event. Even when some localities have experienced repeated flooding in a short period of time. Until the investigation is completed it is not always possible to say which individual properties were victim to such flooding or if there are common causes between events.

With an unprecedented number of flooding incidents members will understand that there is a consequent call on limited resources to carry out the investigations.

Every effort is being made to complete the investigations in a timely manner, and it will be appreciated that there is also an impact on risk management partners as they are required to provide the Lead Local Flood Authority with relevant information.

With particular regard to the flooding in June at Wainfleet, the committee will be aware that Norfolk County Council is undertaking the investigation on behalf of Lincolnshire County Council. The investigation is making good progress, and as part of the information gathering exercise the investigation team has met with local residents and groups, including local farmers. A large quantity of data has been gathered and is currently being analysed. This has revealed a more complex situation on the ground than was originally envisaged. The complexity of the data and the time needed to analyse it means that publication of the final report is likely to be early next year, rather than in late November as originally estimated. While preliminary findings could have been present to this meeting of the Committee, these would in all probability change and would inevitably be incomplete. On balance, therefore, it is considered preferable to present the complete picture early in the New Year, along with full recommendations.

2. Conclusion

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

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.
Appendix B	Monthly rainfall figures April to October 2019

5. Background Papers

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 - West Lindsey District Council & City of Lincoln Council Network Area - Area Highways Manager Mike Reed (North)												
Duty to Investigate												
Section 19 Investigations												
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	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	Flooding was caused by surcharging surface water sewers combined with overland flows. 4 properties Maple Avenue - 2 Properties Pelham Crescent - 1 Property Riby Road - 1 Property	4	Completed	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 Caddle Beck. Further LCC investigation and design required. Scheme bid submitted for feasibility and works.	LCC - Yes Anglian Water - Yes	LCC AW	On-going	Investigation & Feasibility 2020/21 Possible works 2023/24. 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	Over a period of 60 minutes during the afternoon 43.4mm of rain fell in Gainsborough, of which 35.6mm fell in 30 minutes (a return period of 227 years). The surface water drains and combined sewer systems were unable to cope with the intense rainfall, the various systems consequently surcharging and the resulting surface water runoff entering properties. In all around 53 properties were flooded internally. 53 properties	53	Completed	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	LCC - Yes WLDC - Yes Severn Trent Water - Yes	LCC	On-going	Feasibility 2021/22 Construction 2024/25	S19-115	
14 September 2015	Lincoln	Percy Street - LN2 5ET	Customer rang to report that during Monday evenings heavy rainfall their house was flooded due to blocked drains at the bottom of the road. Customer has had to have all the carpets ripped up and the back garden was under approx 2 feet of water. 1 property	1	Completed	LCC to clean and jet gullies and connections	LCC - Yes AW - Yes	LCC AW	On-going	End 2015	S19-132	
15 June 2016	Cherry Willingham	Ancaster Close - LN3 4JF	Flooding into the property due to drainage, water in customers house. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-164	
9th August 2017	Scoter	Eminson Close - DN21 3RG	Surface water run-off following heavy rainfall events. 1 property	1	Completed	Surface water run-off following heavy rainfall events. 1 property	LCC - Yes Severn Trent Water - Yes	LCC	On-going	TBC	S19-154	
02 April 2018	Blyton	High Street - DN21 3LA	Surface water run-off from higher ground to the rear of the property following a period of heavy rain caused the property to flood. The drainage system was unable to cope with the volume of water which caused the dyke to the side of the property to overflow. 1 property	1	Completed	TBC	LCC - Yes Riparian Owner	LCC	On-going	TBC	S19-089	
TBC	Cherry Willingham	Lime Grove - LN3 4BD	Surface water flooding. 1 property	1	On-going	TBC			On-going		S19-201	
10 August 2018	Lincoln	Percy Street - LN2 5ET	Surface water running up the footway, off the road, into the garden and through the rear door of the property. 1 property	1	Completed	The flooding was due to a combination of blocked surface water drainage and the topography of the locality.	LCC - Yes Witham 3rd IDB - Yes EA - Yes AW - Yes	TBC	On-going	TBC	S19-213	
10 August 2018	Lincoln	Allenby Close - LN3 4RP	Allenby close is not yet adopted by LCC. It appears that the condition of the surface water drainage was such that it could not cope with relatively insignificant rainfall events, which resulted in surface water runoff entering the residence. 1 property	1	Completed	The topography of the estate roads, property threshold levels, kerb heights and blockages in the surface water drainage system were all contributory factors in the flooding.	LCC - Yes Witham 3rd IDB - Yes EA - Yes AW - Yes CoLC - Yes	CoLC	On-going	TBC	S19-214	

Duty to Investigate											
Section 19 Investigations											
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	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference
11 June 2019	Cherry Willingham	Lime Grove - LN3 4BD	TBC 1 Primary School	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-180
14 June 2019	Skellingthorpe	Jerusalem - LN6 4RN	TBC	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-232
14 June 2019	Lincoln	High Street - LN5 7AF	TBC 1 Commercial property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-233
18 June 2019	Lincoln	Alexandra Terrace - LN1 1JF	TBC	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-244
27 July 2019	Lincoln	Welton Gardens - LN2 2AY	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-251
30 August 2019	Brookenby	Dale View Road - LN8 6EP	Internal flooding to 2 domestic properties. 1 property	2 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-253
06 September 2019	Lincoln	Nettleham Close - LN2 1SJ	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-254
25 September 2019	Hainton	Louth Road - LN8 6LX	Internal flooding to 2 domestic properties. 1 property	2 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-255
27 July 2019	Haddington	Old Haddington Road - LN5 9FN	Internal flooding to a commercial property. 1 commercial property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-258
01 June 2019	Waddington	Brant Road - LN5 9AF	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-259
27 August 2019	Lincoln	Sincil Street - LN5 7EJ	Internal flooding to a commercial property. 1 commercial property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-266
15 October 2019	Lincoln	Manby Street - LN5 8NW	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-275
29 October 2019	Cherry Willingham	Waterford Lane - LN3 4AN Fiskerton Road - LN3 4AP	Internal flooding to 6 domestic properties. 6 properties TBC	6+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-287
26 October 2019	Blyton	Station Road - DN21 3LE	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-289

Appendix A Duty to Investigate Section 19 Investigations Lincolnshire County Council Section 19 Investigations - East Lindsey District Council Network Area - Area Highways Manager Russell Crockford (East)											
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference
28 June 2012	Horncastle	South Street	Extreme rainfall (estimated to be a 1 in 50 year event) caused overland and highway surface water flows to collect at the low area of the Bull Ring and South Street overwhelming the Anglian Water sewer systems; which were also suffering from surcharged outfalls due to high river levels. 3 properties	3	Completed	Whilst the flooding was caused by extreme rainfall and overland flows, LCC has undertaken a CCTV survey of the underground surface water systems. This has revealed a number of condition concerns in relation to a brick culvert system owned by Anglian Water. The report has been passed to Anglian Water in order that they consider future action and repairs. LCC has in addition carried out repairs to gullies and connections in South Street. LCC has also undertaken initial modelling work to help understand and assess surface water flood risk in Horncastle. A bid for an overall surface water study for Horncastle is being submitted by LCC. Anglian Water works to clear blockages have been completed. Planned Environment Agency works regarding outfall issues and river levels may reduce flood risk.	Anglian Water - Yes LCC - Yes	LCC	On-going	2018/19	S19-003
28 June 2012	Horncastle	Langton Hill	Extreme rainfall (estimated to be a 1 in 50 year event) caused significant overland flows from the adjacent hillside and agricultural land, which was not contained by the interceptor ditch. Combined overland and highway surface water overwhelmed both the highway and surface water sewer drainage systems on Langton Hill and West Street, and caused flooding at the bottom of the hill. 4 properties	4	Completed	A full drainage survey has been carried out and significant blockages have been removed from both the highway drains and Anglian Water's surface water sewers. The survey has identified a number of areas of damage to both systems. LCC has repaired the highway drainage system, and the survey has been forwarded to Anglian Water for assessment of their surface water sewers. The Witham 3rd Internal Drainage Board is ensuring that ditches are cleared by respective riparian land owners.	LCC - Yes Anglian Water - Yes Witham 3rd IDB - Yes	LCC	On-going	2019/20	S19-004
28 June 2012	New Bollingbrooke	Station Row	Extreme rainfall (estimated to be a 1 in 40 year event) caused highway surface water flows to collect in the low area of Main Road/Station Row overwhelming the highway drainage system in the footway. 7 properties	7	Completed	LCC has investigated the drainage and found blockages/damage due to buildings and tree roots. A solution to rectify the damage is being designed and costed.	LCC - Yes	LCC	On-going	2014 - 2016	S19-007
28 June 2012	Toyn ton St Peter	Ings Lane	Extreme rainfall caused overland flows to surcharge a number of watercourses in the area resulting in flooding to a low lying property in Ings Lane. 1 property	1	Completed	It is recommended that a new watercourse be cut to the south to divert flows from Toynton St Peter away from the flooded property. Witham 4th Internal Drainage Board is considering a scheme. However, this is likely to be a low priority due to the cost, legal issues and minimal benefits.	Witham 4th IDB - Yes LCC - Yes	LCC	On-going	Possible works 2021/22	S19-010
9 June 2014	Skegness	North Parade - PE25 2TE	Intense summer rainfall caused internal flooding to the hotel. Surface water entered the building via the ladies toilets. 1 property	1	Completed	AW to investigate the capacity of the surface water system. The property owners should investigate whether they have sufficient drainage within their land to accommodate the normal flows expected.	LCC - Yes Anglian Water - Yes	AW	On-going	1 March 2020	S19-101
24 June 2014	Skegness	Sunningdale Close - PE25 1BA	Following torrential rain, the highway drains were unable to cope with the amount of surface water on the carriageway. The flood water entered the property. 2 properties	2	Completed	Further investigations to be carried out by AW and IDB to establish outfall. AW removed gas service pipes intruding in the surface water system in 2015.	LCC - Yes Anglian Water - Yes	AW LMIDB	On-going	Spring 2015	S19-098
24 June 2014	Skegness	Sunningdale Drive - PE25 1AU	Following torrential rain, the highway drains were unable to cope with the amount of surface water on the carriageway. The flood water entered the property, whilst the owners were away on holiday. The property also flooded on 13 July 2014. 1 property	1	Completed	Further investigations to be carried out by AW, LMIDB, LCC and ELDC.	LCC - Yes	AW LMIDB	On-going	Spring 2015	S19-099

Duty to Investigate												
Section 19 Investigations												
Lincolnshire County Council Section 19 Investigations - East Lindsey District Council Network Area - Area Highways Manager Russell Crockford (East)												
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
24 June 2014	Skegness	Grand Parade - PE25 2UG	Following torrential rain, the highway drains were unable to cope with the amount of surface water on the carriageway and a property was flooded. 1 commercial property	1	Completed	Further investigations to be carried out by AW & ELDC. AW to check new model.	LCC - Yes	AW ELDC	On-going	Spring 2015	S19-100	
10 August 2014	Chapel St Leonards	South Road - PE24 5TR	Highway surface water entered the property through the vehicular access and flooded the driveway and then entered the living area of the dwelling. Property flooded again on 27/8/2016 - (REPORT AND WORKS STILL ON-GOING) 1 property	1	Completed	<p>Due to capacity issues the gully cleansing and jetting is unlikely to resolve the problem during extreme rainfall, as the quantity of surface water would overwhelm any standard drainage system. However this will hopefully ease the extent of flooding and be effective during heavy / average rainfall, together with the solutions installed by the residents.</p> <p>LCC Highways to arrange a CCTV drainage survey to identify any blockages or defects within the system. Assuming the drainage system is in good working order, the most likely solution to ease the problems of flooding will be to increase the upstand of the dropped kerb to +25mm and install an additional gully at the lowest point (determined by level survey), and connect to the existing surface water drainage system. This will</p>	LCC - Yes	LCC	On-going	March 2019	S19-125	
27 August 2016	Chapel St Leonards	The Esplanade - PE24 5TB	LPP used to remove large amount of water. 2 properties	2	On-going	TBC	TBC	TBC	On-going	TBC	S19-195	
27 August 2016	Chapel St Leonards	St Leonards Drive - PE24 5UZ	Main pump used 1 property	1	On-going	TBC	TBC	TBC	On-going	TBC	S19-196	
02 April 2018	Louth	Grimsby Road - LN11 0ED	Fire & Rescue attended and pumped out 3 properties and put preventative measures in place to prevent further flooding. 3 properties	3	On-going	TBC	TBC	TBC	On-going	TBC	S19-199	
02 June 2018	Woodhall Spa	Witham Road - LN10 6RA Tor-O-Moor Road - LN10 6TD	Surface water flooding. 3 properties	3	On-going	TBC	TBC	TBC	On-going	TBC	S19-203	
02 June 2018	Burgh on Bain	Main Road - LN8 6JY	Surface water flooding. 1 property	1	On-going	TBC	TBC	TBC	On-going	TBC	S19-204	
12 March 2018	Partney	Chapel Lane	Surface water flooding. 1 property	1	Completed	<p>The report aims to provide information in relation to meeting the requirements of the F&WMA, and try to provide an indication as to the cause and possible solutions to the flooding issues in the village. It is considered that all the RMAs have exercised, or are proposing to exercise those functions, when they are aware of them. Site and drainage investigations revealed possible deficiencies in the drainage network and multiple deficiencies with the carriageway which are LCC Highway Authority assets, and therefore responsibilities primarily lie with this RMA.</p> <p>LCC Highways - Yes LMDB - Yes EA - Yes AW - Yes ELDC - Yes</p>	TBC	On-going	TBC	S19-206		
27 July 2018	Skegness	Sunningdale Drive - PE25 1AU	Surface water caused internal flooding to properties. 6 properties	6	Completed	Surface water drainage couldn't cope following heavy rainfall.	LCC - Yes AW - Yes Lindsey Marsh IDB - Yes EA - Yes ELDC - Yes	TBC	On-going	TBC	S19-210	
27 July 2018	Horn castle	Churchill Avenue - LN9 6EP	Surface water flooding. 2 properties	2	Completed	The rain which contributed to the flooding was not an extreme event. The privately owned surface water drainage was exceeded apparently because its design capacity is insufficient. In addition the topography of the adjacent carriageway is such that severe ponding occurs which contributed to the flooding.	LCC - Yes Witham 3rd IDB - Yes ELDC - Yes AW - Yes EA - Yes	TBC	On-going	TBC	S19-211	

Duty to Investigate													
Section 19 Investigations													
Lincolnshire County Council Section 19 Investigations - East Lindsey District Council Network Area - Area Highways Manager Russell Crockford (East)													
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference		
27 July 2018	Skegness	Roman Bank - PE25 1RN	The drainage system was unable to cope and surface water was consequently unable to enter the system which contributed to internal flooding. 1 property	1	Completed	Surface water entered the public sewer system following moderate rainfall which resulted in the sewers surcharging leading to internal flooding.	LCC - Yes AW - Yes Lindsey Marsh IDB - Yes EA - Yes ELDC - Yes	TBC	On-going	TBC	S19-212		
27 July 2018	Horncastle	West Street - LN9 5AF	Surface water flooding which entered the property through the back door and flooded the kitchen and dining room. 1 property	1	Completed	THIS IS A REPEAT EVENT - See S19 - *** & S19 - ***: The flooding was due to a combination of capacity of the surface water drainage system and the topography of the locality.	LCC - Yes AW - Yes Witham 3rd IDB - Yes EA - Yes ELDC - Yes	TBC	On-going	TBC	S19-220		
16 August 2018	Ingoldmells	Sea Lane - PE25 1PQ	Surface water flooding into shops. 8 commercial properties	8	Completed	Surface water may have caused flooding as a result of inadequacies in the current surface water drainage arrangement.	LCC - Yes AW - Yes Lindsey Marsh IDB - Yes EA - Yes ELDC - Yes	TBC	On-going	TBC	S19-221		
07 December 2018	Wainfleet	St Johns Street - PE24 4DJ	Surface water flooding to property through the garage. 1 property	1	Completed	Changes to the use of the building has identified problems with the surface water drainage systems in the immediate vicinity.	Householder - Yes LCC - Yes Lindsey Marsh IDB - Yes ELDC - Yes AW - Yes	TBC	On-going	TBC	S19-222		
11 June 2019	Skegness	Royal Oak Terrace - PE25 1RN	TBC 3 properties	3 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-155		
11 June 2019	Chapel St Leonards	Trunch Lane - PE24 5TU	TBC 1 Commercial property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-166		
11 June 2019	Utterby	Main Road - LN11 0TP	TBC 1 property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-224		
11 June 2019	Thimbleby	Main Road - LN9 5RE	TBC 1 property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-225		
12 June 2019	Horncastle	Station Yard - LN9 5AG	TBC 1 Commercial property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-227		
12 June 2019	Holbeach	Battlefields Lane South - PE12 7PQ	TBC 1 property	1 TBC	On-going	Awaiting Report	TBC	TBC	On-going	TBC	S19-228		
12 June 2019	Partney	Spilsby Road - PE23 4PE	TBC 1 property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-229		
14 June 2019	Alvingham	Lock Road - LN11 7EU	TBC 1 property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-235		
14 June 2019	Goulceby	Butt Lane - LN11 9UP	TBC 1 property	1 TBC	On-going	Awaiing report	TBC	TBC	On-going	TBC	S19-236		
14 June 2019	Burgh Le Marsh	Storeys Lane - PE24 5LR	TBC 2+ properties	2+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-237		
14 June 2019	Great Steeping	Firsby Road - PE23 5PT	TBC 10+ properties	10+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-240		

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19 June 2019	Kirkby on Bain	Various Locations Throughout Village	TBC 6 properties	6+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-245		
19 June 2019	Burgh on Bain	Main Road - LN8 6JY	TBC	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-246		
11 June 2019	Horn castle	Stanhope Road - LN9 5DG	TBC 1 Commercial Property	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-247		
11 June 2019	Wainfleet All Saints	Various Locations Throughout Village	Prolonged rainfall led to surface water flooding, fluvial flooding following the breach of the Wainfleet diversion channel. 64+ properties	64+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-248		
11 June 2019	Horn castle	Stanhope Road - LN9 5DG	Internal flooding to a domestic property. This confirmation was passed onto PB at a public meeting in Horn castle on the 10/09/19. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-250		
27 September 2019	Burgh Le Marsh	Church Street - PE24 5LB	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-264		
June/July 2019 TBC	Croft Bank	Croft Bank - PE24 4RJ	Internal flooding to basement in a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-267		
14 October 2019	Wainfleet St Mary	Low Road - PE24 4jQ	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-268		
14 October 2019	Chapel St Leonards	St Leonards Drive - PE24 5RF	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-269		
14 October 2019	Ingoldmells	Anchor Lane - PE25 1LX	Internal flooding to a 1 confirmed commercial property, potentially 2? TBC 1 commercial property	1+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-271		
14 October 2019	Saltfleet	Main Road - LN11 7RZ	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-272		
16 October 2019	Chapel St Leonards	St Leonards Drive - PE24 5RF	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-277		
26 October 2019	Tetney	Hoop End - DN36 5LB	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-281		
26 October 2019	Grimoldby	St Edith Gate - LN11 8SS	Internal flooding to 1 x domestic property and 1 x commercial property. 2 CONFIRMED properties, More potentially TBC	2+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-282		
26 June 2019	Greetham	Main Road - LN9 6NT	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-285		

Lincolnshire County Council Section 19 Investigations - North Kesteven District Council & South Kesteven District Council Network Area - Area Highways Manager Rowan Smith (West)												
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Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
28 June 2012	Digby	North Street	Overland flow from field into private properties, also blocked culvert/watercourse on school playing field.	Unconfirmed	Completed	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.	LCC - Yes Witham 1st IDB - Yes	LCC Witham 1st IDB EA	On-going	Start January 2020 Estimated completion April 2020	S19-048	
28 June 2012	Digby	Beck Street	Overtopping of Digby Beck (Main River) and capacity issues on the foul sewer.	Unconfirmed	Completed	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.	Environment Agency - Yes Anglian Water - Yes LCC - Yes	LCC Witham 1st IDB EA	On-going	Start January 2020 Estimated completion April 2020	S19-048	
28 June 2012	Digby	The Hurn	Overtopping of IDB drain (Digby Beck North Branch) and riparian watercourse. Suspected failure of Anglian Water foul pumping station.	Unconfirmed	Completed	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.	Witham 1st IDB - Yes Anglian Water - Yes	LCC Witham 1st IDB EA	On-going	Start January 2020 Estimated completion April 2020	S19-048	
28 June 2012	Thorpe Tilney	Sleaford Road - LN4 3SL Hallams Lane Church Lane	Surcharging of open watercourses and assumed restrictions within culverted sections. Surcharge of public surface and foul water systems.	Unconfirmed - pre feasibility report mentions 8 properties.	Completed	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.	Witham 1st IDB - Yes LCC - Yes Anglian Water - Yes	LCC	On-going	Feasibility 2017/18 Possible works 2019/20	S19-054	
6 July 2012	Swaton	West End - NG34 0JL	Overland surface water flowing through private land. Separate case of overtopping of Swaton Eau flooding carriageway and property basement. 2 properties	2	Completed	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.	Environment Agency - Yes Black Sluice IDB - Yes LCC - 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	Current drainage system has insufficient capacity and backed up causing flooding to the carriageway and 2 properties. 1 property	1	Completed	Following detailed investigation, joint work between LCC and Upper Witham IDB has been completed. Investigation to Mow Beck required to understand overall flood risk.	LCC - Yes Upper Witham IDB - Yes Anglian Water - Yes	LCC EA	On-going	Summer 2015	S19-060	
6 July 2012	Burton Pedwardine	White Cross Lane - NG34 0DA	Surface water surcharge from private open watercourse to the east. 2 properties	2	Completed	Black Sluice IDB to carry out enforcement. Resident met and awaiting proposals which may be subject to a highway contribution. Awaiting confirmation.	Black Sluice IDB - Yes	LCC Black Sluice IDB	On-going	Summer 2015	S19-062	
6 August 2012	Caythorpe	Gorse Hill Lane - NG32 3DY	Following an intense period of rain, excess surface water did not drain away fast enough from the gully at the boundary with Kings Hill. This caused surface water to flow across the carriageway and breach the verge and enter the property's driveway, subsequently overtopping the threshold causing internal flooding. 1 Property	1	Completed	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.	LCC - Yes	LCC	On-going	Summer 2016	S19-068	
21 November 2012	Corby Glen	Imham Road - NG33 4NB	Overland flow from adjacent farm land. 1 property	1	Completed	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.	LCC - Yes	LCC	On-going	End 2015	S19-069	
22 May 2014	Market Deeping	Market Place - PE6 8EA	Following torrential rain, there was excess water on the carriageway. The surface water drains were overwhelmed and when vehicles passed through the standing surface water, bow waves forced water to overtop the footway and enter the properties causing internal flooding. 1 property	1	Completed	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.	LCC - Yes Anglian Water - Yes WDIDB - Yes	LCC AW	On-going	Summer 2015	S19-107	
22 May 2014	Market Deeping	Market Place - PE6 8EA	Following torrential rain that fell in a short period, excess surface water on the carriageway, forced water to overtop the footway by passing vehicles and enter the property causing internal flooding. 1 property	1	Completed	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.	LCC - Yes Anglian Water - Yes	LCC AW	On-going	End 2015	S19-108	

Lincolnshire County Council Section 19 Investigations - North Kesteven District Council & South Kesteven District Council Network Area - Area Highways Manager Rowan Smith (West)												
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20 July 2014	Stamford	Water Street - PE9 2NJ	Following a short period of heavy intense rain, surface water from the highway entered the ground floor of the property. 1 Property	1	Completed	LCC to undertake a drainage survey of the system this work has been programmed for 2015	LCC - Yes	Due to complete Summer 2015	On-going	End 2015	S19-116	
24 August 2015	Grantham	Coxmoor Close Cavendish Way	Reports received stated that on 24th August and 14th September 2015 water entered 4 properties, 2 on Cavendish Way and 2 on Coxmoor Close. The incidents were caused by excessive rainfall which lead to the levels of the adjacent Witham Brook to rise substantially with the resultant flood water escaping the banks of the stream and entering several of the nearby properties. The rise in the level of this stream also meant that the surface water sewer that services the roads in the area had nowhere to discharge to and this exacerbated the problems experienced by the residents. 4 properties	4	Completed	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.	LCC - Yes Anglian Water - Yes Environment Agency - Yes	LCC EA	On-going	TBC	S19-136	
24 August 2015	Westborough	Town Street - NG23 5HQ	Water entered rear of property during severe rain fall. 1 property	1	Completed	Upper Witham IDB is aware of the flood risk issues within the village and have designed a scheme. Currently awaiting funding.	Upper Witham IDB - Yes	Upper Witham IDB	On-going		S19-144	
24 August 2015	Grantham	Bridge End Road - NG31 7ES	Date of Incident – all on the evening of 24/8/15 (all retrospective enquiries) Source of Report – Lincolnshire Fire & Rescue (F&R) Enquiry code – FL06 Flood Inst Risk to Life/Prop Detail of each report – site was attended by F&R reacting to flooding - 1 property	1	Completed	Initial investigations M Thornhill letter sent out to resident 14/09/2015. Awaiting confirmation of internal flooding.	LCC - Yes Anglian Water - Yes	TBC	On-going	TBC	S19-147	
4 July 2015	Tallington	Bainton Road - PE9 4RT	The customer informed me that the main cause of flooding is water backing up coming out of the four gullies in front of property. These gullies are LCC, but the LCC system here feeds into a AW surface sewer about 10-15m downstream. Water backs up and comes out of the LCC gullies, I assume from the AW surface sewer and then floods the property. AW have been doing a lot of investigation into this system over the past few months. 1 property	1	Completed	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.	LCC - Yes Anglian Water - Yes	LCC AW	On-going	Summer 2019	S19-129	
15 June 2016	Welbourn	Cliff Road - LN5 0PL	Water is not flowing now but this morning just before caller got up he says there was a heavy downpour. The surface water has entered callers kitchen and living room on the ground floor. The road was surface dressed recently and caller thinks this is possibly the reason why it has entered the property 1 property	1	On-going	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.	LCC - Yes	LCC	On-going		S19-167	
16 June 2016	Potterhanworth	Station Road Railway Bridge - LN4 2DX	Police are requesting a road closure at this location. Carriageway flooded	0	Completed	Repeat of previous flooding. Refer to S19-131.			On-going		S19-131	
22 May 2014	Billingborough	West Road - NG34 0QU Station Road	The village of Billingborough suffered surface water flooding on West Road and Station Road on the 5 th July 2012 and 22 nd May 2014. Billingborough Parish Council made Lincolnshire County Council aware of this fact in August 2014, however, Lincolnshire County Council had not received any other reports that two residential properties were internally flooded during the event on 22 May 2014. These internal flood events were not reported to Lincolnshire County Council at the time of the incident. 2 properties	2	Completed	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 ingress 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 affected 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 properties and will be completed by 31/03/2017.	LCC - Yes Anglian Water - Yes	LCC Anglian Water	On-going	Summer 2017	S19-162	

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24 August 2015	Long Bennington	Main Road Vicarage Lane Welbournes Lane Acklands Lane Church Street Orchards Park	The incident appears to be simply one where heavy rain overwhelmed the piped sewer and watercourse systems. The rain could not enter the various systems, found overland routes and settled in the low points. These overland routes were channelled by the fall of the natural ground level, augmented by the new developments and/or householders <ul style="list-style-type: none"> - increasing hard standing - using soakaways and permeable pavements - undertaking topographical realignment. Some of the village is served by a combined public sewer and this was likewise overwhelmed and caused flooding. 25 properties Main Road - 13 properties Vicarage Lane - 2 properties Welbournes Lane - 3 properties Acklands Lane - 1 property Church Street - 5 properties Orchard Park - 1 property	25	Completed	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 <ul style="list-style-type: none"> - 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. 	LCC - Yes LLFA - Yes Anglian Water - Yes STW - Yes SKDC - Yes UWIDB - Yes TVIDB - Yes	LCC	On-going	Potential construction 2021/22	S19-137	
14 June 2016	Woolsthorpe by Belvoir	Sedgebrook Road Hillside Road	A combination of factors contributed to the flooding, including the condition of the riparian watercourses in the area and the operation of the highway drainage. 6 properties	6	Completed		LCC - Yes	LCC	On-going		S19-178	
15 June 2016	South Witham	Great Close - NG33 5QH	Caller reports that water entered the property last night at each of the addresses. SKDC supplied sandbags to all of them. 1 property	1	On-going	Written twice and no reply or evidence apart from the report which was second hand.			On-going		S19-173	
14 June 2016	Bourne	Beech Avenue - PE10 9RR	Fire & Rescue called, 4 fire engines attended – pump used to remove flood water inside. 1 property	1	Completed	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.	LCC - Yes W&DIDB (on behalf of LCC) - Yes Black Sluice (on behalf of SKDC) - Yes AW - Yes	LCC	On-going	2024/25	S19-170	
14 June 2016	Bourne	Edenham Road - PE10 OLG	Surface water gathers at a low point on the carriageway opposite the property, which overflows into the property causing the property to internally flood. The situation is exacerbated by passing vehicles washing water over the verge and onto the adjacent land. 1 property	1	Completed	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.	LCC	LCC	On-going		S19-194	
10 April 2018	Potterhanworth	Station Road Railway Bridge - LN4 2DX	Road closed due to flooding caused by surface water run off.	0	On-going	A job is planned for the 30.04.18 for a tanker and gang to attend site and clean the system.	LCC	LCC	On-going		S19-131	
02 June 2018	Leadenham	Main Road - LN5 0QB/ LN5 0PY High Street - LN5 0PN	Surface water flooding. 5 properties	5	On-going	Drainage survey completed.			On-going		S19-202	
02 June 2018	Brant Broughton	High Street - LN5 0SA	Indications are that riparian systems have a significant impact on the hydraulic performance of the surface water drainage in the area, including highway drainage, compounded by local topography. This led to the systems being overwhelmed during heavy rain - in this case estimated to be 1.6% annual exceedence probability - resulting in flooding to property. 1 property	1	Completed	Drainage survey completed.	LCC - Yes Anglian Water - Yes UWIDB - Yes EA - Yes NKDC - Yes	LCC	On-going	TBC	S19-205	
01 June 2018	Billinghay	Tattershall Road - LN4 4DD	Surface water flooding. The landlord reports that the cottage has been internally flooded on more than one occasion, the most recent being in the last week or so sometime in the w.c 9 June 2018. This is a repeat occurance see S19-051. 1 property	1	On-going	TBC	TBC	TBC	On-going	TBC	S19-207	
TBC	Brandon	Church Lane - NG32 2AP	Surface water flooding. The property internally flooded sometime in the w.c. after 2 June 2018. 1 property	1	On-going	TBC	TBC	TBC	On-going	TBC	S19-208	
14 August 2018	Brant Broughton	High Street - LN5 0SL	The local highway drainage struggled to cope during rainfall which, together with a lack of threshold, resulted in surface water entering the premises. 1 commercial property	1	Completed	The highway drainage system was unable to cope during moderate rainfall, which resulted in surface run off entering the property.	LCC - Yes Upper Witham IDB - Yes EA - Yes	LCC	On-going	TBC	S19-218	
11 June 2019	Skellingthorpe	Jerusalem Road - LN6 5TW	TBC	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-049	
14 June 2019	Navenby	High Street - LN5 0DZ	TBC	1 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-234	

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Section 19 Investigations												
Lincolnshire County Council Section 19 Investigations - North Kesteven District Council & South Kesteven District Council Network Area - Area Highways Manager Rowan Smith (West)												
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
24 September 2019	Tallington	Bainton Road - PE9 4RT	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-252	
07 May 2019	Billinghay	Tattershall Road - LN4 4DD	Internal flooding to 1 domestic property. This has happened on 2 previous occasions and S.19 investigations have been conducted. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-257	
01 October 2019	Potterhanworth	Station Road Railway Bridge - LN4 2DX	Carriageway flooding under the railway bridge, Previous S.19 (S19-131) and potential works by LCC JG Team	1 Asset	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-260	
28 September 2019	Brant Broughton	High Street - LN5 0SL	Internal flooding to a commercial property. Previous S.19 investigation complete. 1 commercial property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-262	
02 October 2019	Ruskington	Westcliffe Road - NG34 9AX	Internal flooding to at least 8+ domestic properties. 8+ properties	8+ TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-265	
14 October 2019	Digby	North Street - LN4 3LY	Internal flooding to a domestic property. 1 property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-270	
15 October 2019	North Rauceby	Tom Lane - NG34 8QW	Internal flooding to a 1 commercial property. 1 commercial property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-273	
15 October 2019	Sleaford	Southgate - NG34 7RR	Internal flooding to a 1 commercial property. 1 commercial property	1	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-276	
29 October 2019	South Kyme	South Parade - LN4 4AQ	Internal flooding to 5 domestic properties. 5 properties	5 TBC	On-going	Awaiting report	TBC	TBC	On-going	TBC	S19-283	

Appendix A Duty to Investigate Section 19 Investigations Lincolnshire County Council Section 19 Investigations - Boston Borough Council & South Holland District Council Network Area - Area Highways Manager Kyra Nettle (South)											
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference
6 July 2012	Donington	Quadring Road - PE11 4TB	The footway along the front of the property is lower than the carriageway and has its own series of gullies. The carriageway is served by gullies and drained separately. The Highway Authority (LCC) has no records of the carriageway or footway drainage piped system in this area. 1 property	1	Completed	LCC - Yes		LCC	On-going	TBC	S19-039
20 July 2014	Crowland	Chapel Street - PE6 0AR	The road gully outside the property was unable to cope with the excessive amount of rainfall which resulted in surface water entering into the property, causing damage to the dining room and lounge. 1 property	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 exasperated 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.	LCC	On-going	2020/21	S19-113
10 June 2016	Spalding	Little London - PE11 2TA	Surface water run off from the highway entered the property. 1 property	1	Completed	LCC - Yes AW - Yes Welland & Deeping IDB - Yes	Further investigation into the condition of the drainage system is required involving riparian and highways authority responsibility.	LCC	On-going	TBC	S19-174
27 June 2016	Freiston	Oak House Lane	Customer states that the rain flows down the road and into the shop. The customer has requested the fire brigade attend last year and they had to pump the shop out. The shop flooded again yesterday 26/06/16 and they managed to clear it themselves with a lot of work and help. The customer states there was a new drain put in, but this is doing nothing to alleviate the situation. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going		S19-181
16 June 2016	Low Fulney	Mallard Road - PE12 6ND Weston Hills Road - PE12 6NE	After the recent heavy rainfall, surface water ran off the road & possibly surrounding land and flooded these properties. This is a private road and there is very little positive drainage. 3 of these properties on Mallard Road flooded again on 27 August 2016. 8 properties	8	Completed	LCC - Yes SHIDB - Yes SHDC - Yes EA - Yes	Drainage recommendations: the drainage relies on riparian watercourses, steps need to be taken to ensure that the watercourses are returned to a serviceable standard.	TBC	On-going	2020/21	S19-185
28 June 2017	Kirton	London Road - PE20 1JA	Water came off the highway into neighbours drive and garden which then travelled to customers property. Water is getting into the air bricks and damaging the wallpaper and flooring. 1 property	1	Completed	TBC	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.	TBC	On-going	TBC	S19-189
20 July 2017	Tydd St Mary	Church Way - PE13 5QY	Water entered the kitchen of the property through the brickwork. The customer believed there was 2-3 inches of water which was caused by heavy rainfall/porous brickwork. The customer states that the footway cambers away from the road where the drains are and instead cambers towards the property. 1 property	1	Completed	LCC - Yes South Holland IDB - Yes AW - Yes	The footway falls towards the property and the property roof water discharges directly onto the footway.	TBC	On-going	TBC	S19-191

Duty to Investigate Section 19 Investigations Lincolnshire County Council Section 19 Investigations - Boston Borough Council & South Holland District Council Network Area - Area Highways Manager Kyra Nettle (South)												
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference	
10 June 2016	Deeping St Nicholas	Coronation Avenue - PE11 3EP	Reported to LCC on 8 June 2017 1st property: The water came up through the floor and flooded the kitchen. All underneath the cupboards were wet. 2nd property: Parts of the property flooded - living room, kitchen, hall, all down stairs 3rd property: Living room and front door leading to stairway was flooded. On the 27 August the garden flooded again but water didnt get into the house. 3 properties	3	Completed	LCC - Yes Welland & Deeping IDB - Yes SHDC - Yes AW - Yes	Notwithstanding design flow exceedance, there would appear to be a number of inadequacies in the existing drainage arrangements that may have exacerbated the situation, and should be addressed by the identified RMA's.	TBC	On-going	TBC	S19-138	
Aug-18	Swineshead	Coles Lane - PE20 3NS	Surface or ground water entering the foul system causing it to surcharge. 1 property	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.		On-going		S19-200	
13 August 2018	Kirton	Station Road - PE20 1EE	Surface water flooding. 3 properties	3	Completed	LCC - Yes BBC - Yes Black Sluice IDB - Yes	THIS IS A REPEAT EVENT - See S19-169: There are deficiencies apparent in the surface water system in the area, refer to previous S.19 report for further details.	TBC	On-going	TBC	S19-217	
11 June 2019	Pinchbeck	Brownlow Crescent - PE11 3XD	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-050	
11 June 2019	Kirton	King Road	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-161	
11 June 2019	Quadrug	St Margarets - PE11 4PR	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-193	
11 June 2019	New Bollingbrooke	Main Road - PE22 7JU	TBC	2 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-223	
11 June 2019	Spalding	Pinchbeck Road - PE11 1QF	TBC	2 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-226	
12 June 2019	Long Sutton	Gedney Road - PE12 9JU	TBC	1+ TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-230	
12 June 2019	Wrangle	Main Road - PE22 9AT	TBC	3 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-231	
14 June 2019	Spalding	St Thomas Road - PE11 2TJ	TBC	2+ TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-238	
14 June 2019	Boston	Paddock Grove - PE21 8QL	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-239	
14 June 2019	Spalding	Stonegate - PE11 2PP	TBC	3+ TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-241	
14 June 2019	Spalding	Neville Avenue - PE11 2EH	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-242	
14 June 2019	Spalding	St Andrews Road - PE11 2SH	TBC	1 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-243	
10 June 2019	Wrangle	Main Road - PE22 9AD	Internal flooding to a domestic property. 1st flooded on 10th June 2019 and then flooded on the 27th August 2019. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-249	
26 September 2019	Old Leake	Station Road - PE22 9QQ	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-256	

Duty to Investigate Section 19 Investigations Lincolnshire County Council Section 19 Investigations - Boston Borough Council & South Holland District Council Network Area - Area Highways Manager Kyra Nettle (South)											
Date of Incident	Town / Locality	Street / Road Name	Description of Flooding	Number Of Properties	Investigation Status	Proposed Action/Works	Risk Management Authorities with Responsibilities and whether they are exercising functions	Promoter	Works Status	Estimated Timescales Recommendation / Scheme Completion	S19 Report File Reference
28 September 2019	Old Leake	School Lane - PE22 9NJ	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-261
01 October 2019	Sutton Bridge	Bridge Road - PE12 9UA	Internal flooding to a commercial property. 1 commercial property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-263
15 October 2019	Swineshead	The Drayton - PE20 3JN	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-274
16 October 2019	Swineshead	Coles Lane - PE20 3NS	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-278
21 October 2019	Hoffleet Stow	Hoffleet Road - PE20 3AJ	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-279
21 October 2019	Spalding	Little London - PE11 2UE	Internal flooding to a 1 commercial property. 1 commercial property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-280
29 October 2019	Surfleet Seas End	The Reservoir - PE11 4DJ	Internal flooding to 4 domestic properties. Only 1 confirmed so far. 4 properties TBC	4 TBC	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-284
29 October 2019	Boston	Witham Bank East - PE21 9JU	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-286
27 October 2019	Sutterton	Wigtoft Road - PE20 2EL	Internal flooding to a domestic property. 1 property	1	On-going	TBC	Awaiting report	TBC	On-going	TBC	S19-288

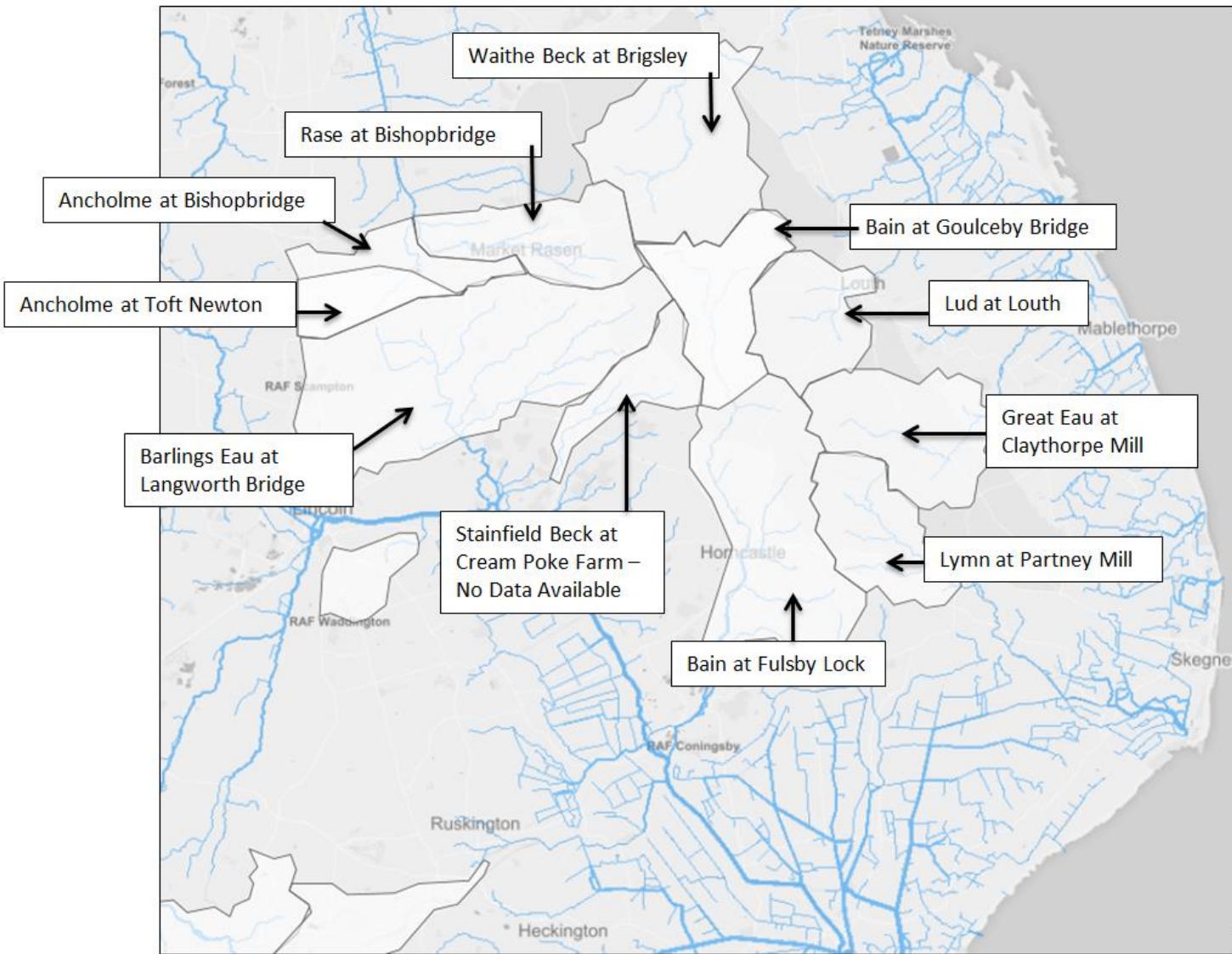
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APPENDIX B: MONTHLY RAINFALL TOTAL (MM) APRIL-SEPTEMBER 2019 AND COMPARISON WITH LONG-TERM AVERAGE RAINFALL (1991-2010)

RAIN GAUGE LOCATION	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
Waithe Beck at Brigsley	23.8 (below normal)	66.2 (above normal)	135.6 (exceptionally high)	49.1 (normal)	61.4 (normal)	112.3 (notably high)
Rase at Bishopbridge	19.9 (below normal)	66.3 (above normal)	147.8 (exceptionally high)	62.2 (normal)	65.1 (normal)	113.9 (exceptionally high)
Ancholme at Bishopbridge	16.8 (below normal)	45.7 (normal)	119.8 (notably high)	67.8 (normal)	66.2 (normal)	99.7 (notably high)
Ancholme at Toft Newton	16.5 (below normal)	43.8 (normal)	115.4 (notably high)	68.6 (normal)	66 (normal)	98.1 (exceptionally high)
Barlings Eau at Langworth Bridge	17.9 (below normal)	51.9 (normal)	130 (exceptionally high)	62.6 (normal)	64.4 (normal)	107.2 (notably high)
Bain at Goulceby Bridge	22.8 (below normal)	77 (above normal)	164.8 (exceptionally high)	52 (normal)	72.1 (normal)	119.9 (notably high)
Lud at Louth	22.5 (below normal)	74 (above normal)	164.1 (exceptionally high)	40.5 (normal)	66.9 (normal)	111.7 (notably high)
Great Eau at Claythorpe Mill	21.7 (below normal)	66 (above normal)	192.6 (exceptionally high)	31.1 (below normal)	77.4 (normal)	114.6 (notably high)
Bain at Fulsby Lock	18.3 (below normal)	69.9 (above normal)	176.8 (exceptionally high)	45.6 (normal)	73.6 (normal)	118.3 (notably high)
Lynn at Partney Mill	19.1 (below normal)	61.5 (normal)	198.7 (exceptionally high)	30.25 (below normal)	81.6 (normal)	112.4 (notably high)

Centre for Ecology & Hydrology 2019 raw data. © Centre for Ecology & Hydrology.

Catchment locations identified in Appendix B Figure 1 below.



Appendix B Fig 1: Catchment identifiers

Agenda Item 7



Policy and Scrutiny

Open Report on behalf of Andy Gutherson, Executive Director – Place

Report to:	Flood & Water Management Scrutiny Committee
Date:	25 November 2019
Subject:	Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050

Summary:

This item invites the Flood & Water Management Scrutiny Committee to consider the Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050.

The updated version takes a more holistic approach, by combining the flood risk management activities of the Council and its partners with a strategic view of water supply and resource management, and a stronger emphasis on the additional economic benefits this can deliver for Lincolnshire.

Actions Required:

Members of the Flood & Water Management Scrutiny Committee are invited to endorse the Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050.

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.

2. Conclusion

The Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050 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.

3. Consultation

a) Have Risks and Impact Analysis been carried out?

Yes

b) Risks and Impact Analysis

A copy of the EIA assessment is attached to the Executive Report as Appendix C.

4. Appendices

These are listed below and attached at the back of the report	
Appendix 1	Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050

5. Background Papers

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

**Executive****Open Report on behalf of Andy Gutherson, Executive Director - Place**

Report to:	Executive
Date:	07 January 2020
Subject:	Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050
Decision Reference:	I018630
Key decision?	Yes

Summary:

The Executive is asked to approve, and adopt, the attached Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050, and supporting Strategic Vision. This version, once approved, will replace the previous Strategy which was approved by the Council in 2012. The updated version takes a more holistic approach, by combining the flood risk management activities of the Council and its partners with a strategic view of water supply and resource management, and a stronger emphasis on the additional economic benefits this can deliver for Lincolnshire.

Recommendation(s):

That the Executive approve, and adopt on behalf of the Council, the Joint Flood Risk and Water Management Strategy 2019-2050 attached at Appendix A and Strategic Vision at Appendix B.

Alternatives Considered:

- | | |
|----|---|
| 1. | Not to approve and adopt the Strategy on behalf of the Council. |
|----|---|

Reasons for Recommendation:

Under section 9 of the Flood and Water Management Act 2010 the Council as lead local flood authority must develop, maintain, apply and monitor a strategy for local flood risk management in its area. In approving the revised and updated Joint Lincolnshire Flood Risk & Water Management Strategy 2019-2050 it will allow Lincolnshire County Council as Lead Local Flood Authority, to comply with this obligation and the County Council and the wider Lincolnshire Flood Risk & Water Management Partnership to outline their aspirations around flood risk, water management and water security in the future along with the additional economic benefits that can be achieved for the county.

1. Background

Reviewing the Joint Lincolnshire Flood Risk and Drainage Management Strategy

Lincolnshire County Council is the Lead Local Flood Authority (LLFA) for the administrative county of Lincolnshire. Under the Floods and Water Management Act (2010) the Council is required to implement and monitor a Local Flood Risk Management Strategy consistent with the National Flood and Coastal Erosion Risk Management (FCERM) Strategy. The Act gives the Council powers to carry out works to manage the risk of flooding from surface water, ground water and ordinary watercourses.

The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities and reducing the impact of flooding. As a minimum, it 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 risk management authorities that may be affected by the strategy and the public. The Strategy must be consistent with the National Flood Risk and Coastal Erosion Management Strategy (of which a national review has commenced), and the LLFA must publish a summary of the Strategy, including guidance about the availability of relevant information.

The Context in Lincolnshire

The existing Joint Lincolnshire Flood Risk and Drainage Management Strategy was developed through public and stakeholder consultation during 2011 and 2012, and was approved by the County Council's Executive on 4 December 2012. Part 3 of the Strategy, the action plan, was made available from April 2013 and is updated annually. As a consequence Lincolnshire was one the first areas to develop 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.

In effect, the Strategy co-ordinates the work delivered by the Lincolnshire Flood Risk and Water Management Partnership as a whole, and was developed with the participation of all risk management authorities, along with the Lincolnshire Resilience Forum, the Regional Flood and Coastal Committee, and under the public scrutiny and guidance of the Flood Risk Scrutiny Committee.

The resulting co-ordinated programme of works can be found in the annually revised Common Works Programme, which includes the major capital programmes of all partners, as well as 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>

Recent Developments

Since 2012 flood risk management has increasingly been recognised as integral to 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 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, the visitor economy and manufacturing.

A related development is the growing importance of managing water as a resource that can be in short supply as well as too abundant. This has been particularly evident recently with major droughts in 2012 and 2013 interspersed with periods of intense rainfall leading to surface water flooding. 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, aligning with the aspirations of the Greater Lincolnshire LEP to drive growth in Lincolnshire's key economic sectors.

These developments since 2012 provide an opportunity to revise Lincolnshire's strategic approach to flood risk and water management at an opportune time to link with major strategic initiatives, such as Water Resources East, which seek to secure long term resilience of water supply and management in the East of England, within a new national framework for water resilience.

Draft Strategy and formal consultation process

The draft version of the strategy was developed with key stakeholders and partners of the Lincolnshire Flood Risk and Water Management Partnership. During January and February 2019 a six-week partner and stakeholder consultation exercise, which included examination of the draft by Scrutiny Committee, was undertaken. This shaped a public consultation version of the strategy for Summer 2019.

In May 2019 approval was received from the Executive to proceed to public consultation with the draft Strategy. A public consultation exercise was then undertaken from 23rd May to 19th July, during which time six public drop-in sessions were made available across the county, staffed by members of the flood risk partnership.

Alongside this an online questionnaire was available for respondents to complete. This was structured in such a way to try and determine awareness of flood risk and flood risk authorities in Lincolnshire, identify their top priorities and concerns when dealing with flood risk and to seek opinion on the flood risk partnerships vision for the strategy. Supporting documents were available to download from the County Council's website and hard copies were also made available.

Engagement with the public consultation exercise was limited but did include residents, business owners and district councillors. Of those who actively engaged with the consultation process, some useful discussions and insights were obtained which have helped shape the version of the draft strategy attached to this report (see Appendix A and B)

Some key elements identified by respondents that the strategy should identify include

- Increased recognition of potential impacts of climate change
- Recognition of the requirements of a strategy as several agencies are involved
- The impact of agricultural practices on flood risk and how they can be improved
- Holding of water for controlled release
- Holistic approach to water management
- Wider use of natural flood prevention methods
- Lobbying for a fairer deal for less populated and rural areas.
- Keeping communities better informed

In addition there were comments regarding availability of funding to support delivery of the strategy's objectives, and whether its aspirations would be delivered in a timely manner. It was also suggested that the local community should be more clearly placed at the heart of the strategy.

Revisions and amendments have been incorporated into the final strategy document with some key inclusions from the consultation draft including;

- Further recognition of the Historic Environment
- Expanded text to paragraphs covering ecosystem service, strategic thinking on land use planning and asset management
- Expansion of Aim 2
- Development of Strategic Outcomes and Strategic Objectives to support the Aims

The changes since the last version included to take account of consultation responses are shown in red in Appendix A and B.

Following the conclusion of the public consultation process and assessment and incorporation of comments into the latest version of the strategy, the draft has been taken through the following processes to seek endorsement prior to being brought before the Executive.

Flood & Water Management Scrutiny Committee	9 September 2019
Environment & Economy Scrutiny Committee	10 September 2019
DLT	12 September 2019
CLT	9 October 2019
Flood & Water Management Scrutiny Committee	25 November 2019
Environment & Economy Scrutiny Committee	26 November 2019

Further engagement has also been undertaken with partners and stakeholders during this same period to seek endorsement of the strategy prior to adoption by the County Council.

Lincolnshire Flood Risk & Water Management Group	23 September 2019
Lincolnshire Flood Risk & Water Management Strategy Group	1 October 2019
Greater Lincolnshire Leaders & Chief Executives Group	4 October 2019
ADA Lincolnshire Branch meeting	17 October 2019
GLLEP Water Management Board	5 November 2019

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 a public consultation period has recently concluded. Officers from Lincolnshire County Council and other partner authorities in the area continue to engage in the development of the draft national strategy, which has also been analysed to ensure consistency between it and the local strategy.

It will be incumbent on the Flood Risk & Water Management Partnership to deliver on the aims and objectives of the strategy. It is encouraging however that many of the themes identified by respondents in the consultation process, and emerging from the review of the nation FCERM strategy, are areas already identified by the partnership in dealing with flood risk and water management issues in the county.

2. Legal Issues:

Equality Act 2010

Under section 149 of the Equality Act 2010, the Council must, in the exercise of its functions, have due regard to the need to:

- * Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Act
- * Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it
- * Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The relevant protected characteristics are age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; and sexual orientation

Having due regard to the need to advance equality of opportunity involves having due regard, in particular, to the need to:

- * Remove or minimise disadvantages suffered by persons who share a relevant protected characteristic that are connected to that characteristic
- * Take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it
- * Encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low

The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities

Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to tackle prejudice, and promote understanding

Compliance with the duties in section 149 may involve treating some persons more favourably than others

The duty cannot be delegated and must be discharged by the decision-maker. To discharge the statutory duty the decision-maker must analyse all the relevant material with the specific statutory obligations in mind. If a risk of adverse impact is identified consideration must be given to measures to avoid that impact as part of the decision making process

The Joint Lincolnshire Flood Risk and Water Management Strategy survey undertaken to support both the partner and stakeholder consultation and the formal public consultation, referenced that the Equality Act 2010 places organisations under a duty to ascertain how people with 'protected characteristics' are impacted by an organisation's activity and how steps may be taken to mitigate or eliminate adverse impact(s). The following questions were asked of respondents;

Do you think the draft strategy could have a positive or negative impact on you (or someone you care for or support) with regard to any of the following? Please tick all that apply

	Positive impact	Negative impact	No impact	Don't know
Age				
Sex (male/female)				
Disability				
Sexual orientation				
Pregnancy and maternity				
Marriage and civil partnership				
Race (ethnicity)				
Religion or belief				
Gender reassignment				

If you have identified a potential impact, please tell us how would the proposed strategy impact you (or someone you care for or support) and how could any negative impacts be reduced?

No negative impacts were identified. Potential effects would therefore be seen as beneficial

An Equalities Impact Analysis (EIA) was undertaken to evaluate responses following the consultation phases (see Appendix B). The majority of responses did not identify any form of perceived impact. Two positive impacts were identified but with no supporting evidence and one negative impact was identified for marriage and civil partnerships, but again no supporting information was supplied. As the overall aim of the strategy is to provide positive and beneficial impacts to residents in Lincolnshire on this occasion no mitigating action has been identified.

Joint Strategic Needs Analysis (JSNA and the Joint Health and Wellbeing Strategy (JHWS))

The Council must have regard to the Joint Strategic Needs Assessment (JSNA) and the Joint Health & Well Being Strategy (JHWS) in coming to a decision

The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities and reducing the impact of flooding. The Strategy therefore contributes directly to the safety and wellbeing of communities and individuals

Crime and Disorder

Under section 17 of the Crime and Disorder Act 1998, the Council must exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment), the misuse of drugs, alcohol and other substances in its area and re-offending in its area

Crime and disorder implications of the proposed strategy have been considered but there are not considered to be any direct impacts.

2. Conclusion

The Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050 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.

The Executive are asked to consider this version of the strategy, and strategic vision, suitable for adoption by Lincolnshire County Council in its role as Lead Local Flood Authority.

3. Legal Comments:

Under section 9 of the Flood and Water Management Act 2010 the Council as lead local flood authority must develop, maintain, apply and monitor a strategy for local flood risk management in its area and must consult the public about the strategy.

The decision is consistent with the Policy Framework and within the remit of the Executive

4. Resource Comments:

Approval of the strategy does not have any additional financial implications. Any Council works arising from the Common Works Programme are approved in the normal course of business as part of the Capital Programme.

5. Consultation

a) Has Local Member Been Consulted?

n/a

b) Has Executive Councillor Been Consulted?

Yes

c) Scrutiny Comments

Flood and Water Management Scrutiny Committee have been consulted throughout the development of the Strategy. Comments by committee were taken on board following the meeting of 17 September 2018 whilst developing the draft version. The pre consultation draft was then presented to committee on 28 May 2019 as part of the development for formal public consultation proposals during summer 2019.

Following conclusion of the formal consultation process an update was provided to both Flood and Water Management Scrutiny on 9 September 2019 and Environment and Economy Scrutiny on 10 September 2019 as to the outcomes and additions incorporated into the draft strategy.

At Flood & Water Scrutiny it was questioned whether the policy statement due to be released by the Department for Environment, Food and Rural Affairs (Defra) in December 2019 would affect the strategy. Officers advised that it would be unlikely anything in the Defra policy statement would directly oppose the strategy set by Lincolnshire, but it may be beneficial to factor in time in the decision making process in case officers proposed further changes following the Defra policy statement.

The committee were in favour of maintaining the timeline set out in the report.

At Environment & Economy Scrutiny, comments by members and the responses by officers included;

- The role of the Environment Agency and whether it had carried out its responsibilities in connection with the River Steeping. Officers stated that all stakeholders had been involved to deliver specific flood risk maintenance works and a management group was examining future management and resilience if the River Steeping catchment.
- The increased protection of agricultural land was welcomed. Officers stated that there was a need to emphasise this issue as water was important in supporting agriculture and tourism.
- An enquiry was made in connection with funding for sustainable Urban Drainage Systems (SuDS). Officers stated that guidance for SuDS was still being prepared.
- SuDS required more maintenance. Local authorities and water companies did not always have the funding for maintenance. Officers agreed that SuDS were not a panacea but were part of a range of options available. Proposals for SuDS to be maintained at a national level were being

investigated.

- Parish Councils in the Ancholme Valley were concerned about the clearance of water courses and the role of Internal Drainage Boards in the past in ensuring that these water courses were maintained had been important and welcomed. Officers stated that the management of water courses had been highlighted following the recent flooding in Wainfleet. Public Sector Cooperation Agreements between the Internal Drainage Boards and the Environment Agency was important in this respect and discussions on this matter were taking place with the Environment Agency.

Comments made by members were noted and would be considered by officers in advance of formal adoption by the council.

The Strategy will be considered by the Flood and Water Management Scrutiny Committee on 25th November 2019. The Strategy will also be taken to the Environment and Economy Scrutiny committee on 26th November 2019 for formal pre decision scrutiny.

d) Have Risks and Impact Analysis been carried out?

Yes

e) Risks and Impact Analysis

An Equality Impact Assessment was carried out post consultation to evaluate the comments received as part of the formal public consultation held during summer 2019.

The majority of responses did not identify any form of perceived impact. Two positive impacts were identified but with no supporting evidence and one negative impact was identified but again no supporting information was supplied. As the overall aim of the strategy is to provide positive beneficial impacts to residents in Lincolnshire on this occasion no mitigating action has been identified.

A copy of the EIA assessment is attached to this report as Appendix C

6. Appendices

These are listed below and attached at the back of the report	
Appendix A	Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050
Appendix B	Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050 Strategic Vision
Appendix C	Equality Impact Assessment (EIA) Post Consultation - October 2019

7. Background Papers

Document title	Where the document can be viewed
Report to Executive dated 8 May 2019 entitled "Draft Joint Lincolnshire Flood Risk & Water Management strategy 2019-2050"	Democratic Services
Report to Executive dated 4 December 2012 entitled "Joint Lincolnshire Flood Risk and Drainage Management Strategy 2012-2025"	Democratic Services

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



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 **functions** of Lincolnshire flood risk management authorities
6. Future look
7. Delivering the strategy
8. Find out more
9. Glossary
10. 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 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 Lincolnshire County Council 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 showing district authority boundaries



2 The Lincolnshire flood risk and water management partnership

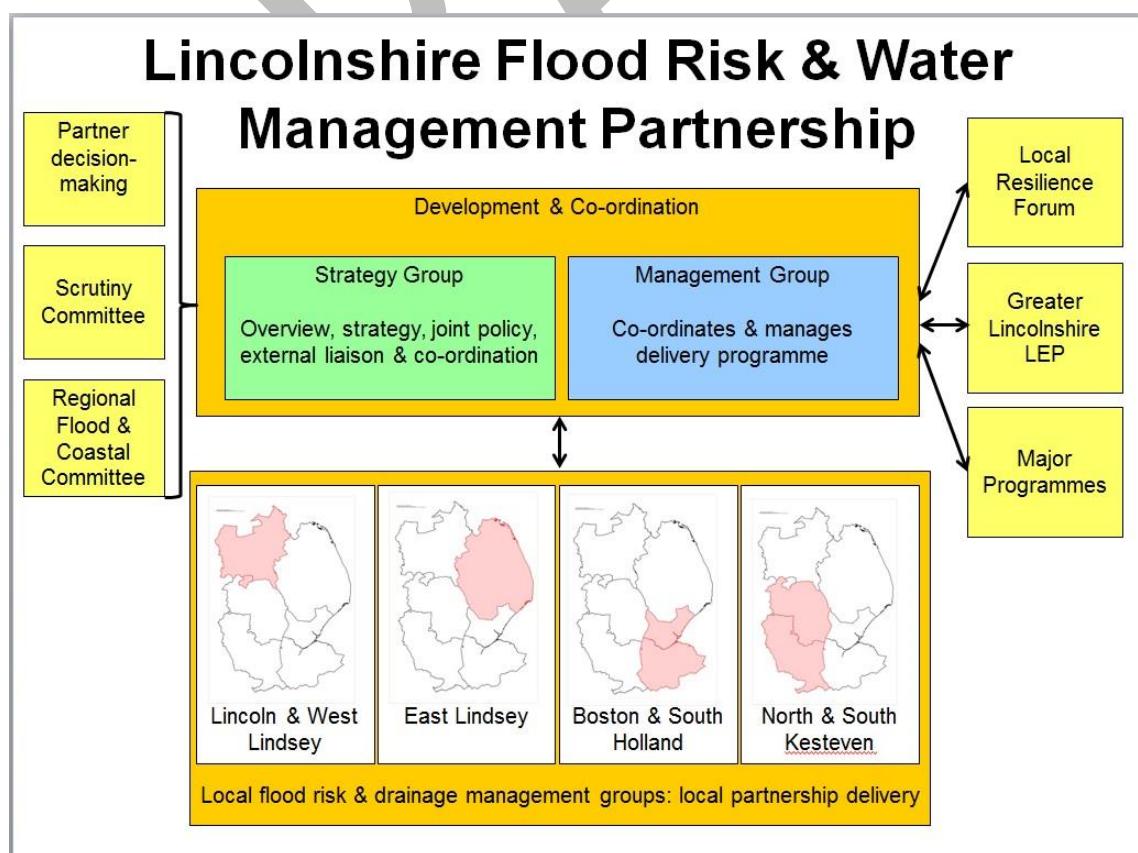
The Lincolnshire flood risk and drainage management partnership was established in 2010 in advance of the [Flood Risk and Water Management Act](#) (2010). It was created in order to provide the level of co-ordination needed to develop the joint strategy described above.

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. As a result, 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 are now full members.

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. 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 partnership has reviewed the key issues it believes Lincolnshire faces in terms of water. This includes flood and drought and the associated economics. It aims to work with communities to develop long term resilience to the impacts of climate change and sea level rise. It also seeks to develop new and innovative ways of funding the work that will need to be delivered to achieve this.

The partnership 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.

Coastal Lincolnshire

Lincolnshire's open coast is subject to significant flood risk from tidal inundation. It is protected by a mix of defences which are described in the Environment Agency's Saltfleet to Gibraltar Point strategy. Located immediately behind these defences are large communities, businesses, infrastructure and tourist attractions.

Our ability to support these communities and interests 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 clean 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, while currently 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, and to ensure policies reflect the need to 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 resource 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 governments' 25 Year Environment Plan identifies that land

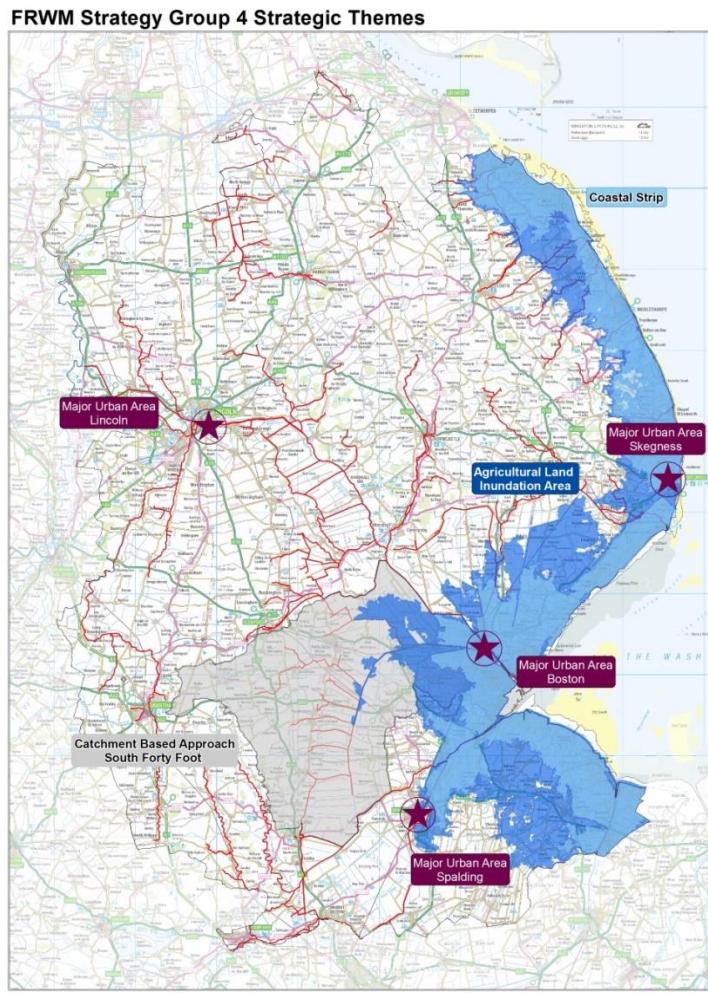
should be used and managed more sustainably and this approach will be tested in the south forty foot catchment under the South Lincs water partnership (SLWP) supported by the Lincolnshire flood risk and water management partnership.

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 centres to flourish and grow sustainably.

The map below shows these areas. The partnership aims to show ambition and determination to bring the necessary stakeholders and policy makers together to deal with the challenges facing Lincolnshire and build sustainable, resilient and thriving communities and economies. It must also 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 strategic themes / locations



The history of the Lincolnshire flood risk and water management partnership, means it has developed a key role in managing flood risk in particular. This includes deploying resources and co-ordinating 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 Lincolnshire County Council.

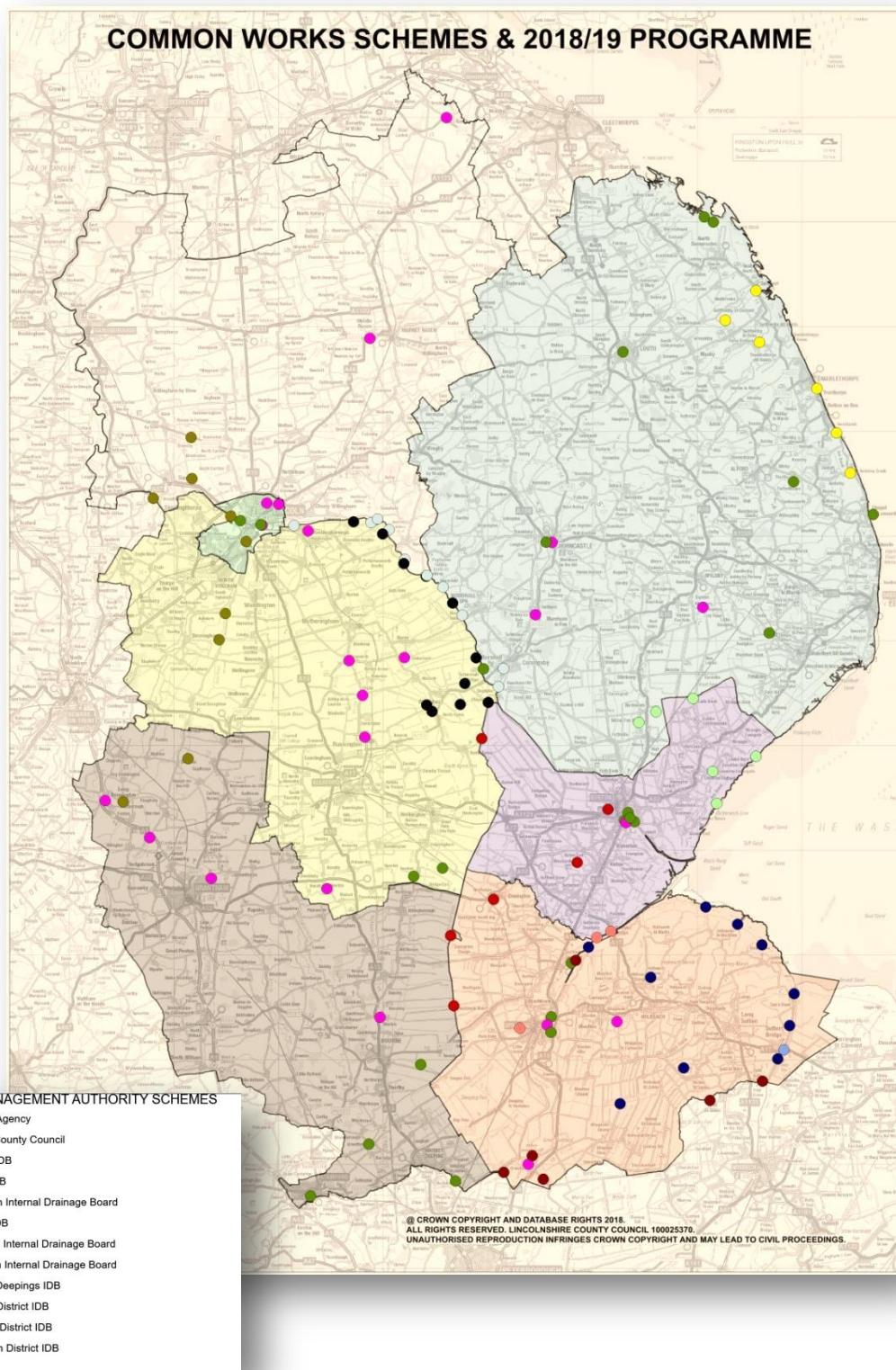
Figure 4



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. The common works programme is refreshed annually with all risk management authorities retaining the 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 works that have received national funding and been delivered 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 homes 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.

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 flood risk management 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 1st 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 them.

Overview of some key developments since publication of the first flood risk and drainage management strategy in 2013

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. It provides a framework within which locally-prepared plans for housing and other development can be produced.

A key principle within the national planning policy framework 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

Sustainable drainage is intended 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 and to 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.

Water Companies now include certain sustainable drainage features within their criteria for adoption as public sewers.

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

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 flood risk management 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 a web-based system has been adopted that is accessible to the public at all times. It 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 known asset, 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 co-operation agreement (PSCA) provides arrangements for the Environment Agency and an Internal Drainage Board, Lead Local Flood Authority , District Council or other risk management authority to deliver specific flood risk maintenance works and similar activities jointly. 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 covers the area's key economic sectors and recognizes the importance of water management in developing these.

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 drivers to develop the area's three defining sectors that offer the most competitive advantage, namely agri-food, manufacturing and the 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 a Defra cost benefit analysis process, would be 'unfunded' for flood and coastal risk management 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 industry has been considering improved co-ordination, 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.

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 enterprise partnerships 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.

Rationalising the main river network

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. 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.

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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:

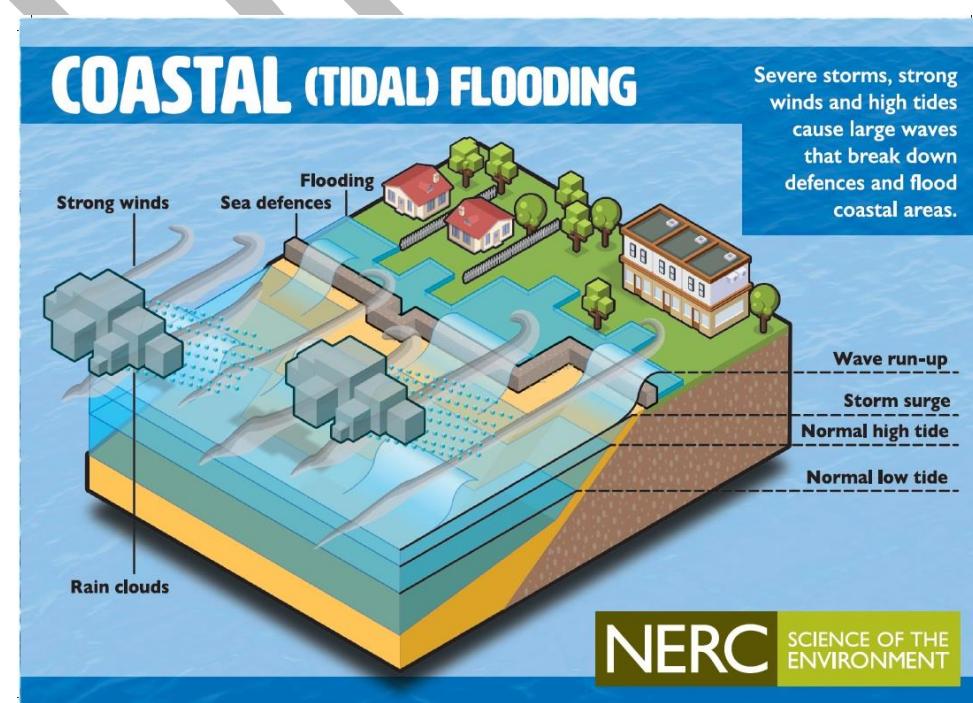
- ensuring that investment in flood and coastal erosion schemes is proportionate to need and directed to where it achieves the best value
- informing developer and local planning authority decisions on future development and infrastructure
- helping emergency planners to prepare how they will respond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

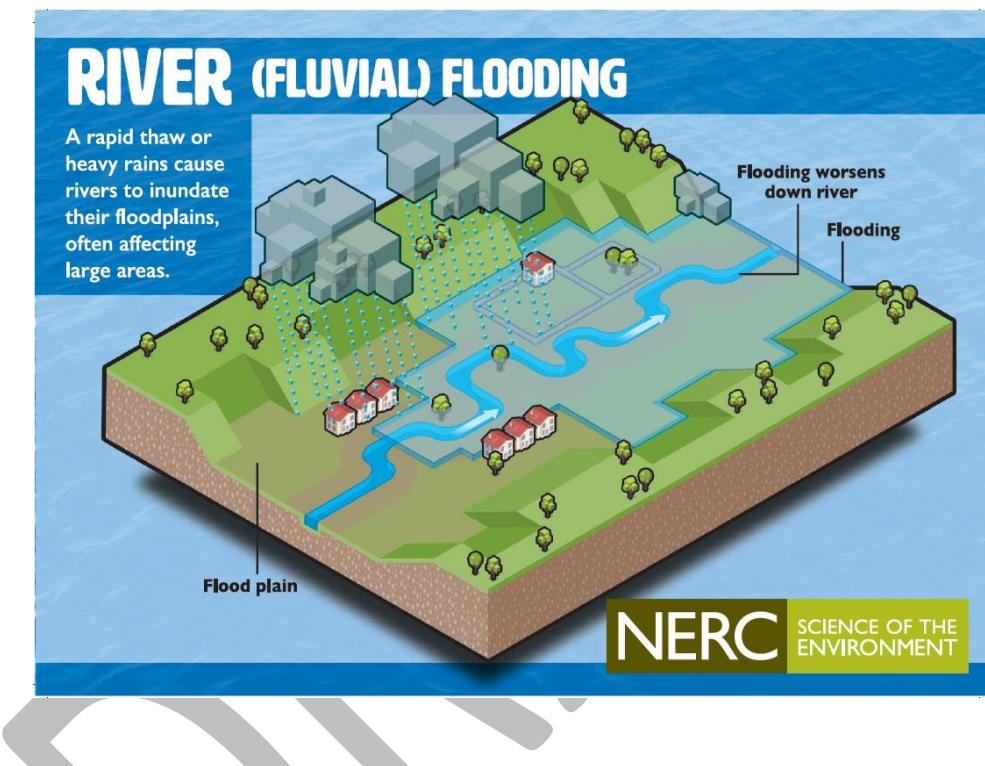
Coastal flooding

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.



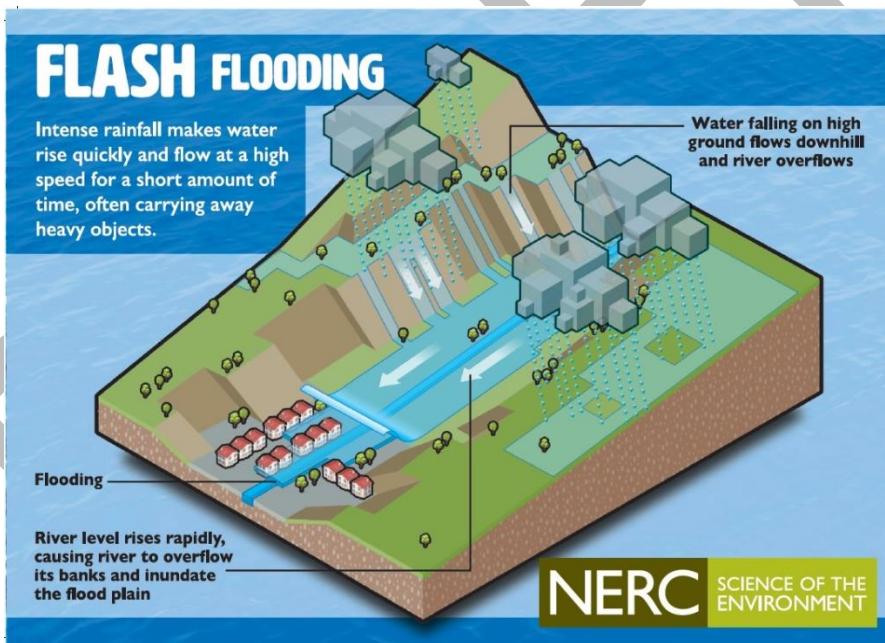
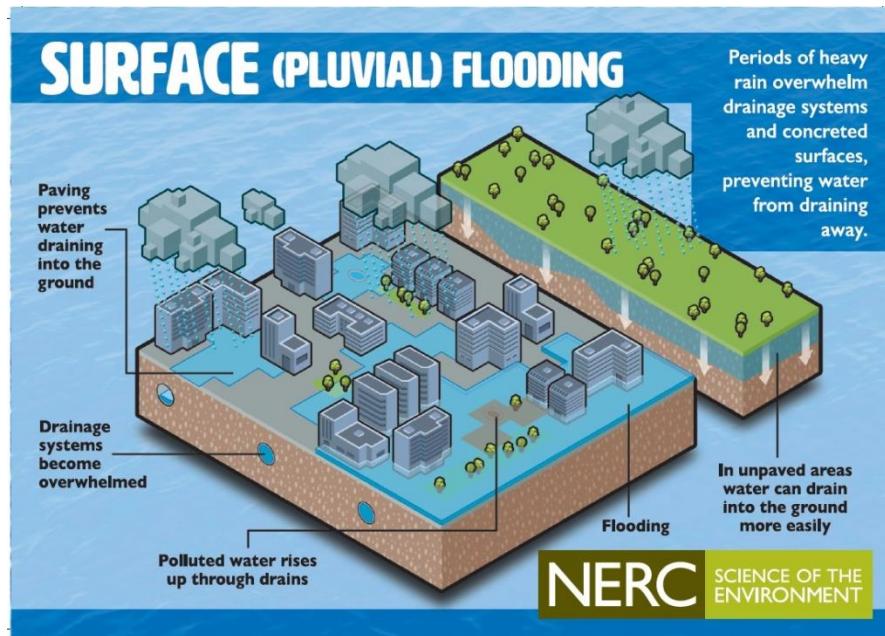
River flooding

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.



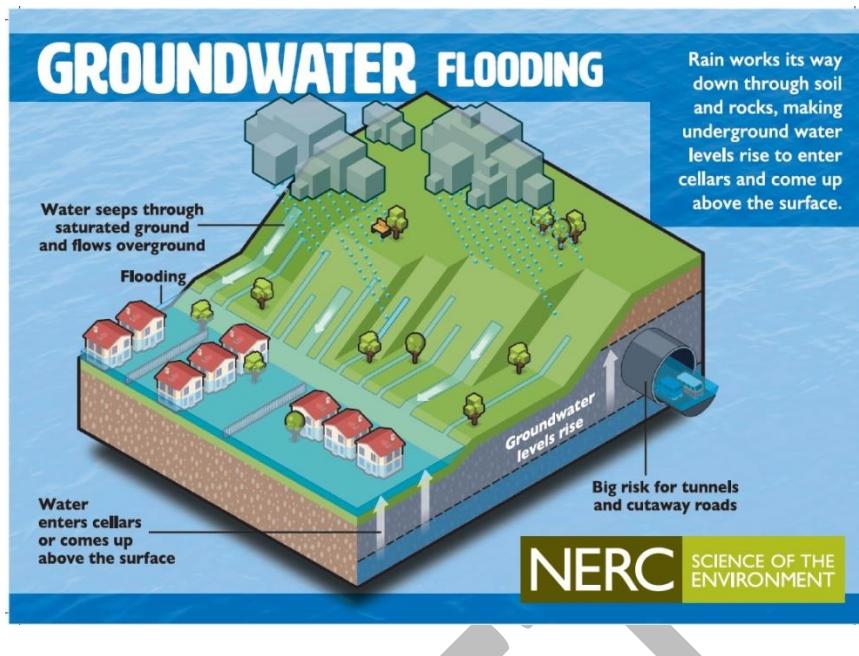
Surface water flooding

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 risk 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 of, and preparation for, 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;

- Signing up for free flood warnings
- Completing a flood plan
- Finding out how to prepare a 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 that can be taken to prepare for this type of flooding.

- Completing a flood plan
- Finding out how to prepare your property for flooding
- Checking the three-day flood risk forecast

It is always important to be aware of local weather, particularly if there is severe weather approaching that could lead to local or more widespread flooding.

The below link shows 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.

Further information on the risk of flooding from rivers, the sea and reservoirs can be obtained from the 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.

For more information on the future of flood insurance go to www.gov.uk.

5 Roles and functions 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 **functions** with regard to their duties and **powers** 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 as a highways authority is responsible for repairing 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 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 Company's 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](#)

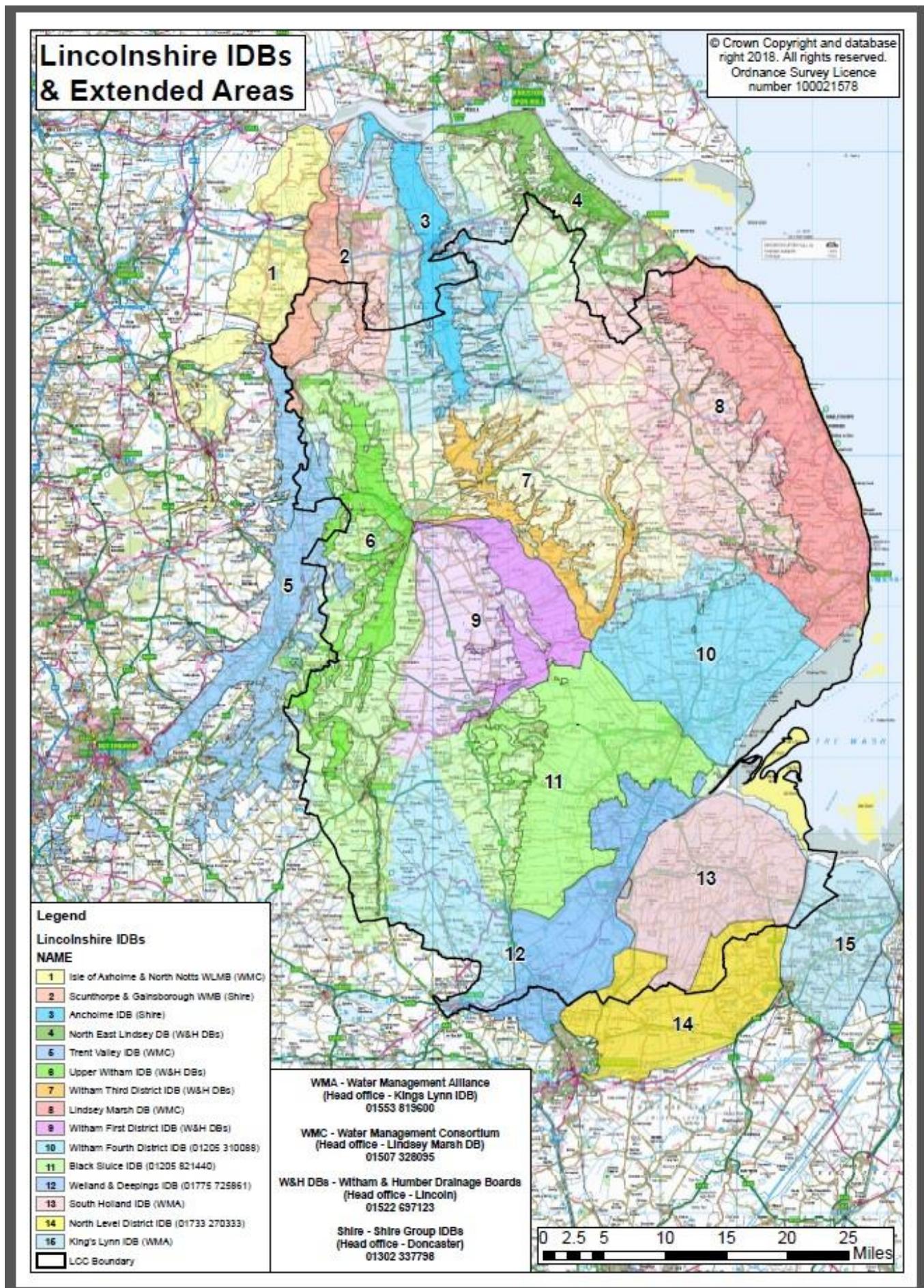
IDB consenting and enforcement of ordinary or riparian watercourses

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 consent is needed 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 used its powers under the Land Drainage Act to enter into arrangements with the IDB's by entering into Memorandums of Understanding, which allows the IDB's to act on behalf of the LLFA for the purposes of consent and enforcement who now operate within extended areas. 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



The seven 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. The key risks affecting Lincolnshire are prioritised as follows:

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 roles and functions of Risk Management Authorities

Authority	Risk Management Functions
Environment Agency	<ul style="list-style-type: none"> • duty to have a strategic overview for all forms of flooding • duty to develop, consult on, maintain, apply and monitor a National Strategy for Flood and Coastal Erosion Risk Management (FCERM) to cover all forms of flooding • duty to establish Regional Flood and Coastal Committees with new remit to include coastal erosion issues and consent for the regional programme • duty to have regard to the national and local FCERM strategies • duty to report to Ministers on FCERM including implementation of the strategies • duty to contribute to sustainable development in discharging their FCERM functions • duty to comply with any request made by, and have regard to reports and recommendations of, lead local flood authority overview and scrutiny committees • various duties for the regulation of reservoirs • various duties under the Environment Act 1995 • power to issue guidance about application of the Strategy in England • powers to request and share information in connection with FCERM functions • power to designate and protect third party assets and features that affect flood risk or coastal erosion • power to carry out and to approve coast protection works • power to carry out FCERM works in relation to sea or main river if considered desirable having regards to the National FCERM Strategy • power to enforce obligations to repair main river watercourses • power to consent works on or near main rivers • power to take action to require works for maintaining flow on main rivers • power to make new byelaws to secure the effectiveness of FCERM works • power to issue levies to lead local flood authorities: levies can now also apply to coastal erosion issues as well as flooding

County or Unitary Council (Lead Local Flood Authority)	<ul style="list-style-type: none"> • development, maintenance, application and monitoring of Local Flood Risk Management (FRM) Strategy • powers to request information in connection with FRM functions • 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 • duty to maintain a register of assets which have a significant effect on flood risk, in the view of the lead local flood authority • power to undertake works to manage flood risk from surface runoff or groundwater • power to designate structures and features that affect flooding • established as the statutory consultee for major development with surface water drainage • 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 • duty to exercise FCERM functions consistently with the national and local strategies • duty to contribute to sustainable development in exercising FCERM functions
Internal Drainage Board	<ul style="list-style-type: none"> • regulation of ordinary watercourses under the Land Drainage Act 1991, including consenting and enforcement • power to designate structures and features that affect flooding or coastal erosion • duty to act consistently with local and national strategies • duty to be have regard to lead local flood authority scrutiny processes • ability to work in consortia with other Internal Drainage Boards • power to undertake works on ordinary watercourses flooding within their boundary and, with the Environment Agency's consent, the sea
District Council	<ul style="list-style-type: none"> • power to designate structures and features that affect flooding or coastal erosion • duty to act consistently with local and national strategies • duty to have regard to lead local flood authority scrutiny processes • as local planning authority, responsible for ensuring that development proposals have adequately considered flood risk and sustainable drainage. • power to undertake works on ordinary watercourses and, with the Environment Agency's consent, the sea

Water and Sewerage Company	<ul style="list-style-type: none">• provide water supply• remove and treat foul water• drain surface water• manage flooding from public sewers and burst water mains• duty to have regard to national strategies and to have regard to local strategies• duty to have regard to lead local flood authority scrutiny processes• Stat consultee to local plans• Delivery of Drainage and Wastewater Management Plans (DWMPs)• Business planning• adoption of private sewers
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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 the 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 the pre-industrial period.

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.

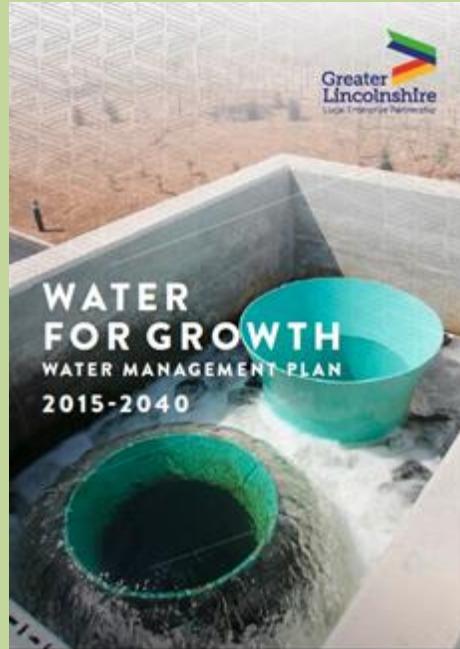
Greater Lincolnshire faces significant challenges from the risk of flooding and future availability of water. Around 45% (2,843km²) of Greater Lincolnshire lies within the floodplain - representing 17% of England's total floodplain area - and has been affected by a number of significant coastal and inland 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/>



Water resources

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.

A broader approach to water

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.

Looking at long term scenarios a map showing the 2115 future breach hazards for the coastal floodplain of Lincolnshire during the 0.5% tide is attached in Annex 1. This map shows the level of flood hazard to people (called a hazard rating) if our coastal and tidal flood defences are breached. The hazard rating depends on the depth and velocity of floodwater in different locations. The map is based on computer modelling of simulated breaches at intervals along the coastline but does not show the likelihood of breaching, only the consequences once breaching has taken place. Coastal defences provide a good standard of flood defence but a risk of breaching remains and this map illustrates the importance of having long term plans for coastal Lincolnshire.

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](#)

Environmental betterment

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~~ historic environment 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 six 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 six-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 is 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 (both rural and urban) 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.

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. To align with proposals set out in the draft national FCERM strategy it is recommended that, where possible, Risk Management Authorities in Lincolnshire will seek to achieve biodiversity net gain in all programmes and projects. They will seek to work with developers and planners to achieve environmental net gain as part of strategic development proposals and will use lessons learned from pilot projects to expand and mainstream working with natural processes.

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. The partnership will build on its influencing role and ensure it is in a strong position in negotiating key policy developments. Conserving and enhancing the natural, built and historic environment in Lincolnshire will also be a key consideration when addressing land use planning in the county. The draft National Flood and Coastal Erosion Risk Management Strategy emphasises the need to develop local resilience to flood risk and climate change. Delivering this aspiration strategically for Lincolnshire could include a variety of approaches, ranging from more traditional coastal management techniques through to long term evolution of some communities to focus their future development towards lower risk locations or with greater provision for resilience in the event of flood risk events.

Asset management

It is recognised that there is a need to have a joint approach to resolving issues with obsolete legacy assets such as old navigation assets (**subject to navigation rights**), 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 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. New guidance is currently being developed in this area. Practical approaches to transfers or decommissioning of FCERM assets is due for publication in early 2020. In assessing such assets it should be considered that some may be heritage assets (both designated and undesignated) which should be considered when decommissioning or transferring.

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. 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, **historic 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 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, four aims have been developed. Outlined below, they will be the key drivers for the delivery of this strategy.

Aim	Key area of focus	How this will be achieved
Aim 1.	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 & attenuation and natural flood risk management methods</p>
Aim 2.	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</p>

		<p>development</p> <p>Conserving and enhancing the natural, built and historic environment in Lincolnshire will also be a key consideration when addressing land use planning in the county</p> <p>To ensure the effects of climate change are included in long term planning for flood risk and water resources</p> <p>Risk Management Authorities will invest in planning skills and capabilities to ensure they can advise planners and developers effectively to enable climate resilient places</p> <p>To better align long term planning for flood and coastal change with water company business planning cycles to identify opportunities for managing both floods and droughts</p>
Aim 3.	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 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>
Aim 4.	To build and develop key lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership	<p>To Develop a public and stakeholder communications & engagement strategy</p> <p>To develop a partnership action plan detailing key priorities moving forward</p>

Strategic Outcomes: what will be in place when the vision is achieved

- 1 **Efficient and innovative delivery** - 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.
- 2 **Meeting local needs** - The Lincolnshire Flood Risk and Water Management Partnership will work with local communities to develop flood risk and drainage management services that meet local needs.
- 3 **Increased awareness and resilience** - Local communities and businesses will be more aware of flood risk, and with the help of public authorities, will take steps to protect themselves and become more resilient through individual and community action.
- 4 **Safe development** - Planning and development control across the county will take account of all forms of flood risk and sustainable drainage; inappropriate development in areas of high flood risk will be minimised
- 5 **Thriving environment and economy** - Flood risk, water management and future development will contribute to better water quality, wider environmental benefits, sustainable growth and overall resilience to the effects of climate change and sea level rise.
- 6 **Enhanced rural economy** - The Lincolnshire Flood Risk and Water Management Partnership will continue to lobby government for a fairer deal for the rural economy in the county with regard to flood risk activities and supporting economic growth
- 7 **Adapting to a changing future** - Adaptive planning against the effects of climate change will be a key factor in all future planned flood risk mitigation works by the Lincolnshire Flood Risk and Water Management Partnership
- 8 **Delivering multiple benefits** - The Lincolnshire Flood Risk and Water Management partnership will focus on the key issues it believes Lincolnshire faces in terms of water, both flood and drought, and seek long term solutions to support the coast, agri-food, a catchment based approach and urban areas

Strategic Objectives: how we will arrive at our vision and outcomes

- The Lincolnshire Flood Risk & Water Management Partnership will seek to develop new and innovative ways of funding flood risk and water

management activities and build on current successes in maximizes national funds and delivering efficiencies.

Outcomes 1, 2, 4, 6

- The Lincolnshire Flood Risk & Water management Partnership will proactively engage with partners and stakeholders to establish effective policy and delivery approaches for the future management of the Lincolnshire coast by 2021.

Outcomes 1, 2, 3, 4, 5, 7, 8

- Lincolnshire flood risk management authorities will work closely with the Greater Lincolnshire LEP to deliver the plan of increasing the value of the local economy by £3.2bn by 2030. Water management is fundamental to the growth of the economy, the environment, quality of life and food security.

Outcomes 1, 2, 4, 5, 6

- By 2025, in collaboration with Water Resources East, water resilient solutions to flood risk, drought and water supply will have been developed for south Lincolnshire.

Outcomes 1, 4, 5, 7, 8

- Lincolnshire flood risk management authorities will work together to explore and develop a catchment based approach to delivering flood risk and water management schemes by 2023.

Outcomes 1, 2, 3, 5, 7, 8

- Risk management authorities in Lincolnshire will work closely with developers and local planning authorities to ensure future development is located appropriately and takes account of suitable flood risk mitigation measures

Outcomes 2, 3, 4, 5, 7

- Working in collaboration with other partners and stakeholders, the Lincolnshire Flood Risk & Water Management Partnership will develop a proof and evidence base to government to support our strategic aims by 2021.

Outcomes 5, 6, 7, 8

- A public and stakeholder communications and engagement strategy will be developed by 2020 to develop key lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership .

Outcomes 2, 3, 4

- The common works programme will continue to be reviewed and updated on an annual basis and remain the key source of information on flood risk and water management activities undertaken by risk management authorities in Lincolnshire.

Outcomes 1, 2, 5, 7, 8

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.

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8 Find out more

This strategy is available online at:

www.lincolnshire.gov.uk/floodrisk

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

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

Email enquiries should be sent to

FloodAndWaterStrategy@lincolnshire.gov.uk

For telephone enquiries please contact (01522) 782070

9. 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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10. 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
- LCC Waterways Development Plan 2018-2028

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Annex 1

Coastal Hazard Breach Map - 2115 / 0.5% scenario - created August 2019



Scale 1:500,000



2115 0.5% Hazard

<VALUE>
0 - 0.75
0.75 - 1.25
1.25 - 2
2 +

Created by the Partnerships and Strategic Overview Team, Lincoln

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Lincolnshire flood risk and water management partnership



Joint Lincolnshire Flood Risk and Water Management Strategy 2019-2050

Strategic Vision

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- 6. Glossary**
- 7. 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 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 Lincolnshire County Council 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 showing district authority boundaries



2 The Lincolnshire flood risk and water management partnership

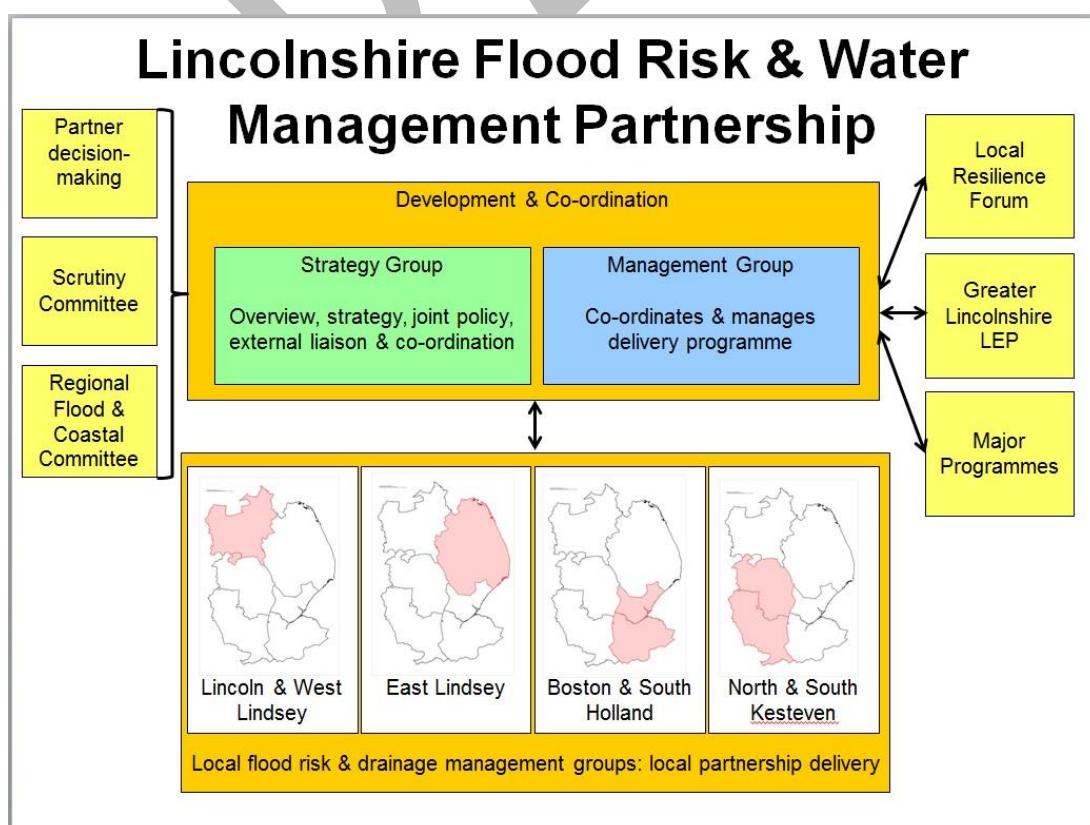
The Lincolnshire flood risk and drainage management partnership was established in 2010 in advance of the Flood Risk and Water Management Act (2010). It was created in order to provide the level of co-ordination needed to develop the joint strategy described above.

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. As a result, 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 are now full members.

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

The partnership has reviewed the key issues it believes Lincolnshire faces in terms of water. This includes flood and drought and the associated economics. It aims to work with communities to develop long term resilience to the impacts of climate change and sea level rise. It also seeks to develop new and innovative ways of funding the work that will need to be delivered to achieve this.

The partnership 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.

Coastal Lincolnshire

Lincolnshire's open coast is subject to significant flood risk from tidal inundation. It is protected by a mix of defences which are described in the Environment Agency's Saltfleet to Gibraltar Point strategy. Located immediately behind these defences are large communities, businesses, infrastructure and tourist attractions.

Our ability to support these communities and interests 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 clean 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, while currently 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 and to ensure policies reflect the need to 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 resource provision and land drainage. By taking an holistic view of the management of water we believe it is

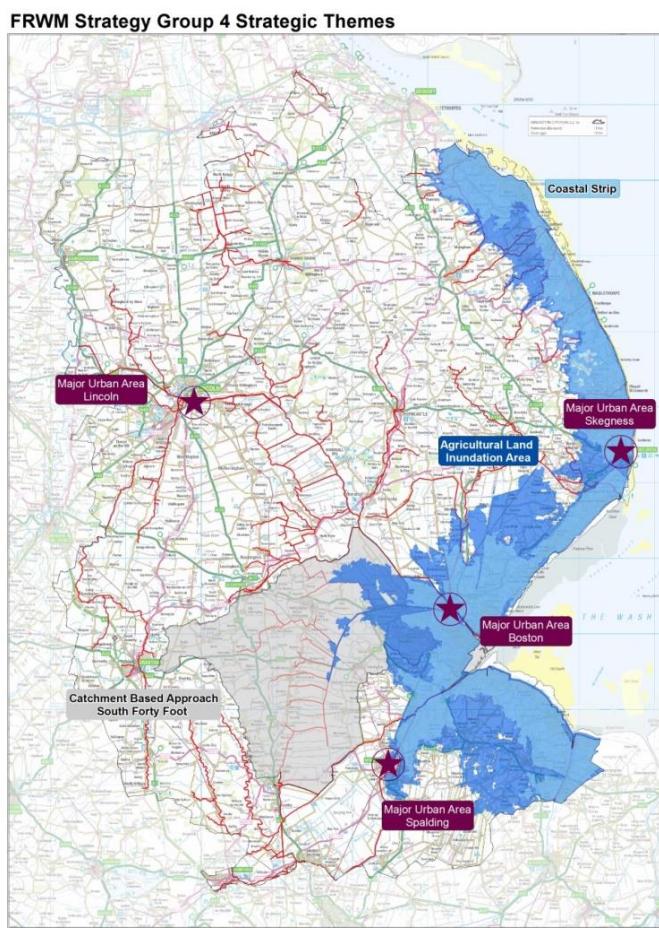
possible to provide multiple benefits to the environment, businesses and communities. The government's 25 Year Environment Plan identifies that land should be used and managed more sustainably and this approach will be tested in the south forty foot catchment under the South Lincs water partnership (SLWP) 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 centres to flourish and grow sustainably.

The map below shows these areas. The partnership aims to show ambition and determination to bring the necessary stakeholders and policy makers together to deal with the challenges facing Lincolnshire and build sustainable, resilient and thriving communities and economies. It must also 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 strategic themes / locations



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 co-ordinating 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 Lincolnshire County Council.

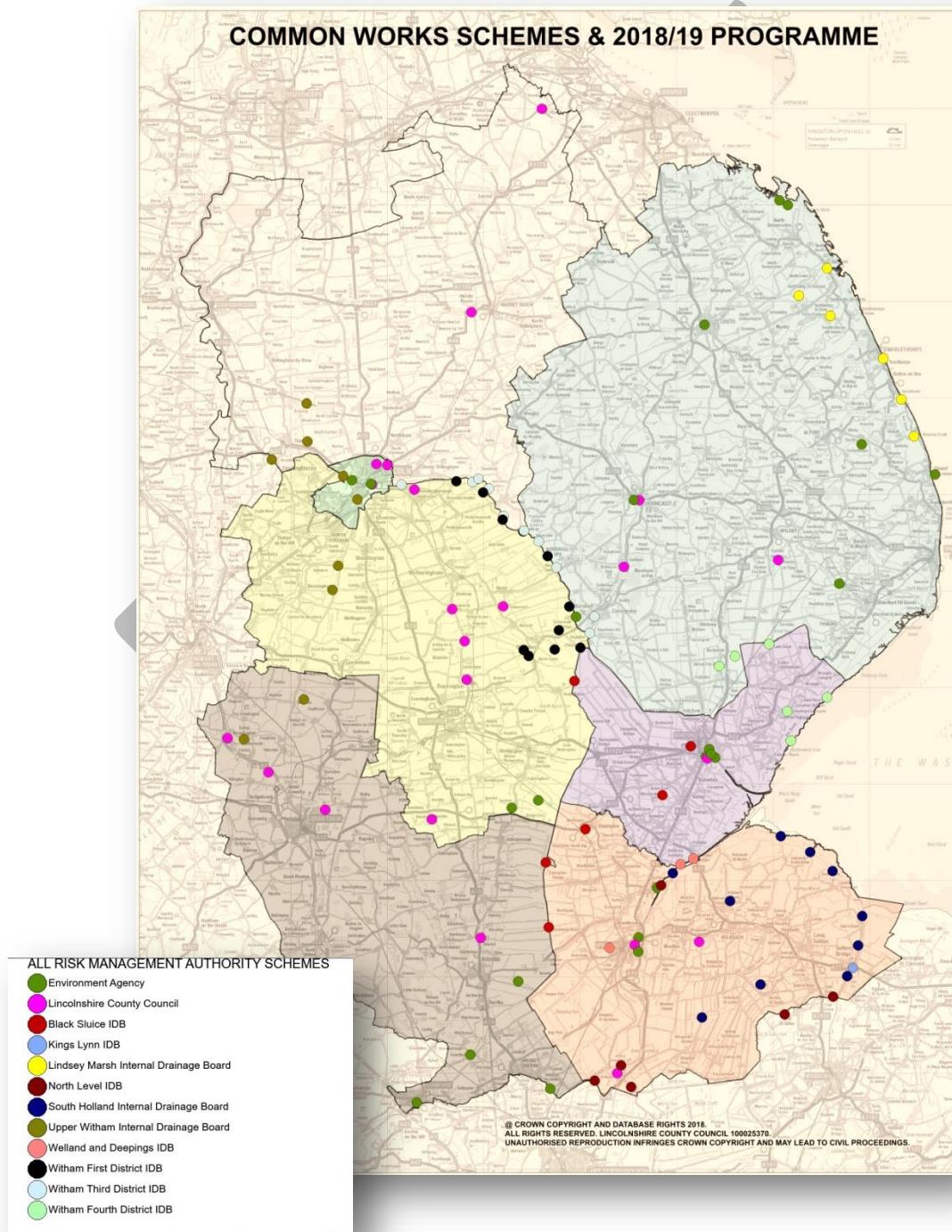
Figure 4



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. The common works programme is refreshed annually with all risk management authorities retaining the 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 works that have received national funding and been delivered 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 the pre-industrial period.

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.

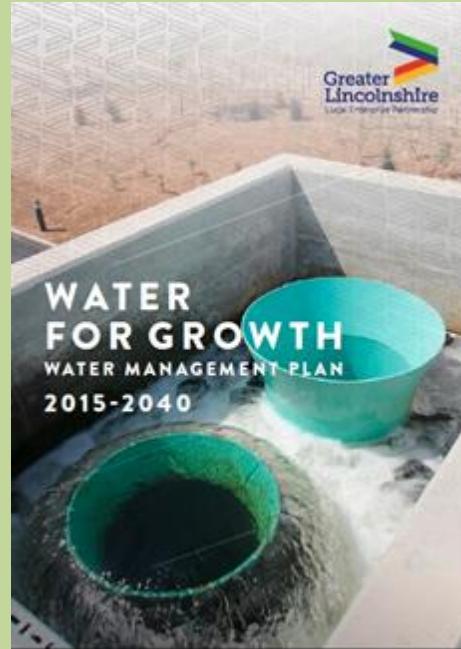
Greater Lincolnshire faces significant challenges from the risk of flooding and future availability of water. Around 45% (2,843km²) of Greater Lincolnshire lies within the floodplain - representing 17% of England's total floodplain area - and has been affected by a number of significant coastal and inland 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/>



Water resources

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.

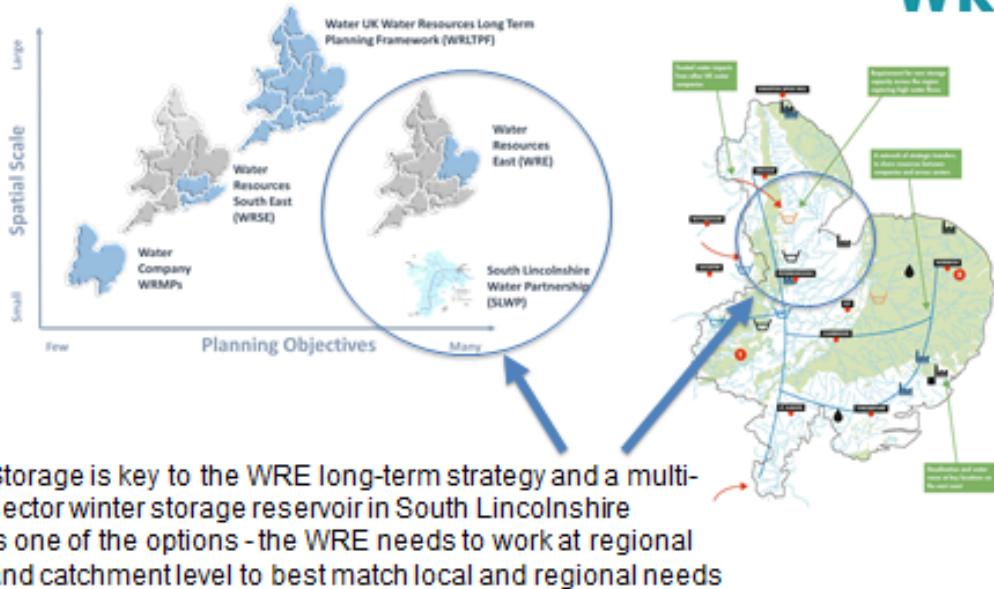


The WRE vision is for a strong economy and a flourishing environment with a purpose to build capacity in the region to deliver this. It operates at a number of different scales (see graphic overleaf):

- 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 25 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 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 commenced in May 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.

Looking at long term scenarios a map showing the 2115 future breach hazards for the coastal floodplain of Lincolnshire during the 0.5% tide is attached in Annex 1. This map shows the level of flood hazard to people (called a hazard rating) if our coastal and tidal flood defences are breached. The hazard rating depends on the depth and velocity of floodwater in different locations. The map is based on computer modelling of simulated breaches at intervals along the coastline but does not show the likelihood of breaching, only the consequences once breaching has taken place. Coastal defences provide a good standard of

flood defence but a risk of breaching remains and this map illustrates the importance of having long term plans for coastal Lincolnshire.

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](#)

Environmental betterment

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~~ **historic environment** 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 six 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 six 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.



4 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 is 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 (both rural and urban) 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.

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. To align with proposals set out in the draft national FCERM strategy it is recommended that, where possible, Risk Management Authorities in Lincolnshire will seek to achieve biodiversity net gain in all programmes and projects. They will seek to work with developers and planners to achieve environmental net gain as part of strategic development proposals and will use lessons learned from pilot projects to expand and mainstream working with natural processes.

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. The partnership will build on its influencing role and ensure it is in a strong position in negotiating key policy developments. Conserving and enhancing the natural, built and historic environment in Lincolnshire will also be a key consideration when addressing land use planning in the county. The draft National Flood and Coastal Erosion Risk Management Strategy emphasises the need to develop local resilience to flood risk and climate change. Delivering this aspiration strategically for Lincolnshire could include a variety of approaches, ranging from more traditional coastal management techniques through to long term evolution of some communities to focus their future development towards lower risk locations or with greater provision for resilience in the event of flood risk events.

Asset management

It is recognised that there is a need to have a joint approach to resolving issues with obsolete legacy assets such as old navigation assets (**subject to navigation rights**), 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 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. New guidance is currently being developed in this area. Practical approaches to transfers or decommissioning of FCERM assets is due for publication in early 2020. In assessing such assets it should be considered that some may be heritage assets (both designated and undesignated) which should be considered when decommissioning or transferring.

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. 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, **historic 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 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, four aims have been developed. Outlined below, they will be the key drivers for the delivery of this strategy.

Aim	Key area of focus	How this will be achieved
Aim 1.	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 & attenuation and natural flood risk management methods</p>
Aim 2.	To develop a more strategic approach to development and land use planning	To have alignment with major regional and national strategic infrastructure initiatives, particularly involving water resources linking flood risk solutions with improved

		<p>resilience to drought.</p> <p>To have a greater integration of flood risk and water resource management with local planning policy development</p> <p>Conserving and enhancing the natural, built and historic environment in Lincolnshire will also be a key consideration when addressing land use planning in the county</p> <p>To ensure the effects of climate change are included in long term planning for flood risk and water resources</p> <p>Risk Management Authorities will invest in planning skills and capabilities to ensure they can advise planners and developers effectively to enable climate resilient places</p> <p>To better align long term planning for flood and coastal change with water company business planning cycles to identify opportunities for managing both floods and droughts</p>
Aim 3.	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 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>
Aim 4.	To build and develop key	To Develop a public and stakeholder

	lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership	communications & engagement strategy To develop a partnership action plan detailing key priorities moving forward
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Strategic Outcomes: what will be in place when the vision is achieved

- 1 **Efficient and innovative delivery** - 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.
- 2 **Meeting local needs** - The Lincolnshire Flood Risk and Water Management Partnership will work with local communities to develop flood risk and drainage management services that meet local needs.
- 3 **Increased awareness and resilience** - Local communities and businesses will be more aware of flood risk, and with the help of public authorities, will take steps to protect themselves and become more resilient through individual and community action.
- 4 **Safe development** - Planning and development control across the county will take account of all forms of flood risk and sustainable drainage; inappropriate development in areas of high flood risk will be minimised.
- 5 **Thriving environment and economy** - Flood risk, water management and future development will contribute to better water quality, wider environmental benefits, sustainable growth and overall resilience to the effects of climate change and sea level rise.
- 6 **Enhanced rural economy** - The Lincolnshire Flood Risk and Water Management Partnership will continue to lobby government for a fairer deal for the rural economy in the county with regard to flood risk activities and supporting economic growth
- 7 **Adapting to a changing future** - Adaptive planning against the effects of climate change will be a key factor in all future planned flood risk mitigation works by the Lincolnshire Flood Risk and Water Management Partnership
- 8 **Delivering multiple benefits** - The Lincolnshire Flood Risk

and Water Management partnership will focus on the key issues it believes Lincolnshire faces in terms of water, both flood and drought, and seek long term solutions to support the coast, agri-food, a catchment based approach and urban areas

Strategic Objectives: how we will arrive at our vision and outcomes

- The Lincolnshire Flood Risk & Water Management Partnership will seek to develop new and innovative ways of funding flood risk and water management activities and build on current successes in maximizes national funds and delivering efficiencies.
Outcomes 1, 2, 4, 6
- The Lincolnshire Flood Risk & Water management Partnership will proactively engage with partners and stakeholders to establish effective policy and delivery approaches for the future management of the Lincolnshire coast by 2021.
Outcomes 1, 2, 3, 4, 5, 7, 8
- Lincolnshire flood risk management authorities will work closely with the Greater Lincolnshire LEP to deliver the plan of increasing the value of the local economy by £3.2bn by 2030. Water management is fundamental to the growth of the economy, the environment, quality of life and food security.
Outcomes 1, 2, 4, 5, 6
- By 2025, in collaboration with Water Resources East, water resilient solutions to flood risk, drought and water supply will have been developed for south Lincolnshire.
Outcomes 1, 4, 5, 7, 8
- Lincolnshire flood risk management authorities will work together to explore and develop a catchment based approach to delivering flood risk and water management schemes by 2023.
Outcomes 1, 2, 3, 5, 7, 8

- Risk management authorities in Lincolnshire will work closely with developers and local planning authorities to ensure future development is located appropriately and takes account of suitable flood risk mitigation measures

Outcomes 2, 3, 4, 5, 7

- Working in collaboration with other partners and stakeholders, the Lincolnshire Flood Risk & Water Management Partnership will develop a proof and evidence base to government to support our strategic aims by 2021.

Outcomes 5, 6, 7, 8

- A public and stakeholder communications and engagement strategy will be developed by 2020 to develop key lines of communication to promote the aims, ambitions and achievements of the Lincolnshire Partnership .
- The common works programme will continue to be reviewed and updated on an annual basis and remain the key source of information on flood risk and water management activities undertaken by risk management authorities in Lincolnshire.

Outcomes 2, 3, 4

Outcomes 1, 2, 5, 7, 8

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.

DRAFT

5 Find out more

This strategy is available online at:

www.lincolnshire.gov.uk/floodrisk

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

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

Email enquiries should be sent to

FloodAndWaterStrategy@lincolnshire.gov.uk

For telephone enquiries please contact (01522) 782070

DRAFT

6. 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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7. 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
- LCC Waterways Development Plan 2018-2028



Annex 1

Coastal Hazard Breach Map - 2115 / 0.5% scenario - created August 2019



Scale 1:500,000



2115 0.5% Hazard

<VALUE>
0 - 0.75
0.75 - 1.25
1.25 - 2
2 +

Created by the Partnerships and Strategic Overview Team, Lincoln

Equality Impact Analysis to enable informed decisions

The purpose of this document is to:-

- I. help decision makers fulfil their duties under the Equality Act 2010 and
- II. for you to evidence the positive and adverse impacts of the proposed change on people with protected characteristics and ways to mitigate or eliminate any adverse impacts.

Using this form

This form must be updated and reviewed as your evidence on a proposal for a project/service change/policy/commissioning of a service or decommissioning of a service evolves taking into account any consultation feedback, significant changes to the proposals and data to support impacts of proposed changes. The key findings of the most up to date version of the Equality Impact Analysis must be explained in the report to the decision maker and the Equality Impact Analysis must be attached to the decision making report.

****Please make sure you read the information below so that you understand what is required under the Equality Act 2010****

Equality Act 2010

The Equality Act 2010 applies to both our workforce and our customers. Under the Equality Act 2010, decision makers are under a personal duty, to have due (that is proportionate) regard to the need to protect and promote the interests of persons with protected characteristics.

Protected characteristics

The protected characteristics under the Act are: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

Section 149 of the Equality Act 2010

Section 149 requires a public authority to have due regard to the need to:

- Eliminate discrimination, harassment, victimisation, and any other conduct that is prohibited by/or under the Act
- Advance equality of opportunity between persons who share relevant protected characteristics and persons who do not share those characteristics
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The purpose of Section 149 is to get decision makers to consider the impact their decisions may or will have on those with protected characteristics and by evidencing the impacts on people with protected characteristics decision makers should be able to demonstrate 'due regard'.

Decision makers duty under the Act

Having had careful regard to the Equality Impact Analysis, and also the consultation responses, decision makers are under a personal duty to have due regard to the need to protect and promote the interests of persons with protected characteristics (see above) and to:-

- (i) consider and analyse how the decision is likely to affect those with protected characteristics, in practical terms,
- (ii) remove any unlawful discrimination, harassment, victimisation and other prohibited conduct,
- (iii) consider whether practical steps should be taken to mitigate or avoid any adverse consequences that the decision is likely to have, for persons with protected characteristics and, indeed, to consider whether the decision should not be taken at all, in the interests of persons with protected characteristics,
- (iv) consider whether steps should be taken to advance equality, foster good relations and generally promote the interests of persons with protected characteristics, either by varying the recommended decision or by taking some other decision.

Conducting an Impact Analysis

The Equality Impact Analysis is a process to identify the impact or likely impact a project, proposed service change, commissioning, decommissioning or policy will have on people with protected characteristics listed above. It should be considered at the beginning of the decision making process.

The Lead Officer responsibility

This is the person writing the report for the decision maker. It is the responsibility of the Lead Officer to make sure that the Equality Impact Analysis is robust and proportionate to the decision being taken.

Summary of findings

You must provide a clear and concise summary of the key findings of this Equality Impact Analysis in the decision making report and attach this Equality Impact Analysis to the report.

Impact – definition

An impact is an intentional or unintentional lasting consequence or significant change to people's lives brought about by an action or series of actions.

How much detail to include?

The Equality Impact Analysis should be proportionate to the impact of proposed change. In deciding this asking simple questions "Who might be affected by this decision?" "Which protected characteristics might be affected?" and "How might they be affected?" will help you consider the extent to which you already have evidence, information and data, and where there are gaps that you will need to explore. Ensure the source and date of any existing data is referenced.

You must consider both obvious and any less obvious impacts. Engaging with people with the protected characteristics will help you to identify less obvious impacts as these groups share their perspectives with you.

A given proposal may have a positive impact on one or more protected characteristics and have an adverse impact on others. You must capture these differences in this form to help decision makers to arrive at a view as to where the balance of advantage or disadvantage lies. If an adverse impact is unavoidable then it must be clearly justified and recorded as such, with an explanation as to why no steps can be taken to avoid the impact. Consequences must be included.

Proposals for more than one option If more than one option is being proposed you must ensure that the Equality Impact Analysis covers all options. Depending on the circumstances, it may be more appropriate to complete an Equality Impact Analysis for each option.

The information you provide in this form must be sufficient to allow the decision maker to fulfil their role as above. You must include the latest version of the Equality Impact Analysis with the report to the decision maker. Please be aware that the information in this form must be able to stand up to legal challenge.

Background Information

Title of the policy / project / service being considered	Joint Flood Risk & Water Management Strategy 2019-2050	Person / people completing analysis	Matthew Harrison
Service Area	Places Directorate	Lead Officer	Matthew Harrison
Who is the decision maker?	Executive	How was the Equality Impact Analysis undertaken?	Online questionnaire supporting the public consultation exercise
Date of meeting when decision will be made	17/12/2019	Version control	v.2 Post Public consultation
Is this proposed change to an existing policy/service/project or is it new?	Existing policy/service/project	LCC directly delivered, commissioned, re-commissioned or de-commissioned?	Directly delivered
Describe the proposed change	<p>This is a revision and update to the existing Joint Flood Risk & Water Management Strategy adopted by the Council in 2012/13. The new strategy builds on successful delivery of the key objectives set out in the earlier document. It 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.</p> <p>This EIA is being completed post public consultation, assessing the responses received as part of the online survey/questionnaire and public engagement drop in sessions supporting the public consultation exercise.</p>		

Evidencing the impacts

In this section you will explain the difference that proposed changes are likely to make on people with protected characteristics. To help you do this first consider the impacts the proposed changes may have on people without protected characteristics before then considering the impacts the proposed changes may have on people with protected characteristics.

You must evidence here who will benefit and how they will benefit. If there are no benefits that you can identify please state 'No perceived benefit' under the relevant protected characteristic. You can add sub categories under the protected characteristics to make clear the impacts. For example under Age you may have considered the impact on 0-5 year olds or people aged 65 and over, under Race you may have considered Eastern European migrants, under Sex you may have considered specific impacts on men.

Data to support impacts of proposed changes

When considering the equality impact of a decision it is important to know who the people are that will be affected by any change.

Population data and the Joint Strategic Needs Assessment

The Lincolnshire Research Observatory (LRO) holds a range of population data by the protected characteristics. This can help put a decision into context. Visit the LRO website and its population theme page by following this link: <http://www.research-lincs.org.uk> If you cannot find what you are looking for, or need more information, please contact the LRO team. You will also find information about the Joint Strategic Needs Assessment on the LRO website.

Workforce profiles

You can obtain information by many of the protected characteristics for the Council's workforce and comparisons with the labour market on the [Council's website](#). As of 1st April 2015, managers can obtain workforce profile data by the protected characteristics for their specific areas using Agresso.

Positive impacts

The proposed change may have the following positive impacts on persons with protected characteristics – If no positive impact, please state '*no positive impact*'.

Age	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Disability	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Gender reassignment	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Marriage and civil partnership	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Pregnancy and maternity	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Race	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Religion or belief	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.

Sex	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.
Sexual orientation	The JLFRWM Strategy aims to better manage the risk of flooding and improve the community's preparation for, and resilience to, flood events and improve the management of water resources. Potential effects would therefore be beneficial.

If you have identified positive impacts for other groups not specifically covered by the protected characteristics in the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.

Adverse/negative impacts

You must evidence how people with protected characteristics will be adversely impacted and any proposed mitigation to reduce or eliminate adverse impacts. An adverse impact causes disadvantage or exclusion. If such an impact is identified please state how, as far as possible, it is justified; eliminated; minimised or counter balanced by other measures.

If there are no adverse impacts that you can identify please state 'No perceived adverse impact' under the relevant protected characteristic.

Negative impacts of the proposed change and practical steps to mitigate or avoid any adverse consequences on people with protected characteristics are detailed below. If you have not identified any mitigating action to reduce an adverse impact please state '*No mitigating action identified*'.

Age	No perceived adverse impact'
Disability	No perceived adverse impact'
Gender reassignment	No perceived adverse impact'
Marriage and civil partnership	As part of the responses received to the public consultation survey one response was received identifying a negative impact but no further information was forthcoming as to how the strategy would specifically impact marriage and civil partnership. No mitigating action identified

Pregnancy and maternity	No perceived adverse impact'
Race	No perceived adverse impact'
Religion or belief	No perceived adverse impact'
Sex	No perceived adverse impact'
Sexual orientation	No perceived adverse impact'

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If you have identified negative impacts for other groups not specifically covered by the protected characteristics under the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.

Stakeholders

Stake holders are people or groups who may be directly affected (primary stakeholders) and indirectly affected (secondary stakeholders)

You must evidence here who you involved in gathering your evidence about benefits, adverse impacts and practical steps to mitigate or avoid any adverse consequences. You must be confident that any engagement was meaningful. The Community engagement team can help you to do this and you can contact them at consultation@lincolnshire.gov.uk

State clearly what (if any) consultation or engagement activity took place by stating who you involved when compiling this EIA under the protected characteristics. Include organisations you invited and organisations who attended, the date(s) they were involved and method of involvement i.e. Equality Impact Analysis workshop/email/telephone conversation/meeting/consultation. State clearly the objectives of the EIA consultation and findings from the EIA consultation under each of the protected characteristics. If you have not covered any of the protected characteristics please state the reasons why they were not consulted/engaged.

Objective(s) of the EIA consultation/engagement activity

Primary Stakeholder organisations involved in the development of the draft strategy are part of the Lincolnshire Flood Risk & Water Management Partnership namely, the Environment Agency, Internal Drainage Boards, District Councils and Water Companies

As part of the formal public consultation exercise on the strategy an online survey/questionnaire was devised, which included a section dedicated to obtaining information under the Equality Act 2010 to ascertain how people with 'protected characteristics' are impacted by the organisations activity. Question 15 of the survey asked the question 'Do you think the draft strategy could have a positive or negative impact on you (or someone you care for or support) with regard to any of the following? Please tick all that apply' All areas of protected characteristics as described in the below table were included with a request to identify either a Positive impact, Negative impact, No impact or Don't know. A summary of responses received is detailed in the table below.

Who was involved in the EIA consultation/engagement activity? Detail any findings identified by the protected characteristic

Age	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents
Disability	As part of the responses received to the public consultation survey one response was received identifying a positive impact but no further information was forthcoming as to how the strategy would specifically impact with regard to disability
Gender reassignment	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents
Marriage and civil partnership	As part of the responses received to the public consultation survey one response was received identifying a negative impact but no further information was forthcoming as to how the strategy would specifically impact marriage and civil partnership. No mitigating action identified
Pregnancy and maternity	As part of the responses received to the public consultation survey one response was received identifying a positive impact but no further information was forthcoming as to how the strategy would specifically impact pregnancy and maternity
Race	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents
Religion or belief	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents

Sex	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents
Sexual orientation	As part of the responses received to the public consultation survey neither Positive, Negative, No impact or Don't Know were completed by respondents
Are you confident that everyone who should have been involved in producing this version of the Equality Impact Analysis has been involved in a meaningful way? The purpose is to make sure you have got the perspective of all the protected characteristics.	Yes
Once the changes have been implemented how will you undertake evaluation of the benefits and how effective the actions to reduce adverse impacts have been?	All responses to the supporting public consultation survey/questionnaire and public drop in sessions have been evaluated. The majority of responses did not identify any form of perceived impact. Two positive impacts were identified but with no supporting evidence and one negative impact was identified for marriage and civil partnerships, but again no supporting information was supplied. As the overall aim of the strategy is to provide positive and beneficial impacts to residents in Lincolnshire on this occasion no mitigating action has been identified.

Further Details

Are you handling personal data?	No If yes, please give details.
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Actions required Include any actions identified in this analysis for on-going monitoring of impacts.	Action	Lead officer	Timescale

Version	Description	Created/amended by	Date created/amended	Approved by	Date approved
2	Version issued following conclusion of the public consultation exercise and assessment of responses received as part of the online questionnaire/survey and public drop in engagement sessions.	MH	23/10/2019	David Hickman	04/11/2019

Examples of a Description:

- 'Version issued as part of procurement documentation'
- 'Issued following discussion with community groups'
- 'Issued following requirement for a service change; Issued following discussion with supplier'

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Agenda Item 8



Policy and Scrutiny

Open Report on behalf of Andrew Crookham, Executive Director - Resources

Report to:	Flood and Water Management Scrutiny Committee
Date:	25 November 2019
Subject:	Flood and Water Management Scrutiny Committee Work Programme

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 the 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

25 NOVEMBER 2019 – 10:00am	
Item	Contributor
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010.	Paul Brookes, Flood Risk Manager
Environment Agency Update	Environment Agency
Completed Joint Lincolnshire Flood Risk and Drainage Management Strategy	Matthew Harrison, Senior Commissioning Officer – Flood Risk

27 JANUARY 2020 – 10:00am	
Item	Contributor
Update on June 2019 Flooding Events	
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010.	Paul Brookes, Flood Risk Manager
Environment Agency Update	Environment Agency
Co-ordinated Coastal Management	David Hickman, Head of Environment

18 MAY 2020 – 10:00am	
Item	Contributor
Investigations undertaken under Section 19 of the Flood and Water Management Act 2010.	Paul Brookes, Flood Risk Manager
Environment Agency Update	Environment Agency
Property Level Resilience Measures	TBC

3. Conclusion

Members of the Committee are invited to review, consider and comment on the work programme 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

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