

Nottinghamshire Local Flood Risk Management Strategy

2016 - 2021

December 2015

Summary Document



Introduction

This document is a summary of **Nottinghamshire County Council's draft Local Flood Risk Management Strategy ('Strategy')**, setting out our plan for the management of local flood risk during the period 2016 - 2021.

Background

Much of the UK, including Nottinghamshire, is at risk of flooding from a number of sources, including surface water, groundwater, sewers, rivers and the sea and it is predicted that this risk will increase in the future, influenced by climate change.

This risk was realised in the summer of 2007 when significant surface water flooding was experienced across many parts of England and Wales, including widespread incidents across Nottinghamshire.

Following an independent review of the flooding event, the Government enacted the Flood and Water Management Act 2010 ('the Act') giving local authorities, as Lead Local Flood Authorities, **new powers to manage local flood risk in a more co-ordinated way**.

Nottinghamshire County Council's Local Flood Risk Management Strategy

Nottinghamshire County Council, as a Lead Local Flood Authority, has a legal requirement under the Act to develop, maintain, apply and monitor a **Local Flood Risk Management Strategy** that:

- Clearly sets out which organisations are responsible for different types of flooding in Nottinghamshire and how they are working together to reduce flood risk.
- Provides an overview of known flood risks and how we plan to address them over the next five years, making the best use of resources.



Flooding in Southwell in July 2013

The increase in extreme weather conditions, the presence of the built environment in areas of flood risk, and limited public funding, means that it is not possible to prevent all flood incidents happening in Nottinghamshire. Through the Strategy we can coordinate our actions with others so that flood risk is reduced and the impact of any flood incidents are minimised. The Strategy also provides us with an opportunity to work together with local residents, businesses and stakeholders to minimise risk and prepare for the effects of climate change.

Further information on the background and legal requirements for the Strategy is provided in **Section 1** of the Strategy

The Strategy has been informed by local, regional and national policy, including the Environment Agency's National Strategy for Flood and Coastal Erosion Risk Management, to ensure a coordinated approach to flood risk management within Nottinghamshire.

Roles and responsibilities for Flood Risk Management

As a Lead Local Flood Authority, Nottinghamshire County Council's responsibilities relate to 'local' flood risk from **surface water, groundwater and small rivers, streams and ditches, known as ordinary watercourses** and coordinating flood risk management across Nottinghamshire. Other organisations known as Risk Management Authorities (RMAs), including the Environment Agency, Severn Trent Water and Internal Drainage Boards (IDBs), have responsibilities for managing risk from **other flood sources**.

Section 2 of the Strategy outlines the roles and responsibilities of Risk Management Authorities in Nottinghamshire

	Flood Source	RMA	Description
Local Sources	Surface Water	Nottinghamshire County Council	Can occur when heavy rainfall cannot be absorbed into the ground or enter the drainage systems.
	Ordinary Watercourses	Nottinghamshire County Council, District Councils & IDBs	Smaller watercourses, such as streams, ditches, drains, cuts, and dumbles. These may flood when they cannot hold the volume of water flowing through them and overflow onto surrounding land.
	Groundwater	Nottinghamshire County Council	Can occur when water levels in the ground rise above surface levels, which is most likely to occur in areas underlain by permeable rocks and after long periods of rainfall.
Other Sources	Main River	Environment Agency	Can occur when a large ('main') river cannot cope with the volume of water draining into it or becomes blocked by debris and overflows its banks onto surrounding land.
	Sewers	Severn Trent Water Anglian Water	Can occur when surface water or combined (surface water and foul) sewers are: overwhelmed by heavy rainfall, which exceeds the capacity of the sewer network; the system becomes blocked by debris or sediment; and/or, the system surcharges due to high water levels in the receiving watercourse.
	Reservoir	Environment Agency	Can occur when reservoirs, which hold large volumes of water above ground, overtop or breach, resulting in a fast release of water.
	Canal	Nottinghamshire County Council	Can be caused by overtopping from excess water or by a breach or failure from raised canals.

How are we working with others?

We have set up a partnership working framework for working with RMAs in Nottinghamshire with representatives from Nottingham City Council, Severn Trent Water, the Environment Agency, IDBs and all District and Borough Councils in the County. We also have an internal local flood risk management stakeholder group and we meet regularly with other councils in the east Midlands to share expertise and best practice.

As well as RMAs, many other organisations such as the Nottinghamshire Wildlife Trust and the Canal & River Trust play a role in flood risk partnerships. We also recognise the vital role of communities and individuals in managing their own risk. As part of the Strategy development, we undertook an engagement survey to improve our understanding of local flood risks and concerns.

Sections 2 and 5 of the Strategy provide further information on our work with flood risk partners

Flood Risk in Nottinghamshire

Flooding in Nottinghamshire frequently arises as a result of a combination of different flooding sources. Whilst developing the Strategy we have considered the impact of all sources of flooding and historic flooding across Nottinghamshire and are working with our Flood Risk Partners where there are combined sources of flood risk.

Within Nottinghamshire, up to 62,000 residential properties, 3,400 businesses and a number of critical services could be at risk of surface water flooding in the future

Based on updated Flood Map for Surface Water (Environment Agency, December 2013)

To help direct flood management measures where they will be most beneficial, we have used the Strategy development to identify **priority flood risk locations** where we know significant numbers of flood incidents have been recorded and therefore the most

residents and business should benefit from investment in schemes.

Overview of Flood Risk

The County is largely drained by the River Trent and flooding from the Trent has caused major disruption in the past. The Environment Agency manage the risk from the Trent and other major rivers in Nottinghamshire such as the River Leen and the River Ryton. The summer of 2007 saw some significant flooding from main rivers in Nottinghamshire. More recent flood events have highlighted our vulnerability to local sources of flooding like surface water and smaller watercourses and brought renewed focus to the importance of condition of drainage assets like culverts or gullies.



*Surcharging drains in East Stoke
(date unknown)*

Flooding from surface water and ordinary watercourses has led to some very significant flooding incidents across Nottinghamshire most recently in 2013 when hundreds of properties were affected, most notably in Southwell.

Complex interactions between urban drainage systems and watercourses have influenced numerous **surface water flooding** incidents during intense rainfall events. Some of the worst flooding on record in Nottinghamshire occurred in the summer of 2007 affecting homes, businesses, schools and infrastructure across the county. National mapping carried out by the Environment Agency estimates more than 62,000 homes in Nottinghamshire to be at risk from surface water flooding.

Section 3 of the Strategy provides further information on historic flooding and flood risk in Nottinghamshire

There are few recorded incidents of **groundwater flooding** in the county however, it can often occur at the same time as other sources of flooding, particularly rivers and is therefore not obvious as a source.

Groundwater rebound in former coal mining areas has been identified as a future risk and is being carefully monitored by the Environment Agency and the Coal Authority.

Ordinary Watercourses have had significant influence during some of the major flooding events in Nottinghamshire. There are a large number of ordinary watercourses in the county. Some have featured more prominently during recent flooding such as the Potwell Dyke in Southwell which overflowed following torrential rain in July 2013.

Information regarding sewer capacity in Nottinghamshire is limited. **Sewer flooding** often occurs in combination with other sources as the drainage system becomes overwhelmed. Severn Trent Water has identified a planned schedule of improvements to address flooding risks across the county.



Caunton Ford Bridge, 2012

Our industrial past established a network of canals in Nottinghamshire. The risk of flooding from **canals** is much lower than rivers as they often have features which allow the flow to be regulated. However, there are known incidents of breaching and overtopping of canals and we work closely with the Canal & River Trust to ensure waterways are maintained.

How will we deliver the Strategy?

Risk from flooding can be managed in different ways. For example, by adapting how people live in these areas, by improving flood warning and forecasting, and helping communities prepare for flooding when it happens. Building flood defences can reduce the damage to properties prone to flooding, and learning from flood events can help improve how these situations are dealt with in the future.

Across Nottinghamshire we are working in partnership with local communities and other risk management authorities, in order to better understand and reduce local flood risk. Since 2007, we have been spending approximately £600,000 per year on flood risk management and carried out extensive works.

Sections 4 and 5 of the Strategy set out the Objectives and Measures proposed to manage flood risk in Nottinghamshire and how we are already delivering local flood risk management

The Strategy sets out how we will deliver local flood risk management over the next five years. This initial period for the Strategy corresponds with the formal review timetables for the Flood Risk Management Plans being produced by the Environment Agency, which sets out measures to manage flood risks from **main rivers, reservoirs and the sea** within the Humber Catchment.

The Strategy sets out our objectives for managing local flood risk, taking account of the impacts of flooding on people, property and human health, businesses and commerce and the natural and historic environment. These are specific to Nottinghamshire whilst being consistent with the National Objectives in the Environment Agency's National Flood and Coastal Erosion Risk Management Strategy.

A number of **measures** (how we aim to achieve each objective) and **actions** (things we will do to deliver the measures) have been identified to achieve the Strategy objectives, and these are set out in the **Action Plan** that accompanies the Strategy. The Action Plan outlines approximate timescales for delivery and review of each action; however, it should be noted that a number of these will run throughout the entire Strategy period and will be prioritised based on available funding and resources.

The Strategy **Action Plan** is included in **Appendix B** of the Strategy. A summary of this is provided overleaf

In delivering flood risk management, we also have the opportunity to help deliver wider environmental objectives and requirements, as set out in European Legislation including the Water Framework Directive. A **Strategic Environmental Assessment** and **Habitats Regulations Assessment** has been undertaken to ensure that environmental effects have been considered during the development of the Strategy.

Strategy Action Plan Summary

Objective	Measure to achieve the objective
To pursue new solutions, partnerships and alleviation schemes to manage future flood risks and adapt to climate change in Nottinghamshire.	<ul style="list-style-type: none"> • Develop a robust approach to the prioritisation of schemes to manage flood risk • Seek external funding opportunities whenever possible • Collaborate with local stakeholders to achieve common goals • Progress capital schemes identified for flood alleviation • Ensure flood management actions will be adaptable and responsive to future changes in the climate
To increase levels of awareness within local organisations and communities so they can become more resilient to flooding and understand their land drainage responsibilities.	<ul style="list-style-type: none"> • Ensure effective coordination between LRF, emergency planning and highways management / land drainage • Improve sources and avenues of information dissemination to the public • Encourage people to manage their own risk • Develop more online tools and investigate new uses of social media

<p>To improve delivery of flood risk management by working in partnership across functions and organisations, taking a catchment based approach.</p>	<ul style="list-style-type: none"> • Take an active role in local flood risk management partnerships • Continue to develop our understanding of groundwater risks in Nottinghamshire • Maintain effective linkages with the Isle of Axholme Flood Risk Management Strategy • Pursue joint initiatives with Severn Trent Water ,IDBs and the Environment Agency • Maintain and improve communications with farmers and landowners in rural areas to pursue multi-beneficial schemes • Identify joint benefits of highways and transport schemes
<p>To integrate local flood risk management into the planning process and support sustainable growth.</p>	<ul style="list-style-type: none"> • Encourage and promote the use of SuDS in all new developments and retrofit SuDS wherever possible • Ensure as far as practical, local planning authorities take full account of flood risk in Local Plan policies and allocations, planning applications and supplementary planning documents • Maximise opportunities to integrate flood management with other County functions • Develop a better understanding of drainage maintenance requirements on public property
<p>To consider the environmental impact of proposed flood risk management measures, maximise opportunities to contribute to the sustainable management of our cultural heritage and landscape and deliver environmental benefits.</p>	<ul style="list-style-type: none"> • Improve connections between blue and green infrastructure management • Identify improvements for existing and planned scheme development • Investigate how we can ‘make space for water’ in Nottinghamshire

How will flood risk management be funded?

The central government funding system for flood management schemes encourages partnership contributions by providing funding in line with the benefits it delivers. In the future there will be greater emphasis on us to fund activities and schemes from our own or alternative local sources of funding. Whilst it may be possible to fully pay for some projects using available national sources of funding, it is likely they will require a wider range of funding sources (including contributions from potential beneficiaries such as developers, local communities and businesses). The Strategy provides detail on the additional funding options that will be considered in Nottinghamshire.

Further information on funding sources is provided in **Section 6** of the Strategy

It is not possible to prevent all flooding, and with limited resources and funding it is not possible to carry out work in every area at risk of flooding. The approach to flood risk management must be proportionate and risk based and ensure that environmental and other consequences are taken into account. Schemes which deliver the highest benefit will be prioritised, seeking Government funding where they meet the funding criteria related directly to the number of households protected, damage prevented and other benefits such as the environmental or business benefits that will be delivered.

We have already successfully worked in partnership with the district councils, the Environment Agency, IDBs and Severn Trent Water to fund schemes across the County including major capital schemes in Hucknall and Southwell and smaller schemes including North Wheatley, East Markham and Walkeringham.

As our understanding of flood risk improves and evidence is forthcoming specific flood mitigation schemes and activities will be developed to address flood risk in those areas at greatest risk, where resources and partnership funding is available.



New Culvert in North Wheatley implemented through partnership funding, 2011

What happens next?

The Strategy will undergo public consultation in 2015 before being finalised and adopted by Nottinghamshire County Council. Although the Strategy is for the initial period up to 2020, we believe that continued monitoring and review are essential to ensure that flood risk management is responsive to changes in our knowledge base, available funding and national legislation. Our Action Plan will be reviewed annually to ensure we are making progress towards our objectives.

In the short-term, we will continue to progress our major schemes and build on our understanding of flood risk across Nottinghamshire, how this affects the public, local communities and businesses. We will continue to develop our successful partnerships to identify actions that can be undertaken to address that risk through maximising combined resources.