Introduction

This community risk profile gives us a detailed understanding of the risks we face as a community. It's an essential part of Lincolnshire Fire and Rescue's community risk management plan (CRMP). It is something that all fire and rescue services are legally required to have.

This profile takes a close look at the risks we face now and tries to predict what risks we might face in the future. It's all about making sure we're prepared to keep our communities safe. The information in this profile will help us plan how we provide our services over the next four years.

This document is based on detailed performance data and analysis. We use this information to understand the risks our community faces and to plan our activities, both in the long term and day-to-day.

These insights help us to get a better understanding of our diverse communities and to figure out which risks are most important. We use this information to prioritize and plan for the risks we face now and in the future. This is in line with the Fire and Rescue National Framework 2018, which states.

"Every Fire and Rescue Authority must assess all foreseeable fire and rescue related risks that could affect their communities, whether they are local, cross-border, multi-authority and/or national in nature from fires to terrorist attacks. Regard must be had to Community Risk Registers produced by Local Resilience Forums and any other local risk analyses as appropriate".

Our Community Risk Profile also considers information from our partners and external factors that affect our work, both locally and nationally. It's important to note that this profile is not the same as the official Community Risk Register managed by the Lincolnshire Local Resilience Forum (LRF).

Risk assessment methodology

Defining Risk

Before we begin profiling risk, it is important to understand what we mean by risk, and how we define it. The ISO International Standard 31000:2018 (Risk Management - Guidelines) defines risk as:

"The effect of uncertainty on objectives".

This definition is clarified by a note, stating:

"Risk is usually expressed in terms of risk sources, potential events, their consequences and their likelihood".

Risk and Demand

When we talk about the likelihood of fires and other incidents, it's important to understand that 'risk' and 'demand' are not the same thing:

Risk is all about where high-risk communities, people, and places are located. It's linked to factors in our society, like poverty, age, health, and lifestyle. People who are at risk of fire and other accidents often face other risks in their lives too. We've learned from our local analysis and national research that incidents are more likely to happen to certain people and in specific areas.

To understand this, we use data systems like the Lincolnshire Research Observatory and tools like MOSAIC, which provide information down to the level of individual households and businesses.

Demand is different. It's based on past data, like the number and location of incidents we've responded to, the number and location of 'Safe and Well' checks we've conducted, and the number and location of fire safety inspections we've completed.

This information helps us connect community risk with our actual activities and decide where to focus our resources. Our plan for dealing with these risks is explained in the CRMP and put into action through our yearly service plan.

Identifying Risk

The Community Risk Register, managed by Lincolnshire's Local Resilience Forum (LRF), lists the main risks our community faces. It assesses how likely these risks are and what the consequences would be for the whole county if they occur. This guide helps us determine the most important risks in Lincolnshire and guides our assessment of the top risks in our CRMP.

The risks identified by the Lincolnshire community risk register are:

- Coastal flooding
- River and surface water flooding
- Emerging infectious diseases
- Cyber attacks
- Malicious attacks
- Loss of gas or electricity
- Pandemic flu
- Extreme cold weather
- Heatwave

Horizon Scanning

Horizon scanning is like looking into the future to understand what possible challenges and opportunities lie ahead. It helps us figure out if we're ready for what might come our way. This process is ongoing, and it involves studying all the important external factors that affect our county.

While we regularly keep an eye on how we're doing internally and adjust as needed, there are also many external factors that influence the decisions and actions of Lincolnshire County Council as the authority responsible for firefighting. We consider a wide range of external issues, including political, economic, social, technological, environmental, legal, and organizational (PESTELO) factors at local, regional, and national levels.

Political: changes in government policy on fire safety; Fire and Rescue Service white paper; change of Government/local government; devolution.

Economic: economic growth trends to identify areas where there is an increased risk of fire, such as in areas with new housing developments; wider economic landscape resulting in changes in levels of deprivation.

Socio-cultural: increasing population; aging population; migration; increase in poor health

Technological: new fire detection and suppression technologies; increase in electric vehicles and batteries in domestic and commercial premises; developments in IT systems; use of artificial intelligence to improve assessment of risk.

Environmental: climate change impact; extreme weather events; new developments, both housing and commercial/industrial.

Legal: changes to fire safety legislation; outcomes from the Manchester Arena Inquiry.

Organisational: skills and capabilities of its workforce; recruitment and retention of staff; outcome of HMICFRS inspection; business continuity risks.

Risk analysis

We analyse our risks using special software that helps us understand and plan for potential problems. This software lets us create a detailed picture of the risks and helps us use our resources wisely by focusing on the communities, places, and people most at risk.

We also have maps that we can interact with to share our risk analysis with our team and other organisations. This sharing of information helps our managers see, understand, and work with different risk factors in their areas. It supports making decisions based on risk at both the local and multi-agency levels.

We have actively engaged with the NFCC in their development of the risk methodologies for dwelling fires, non-dwelling fires and road traffic collisions. Work is underway to blend the methodologies with our own data sets to further refine and improve our analysis of risk in the county.

Engagement

In the current planning cycle of our CRMP, we've conducted two rounds of community engagement.

The first engagement aimed to gauge the public's awareness of CRMP and how our Fire and Rescue Services plan and provide their services. The results showed that over half (51.5%) of responses came from individuals with no prior knowledge of CRMP, while about a quarter (27%) had a basic understanding. The rest had a good (15%) or excellent (6.3%) understanding. This suggests that we successfully reached a new audience, which was one of our primary goals in the initial phase. Following this engagement, wildfires and waste fires were added into our list of risks for analysis.

The second part of this engagement sought to identify the risks that the public felt were most important to them. Many hazards were suggested, but the top three concerns most frequently mentioned by the general respondents were:

- Road traffic collisions
- House/dwelling fires
- Arson

When broken down by district, there was some geographical variation. For example:

- East Lindsey-based respondents' priorities were listed as road traffic collisions, home fires, flooding and general health and wellbeing.

- Boston Borough-based respondents' priorities were listed as road traffic collisions, home fires and flooding and people lighting fires to reduce energy bills.

- City of Lincoln-based respondents reflected the county rankings entirely and 11.5% were concerned about wildfires, compared to 15% in the more rural Kesteven districts.

Respondents were asked to identify any other safety risks and/or concerns. The most frequently identified categories were:

- Driving-related matters (95)

- The environment (35)

- Community safety concerns (33)

The second phase of engagement was to ascertain public views on proposed risk levels. The respondents to this engagement prioritised the top issues as being:

1. Road Traffic Collisions

2. Dwelling (house) fires

3. Flooding

4. Non-domestic fires

5. Wildfires

6. Deliberate fires (arson)

More than half of the people surveyed (51%) said that road traffic collisions were their top concern, and an overwhelming 91% placed it in their top three risks. 40% of respondents ranked dwelling fires as their second most important risk, and 30% considered flooding as the third most critical risk.

We received a variety of comments that indicated prioritising these risks was a challenging task. Many felt that preserving life should be the top priority and that climate and environmental concerns, especially related to flooding, should also be a focus.

Interestingly, the order of risk priority was similar across the county, with only North Kesteven having a slight difference, where dwelling fires were ranked just one point higher than road traffic collisions.

When looking at the characteristics of respondents, those reporting drug or alcohol dependency tended to prioritise dwelling fires slightly more than road traffic collisions.

Dwelling fires

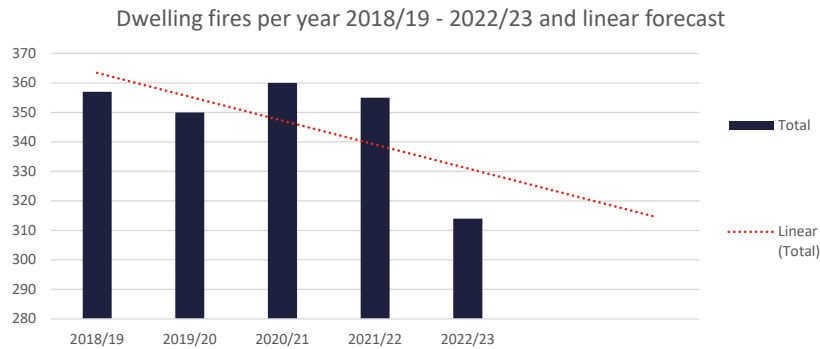Fires that occur in peoples' homes

Why is it a risk?

Our historical incident demand shows an overall reduction over the last five years, but dwelling fires account for 18% of our fire incidents. Almost half (45%) of those were caused by cooking. 69% of our fire fatalities (18) and our fire related injuries (including all severities) (406) occurred in dwelling fires.
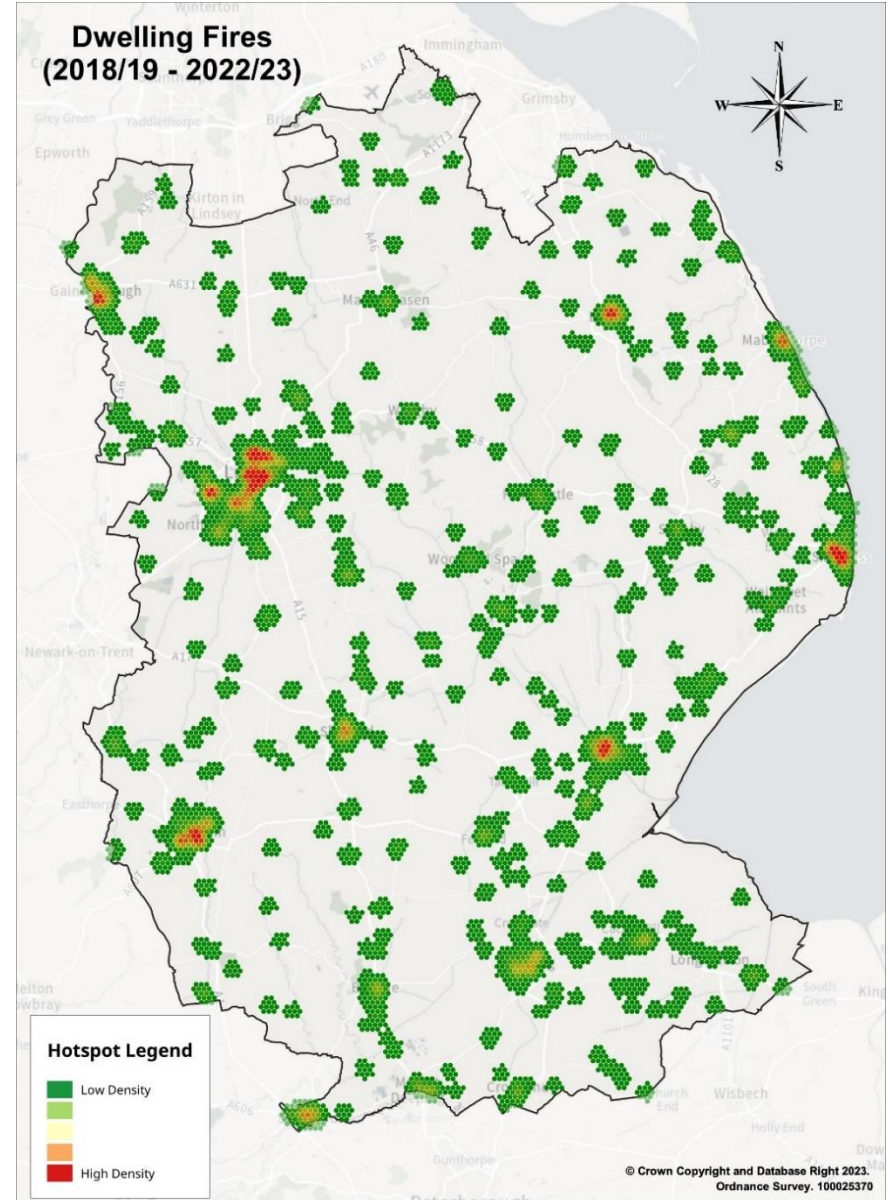
Consequence

- Risk to life
- Physical injury
- Damage to property
- Damage to local environment
- Short term loss of accommodation
- Economic impact resulting from property loss/damage.

Trends

Dwelling fires per year 2018/19 - 2022/23 and linear forecast

The five-year trend shows a steady reduction in the number of dwelling fires. A growing and aging population will be a challenge to us to keep this downward trend, but we are constantly refining our fire prevention activities to try and continue reducing dwelling fires.

Where

Dwelling Fires (2018/19 - 2022/23)

Hotspot Legend

Low Density

High Density

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From this map we can see that dwelling fires are concentrated in areas of largest population. Large housing developments are often concentrated in areas already highly populated so we can expect this trend to continue.

Road Traffic Collisions (RTCs)

A road traffic collision (RTC) is a collision involving a vehicle on a road or in a public area that has caused damage or injury to a person, animal, another vehicle or property.
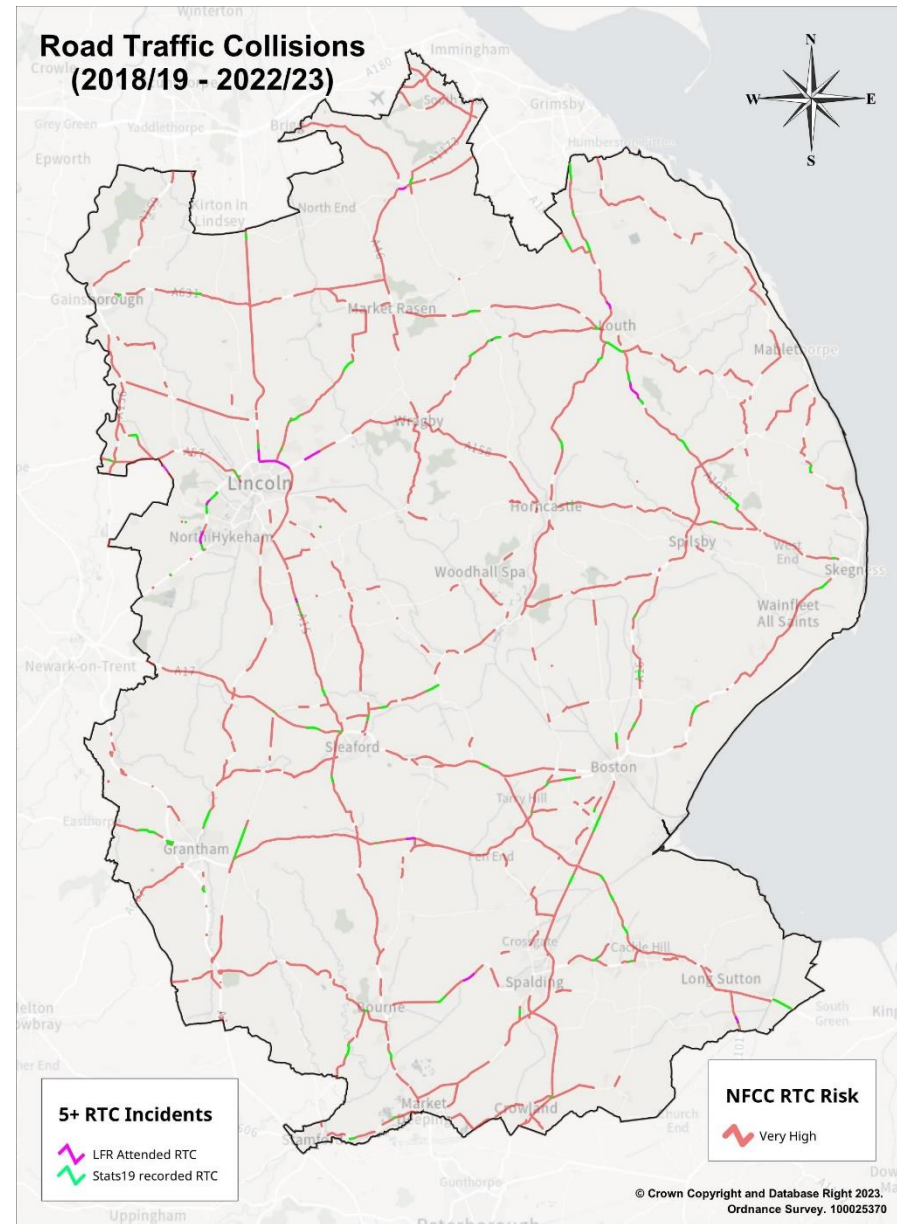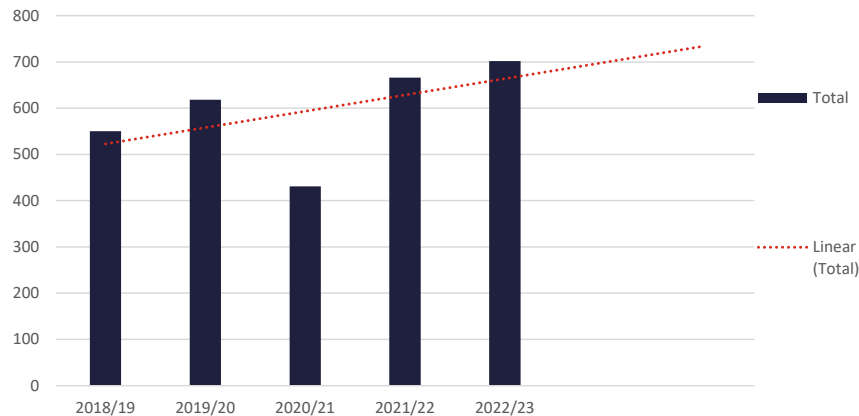
Why is it a risk?

Lincolnshire has a vast network of A, B and rural roads. The number of road traffic collisions where people were killed or seriously injured on Lincolnshire's roads was 439 in 2022 (that is broken down as 48 killed and 391 seriously injured, Lincolnshire Road Safety Partnership). This is down from 453 in 2021.

Consequence:

- Risk to life
- Physical injury
- Damage to property
- Damage to local environment
- Economic impact resulting from prolonged road closures
- Economic cost of fatalities and injuries

RTCs (attended by F&R) per year 2018/19 - 2022/23 and linear forecast

Road Traffic Collisions
(2018/19 - 2022/23)

5+ RTC Incidents

— LFR Attended RTC
— Stats19 recorded RTC

NFCC RTC Risk

〰 Very High

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Flooding related incidents

There are three types of flooding; coastal (where high tides and storm surges combine to cause the sea to flood inland), rivers and streams, known as 'fluvial flooding' (where waterways overflow their banks into surrounding water areas) and surface water (where rainfall overwhelms the drainage systems)
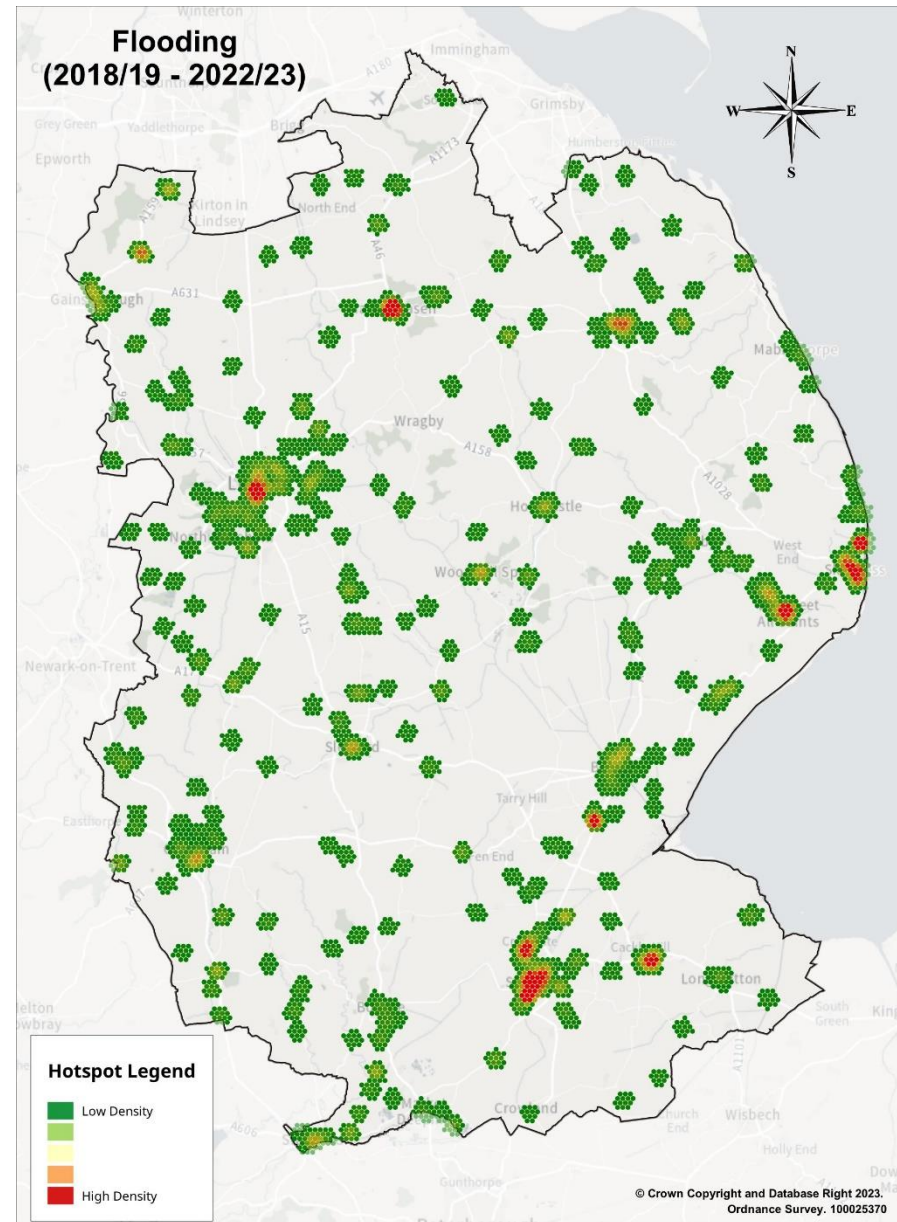
Why is it a risk?

Much has been done to protect the Lincolnshire coastline since the floods of 1953, particularly in the construction of flood defences. However, sea levels are rising and because of the national and local impacts of a serious floor event, the risk is something which must be taken seriously.
Recent significant flooding events such as the 2013 tidal surge in Boston and the Wainfleet floods of 2019 underlined this risk. Surface water flooding is a common occurrence after significant rainfall, which normally occurs in seasonal patterns during the months of June, August, November and December.

Consequence:

- Risk to life and health
- Physical injury
- Damage to property, businesses and agricultural land
- Pollution and contamination to local environment
- Long term damage to tourism, business and agriculture
- Risk to life of livestock
- Damage to critical infrastructure
- Disruption to utilities
- Short, medium and long term loss of accommodation

Annual numbers of flooding incidents vary greatly as many arise from heavy rain conditions. Incidents are concentrated in built up areas where surface water cannot drain away, or drainage systems or rivers are overwhelmed. LFR works closely with other agencies to give advice and assistance to those affected by flooding.

Flooding (2018/19 - 2022/23)

Hotspot Legend
- Low Density
- High Density

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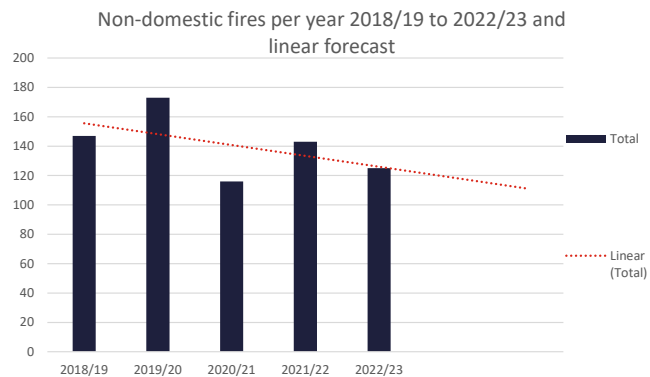
Non-domestic fires

Non-domestic fires include all business, commercial, industrial, schools and hospitals, offices, shops, factories, warehouses, restaurants, cinemas, public buildings, religious buildings, agricultural buildings, railway stations etc.
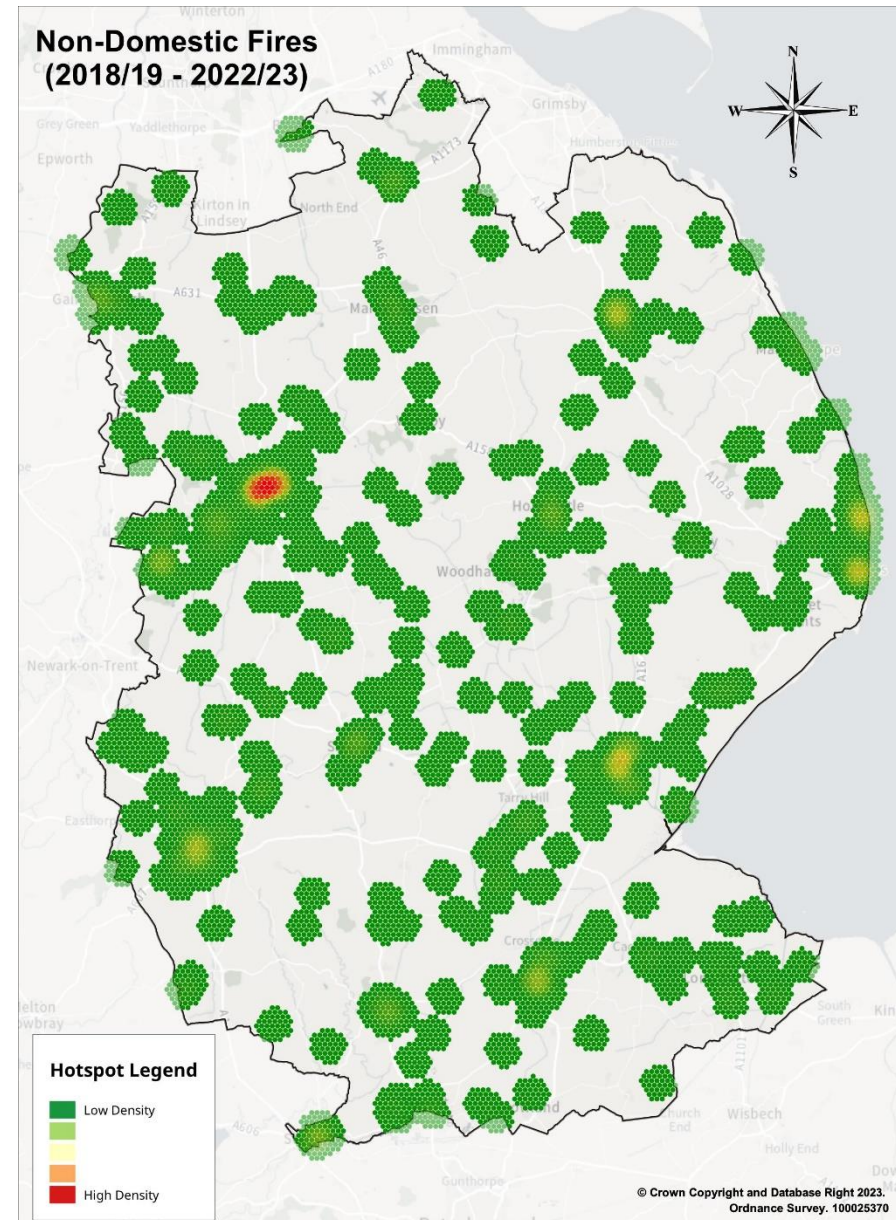
Why is it a risk?

Many non-domestic fires are caused by electrical appliances (27%) and deliberate ignition (13%). Fires within non-domestic premises can result in the loss of significant community resources, such as public buildings, schools, community centres and entertainment venues. Fires in business premises will have a significant, sometimes unrecoverable, impact on the local economy.

Consequence:

- Risk to life
- Physical injury
- Damage to property
- Damage to local environment
- Economic impact of loss of business
- Loss of local community resources

Non-domestic fires per year 2018/19 to 2022/23 and linear forecast

As with domestic fires we are seeing an overall reduction in the number of non-domestic fires in Lincolnshire. Our protection activities and engagement will aim to reduce this even further.

Non-Domestic Fires
(2018/19 - 2022/23)

Hotspot Legend

Low Density

High Density

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Deliberate fires (arson)

Deliberate fires include those where the motive for the fire was 'thought to be' or 'suspected to be' deliberate. This includes fires on an individual's own property, others' property or property of an unknown owner.

Why is it a risk?

Arson accounted for 45% of all fires attended in 2022/23 by Fire and Rescue Services in the UK (178,737 fires attended; 79,982 deliberate). This is the largest, single cause of fire attended by Fire and Rescue Services. While the fires are often small, they are a nuisance to the community and tie up FRS resources making them unavailable for any more serious incidents.
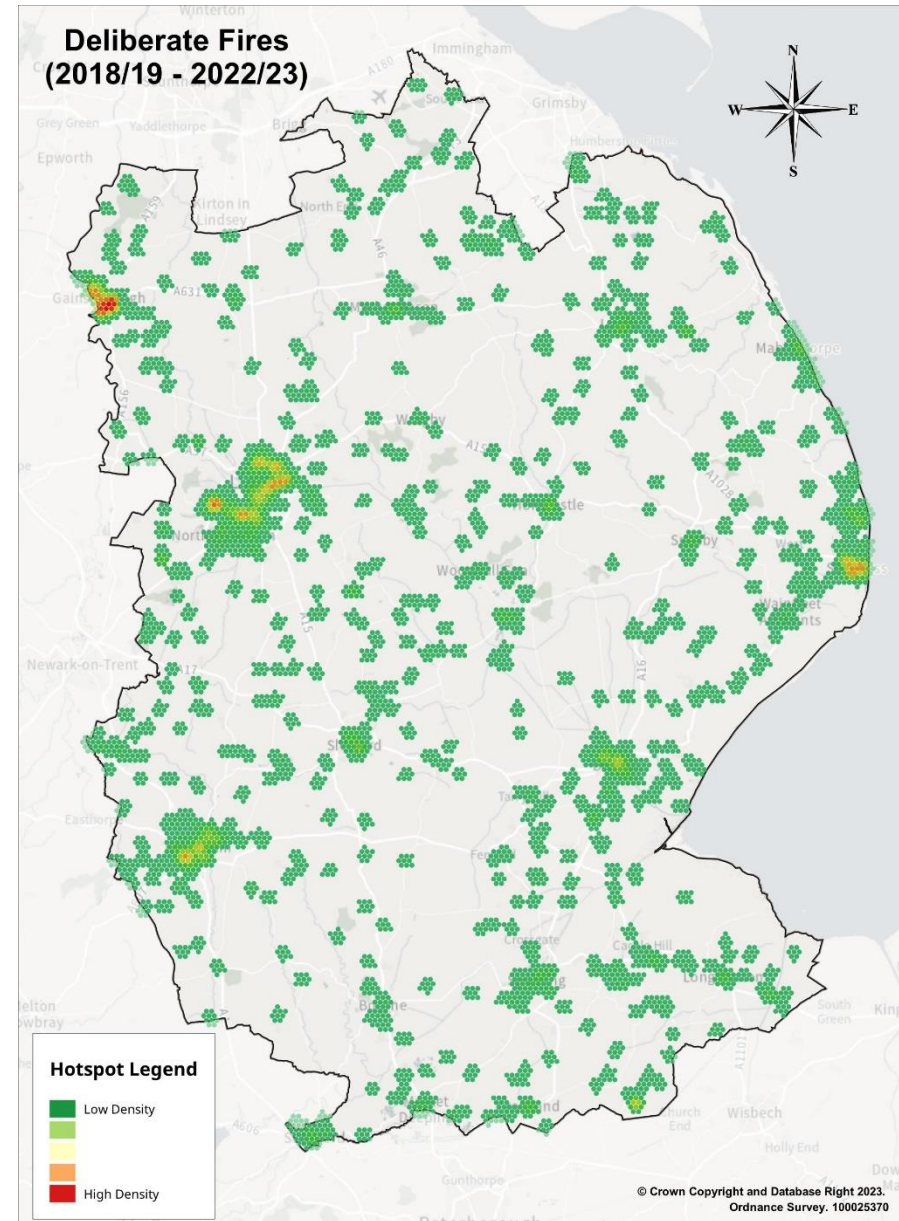
In Lincolnshire, on average we attend 467 deliberate fires per year (over the last five years) which is 24% of fires attended. Most of these fires occur in refuse, vehicles or grassland, with a peak during the dry summer months.

The estimated economic cost attributed to arson from the latest available UK statistics in 2021/22 was £1.3 bn.

Consequence:
- Risk to life
- Physical injury
- Damage to property
- Damage to local environment
- Economic impact resulting from property loss/damage and business impact

Where:

Wildfires

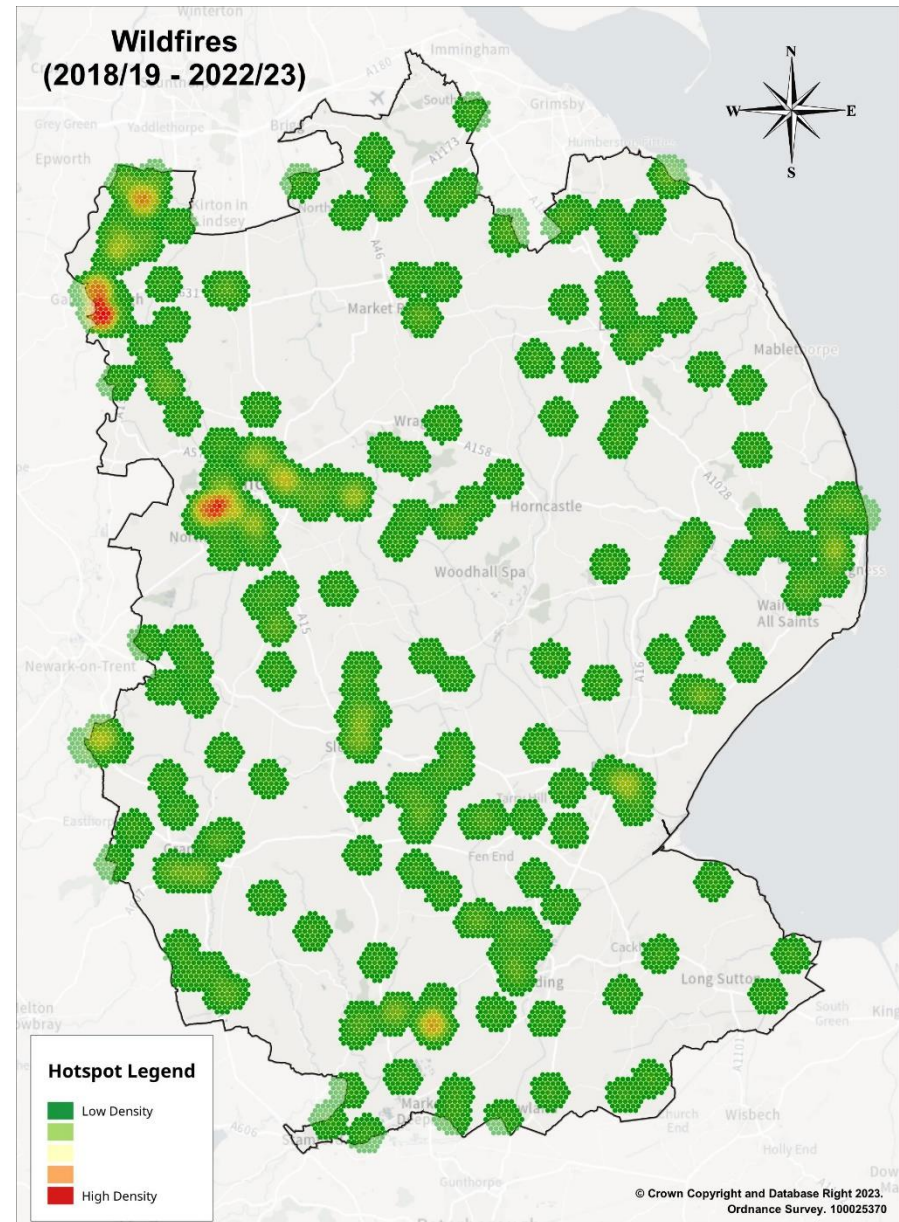A wildfire involves an uncontrolled vegetation fire that means one of more specific criteria:

- Involves a geographical area of at least one hectare (10,000 square metres)
- Involves a sustained flame length of more than 1.5 metres
- Requires a committed resource of at least four fire and rescue appliances/resources
- Requires resources to be committed for at least six hours
- Presents a serious threat to life, environment, property and infrastructure

Why is it a risk?

In recent years the UK has experienced periodic severe wildfire seasons. These seasons usually coincide with extended periods of warm and dry weather, which is becoming more frequent. The risk of wildfires is affected by the size, condition and dryness of the vegetation. In Lincolnshire the predominantly rural and agricultural nature of the county means the risk of wildfire is widespread. Approximately a third of wildfires involve farmland, with a further quarter in grasslands. We also have some specific risks such as Laughton Woods.

Consequence:

- Risk to life
- Physical injury
- Damage to property
- Damage to local environment
- Economic impact resulting from property loss/damage and business impact

Wildfires (2018/19 - 2022/23)

Hotspot Legend

Low Density

High Density

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Malicious Attacks

The Government constantly assesses the threat to the UK from terrorism and communicates this through a threat level. This level has not dropped below substantial in the last five years, which means that an attack is likely. There have been two periods of three months where the level was raised to severe, meaning an attack is highly likely. Fortunately, no attacks have taken place in Lincolnshire however, there are several locations and venues that may be considered targets due to their historical importance, or, by the number of people who might gather there. LFR has taken part in operations with other agencies to assist in the investigation of activity suspected of being connected with a malicious attack.

LFR maintains a specialist team trained in responding to incidents involving terrorism (Marauding Terrorist Attack, or MTA team) who would be involved if there was an attack like that on the Manchester Arena in 2017. LFR is working with the NFCC to ensure that recommendations from the inquiry are enacted in Lincolnshire.

We also supply two officers to the regional team who use specialist scientific equipment to support decontamination of the public in the event of a Chemical, Biological, Radiological or Nuclear (CBRN) attack. The team can also support other agencies when dealing with potential illicit explosive manufacturing sites.

Our Urban Search and Rescue (USAR) team would also respond to a bomb attack and use their skills and equipment to search damaged buildings and make them safe for other responders to work in. At our training site in Waddington we have areas specifically built so that the USAR crews can train for a variety of scenarios. USAR teams come from other Services around the county to make use of our Waddington training centre.