

COMMUNITY RISK REGISTER FOR ESSEX

[FRONT COVER]

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Introduction

The Community Risk Register provides information on the emergencies that may happen in Essex. There is also an assessment of how likely they are to happen and the impacts if they do. This includes the impacts to people, property, the environment and local businesses.

Purpose

This document is designed to raise awareness to the risks for Essex, so you are able to consider actions you can take to be better prepared in your homes, communities and businesses.

Risk analysis assists emergency services, local authorities and other organisations to plan a robust joint response. The Community Risk Register aims to help agencies make decisions on emergency preparedness, and will help develop better multi-agency relationships.

Any gaps in capability or capacity can be identified and dealt with enabling plans to be developed, ensuring the appropriate response to any incident.

The Essex Resilience Forum (ERF)

Who we are

The Essex's Resilience Forum is a partnership, made up of all of the organisations required to prepare for, respond to and help communities recover from a major emergency in the County.

The Forum covers the Essex Police Force area. It, includes emergency services, local authorities, the Environment Agency, Met Office and Health Agencies along with voluntary sector and private agencies such as utilities companies.

Under the Civil Contingencies Act 2004 every County in the United Kingdom is required to establish a resilience forum.

Developing the Capability and Capacity to Respond to Emergencies

During emergencies we work together to focus on the needs of victims, vulnerable people and responders. The partnership has developed a range of capabilities, necessary to help us manage most emergencies. These are regularly tested and exercised, including:

- Evacuation and Shelter
- Search and Rescue
- Dealing with Mass Casualties
- Dealing with Excess Deaths
- Recovery
- Humanitarian Assistance

What we do

All services and organisations work together to ensure that the best possible preparations and plans are in place for emergencies. These are regularly tested and updated so that agencies can respond immediately and effectively.

All responders work to a set of common objectives which will help to:

- Save life
- Relieve suffering
- Prevent the disaster getting worse
- Restore normality as soon as possible
- Protect property
- Protect the environment
- Facilitate a criminal investigation and judicial process if necessary
- Keep the Public Informed

What is a Community Risk Register?

The Essex Resilience Forum is required to produce a Community Risk Register to look at the likelihood and impact of a range of hazards.

Every resilience forum uses professional judgement along with guidance from the National Risk Register to put together its Community Risk Register. The national register is produced by the Government using historical and scientific data, and the professional judgements of experts to analyse the risks to the UK as a whole.

The Essex Community Risk Register identifies the emergency issues and situations where a risk may be increasing or decreasing in our County. It indicates what response is required. If a risk is included in the Community Risk Register, it does not mean it is likely to happen. It means that we know it is a possibility however remote, and organisations have individually or jointly made arrangements to reduce its impact.

The Essex Profile

Some risks will be more likely to happen in Essex, or they may have a greater impact here, compared to other parts of the Country.

To understand why some risks are more significant in Essex, we need to look at the profile of the area, including social, economic and geographical factors. These factors also influence how we can prepare for and manage emergencies across the County.

Essex is located in the East of England and lies to the north east of London and is a large County covering 3,670sq km. Essex has a population of around 1.78 million). It shares borders with the county authorities of Hertfordshire, Cambridgeshire, Suffolk and Kent; the unitary authorities of Southend-on-Sea and Thurrock; and the London Boroughs of Enfield, Waltham Forest, Redbridge and Havering. The eastern boundary of Essex is formed by the North Sea. Much of the boundary with Suffolk is also formed by water; the River Stour divides Essex and Suffolk, each having a major Port on the Stour Estuary. The River Thames provides much of the southern boundary, endorsing the Essex relationship with tidal waters. The western boundary runs with or close to two motorways, the M25 and the M11.

In addition to the County Council, Essex has 14 Local Councils, two of which are the Unitary Authorities of Thurrock and Southend. Nine Councils are maritime (Basildon, Castle Point, Chelmsford, Colchester, Maldon, Rochford, Tendring, Thurrock and Southend). In 2012 Chelmsford became a City. There are 284 parishes and wards in Essex, 53 of which are classed as rural.

Despite being largely rural, Essex has a population density that is almost 60% higher than the national average. Density is focused on the higher populated urban districts and towns.

Environment

Essex has over 500km of coastline which is one of the longest biologically and economically important coastlines in England. The coastline is generally low lying; however flood defences in Essex are of a high standard.

There are a number of Rivers in Essex which are vulnerable to flooding due to a combination of factors including prolonged or intense rainfall, or rapid thaw of heavy snow.

Natural England lists 86 Sites of Special Scientific Interest in Essex, which include forests and woodland, meadows and commons, marshes, estuaries and reservoirs.

Essex is the driest county in the UK, on average receiving less than 600mm of rain per year.

Essex has a number of significant industrial sites particularly along the Thames Corridor; these include petroleum and chemical facilities.

Health

The NHS England Essex Area Team covers the population of Essex in a large and diverse county, and works in close conjunction with the East Anglia Area Team, which provides the commissioning for

specialist services and prison health services to the population of Essex. Essex has an ageing population, with a third of the Essex population between the ages of 40 and 64.

Within Essex there are five acute trusts providing hospital services to the population, four community providers, and seven Clinical Commissioning Groups (CCGs) responsible for the commissioning of NHS services in the County. The Area Team is also responsible for the commissioning of primary care services across the County. There is close liaison with Health Watch and the Health and Wellbeing Boards established by the three local authorities in the county.

Our CCGs cover Basildon & Brentwood, Castle Point & Rochford, Mid Essex, North East Essex, Southend, Thurrock and West Essex.

Infrastructure

Essex has an extensive and in places extremely busy transport network. With approximately 7,500km of roads including the M11 and M25 motorways, and the A120, A127, A13 and A12 trunk roads. Essex residents have a high level of car ownership with 1.3 cars per household. Traffic in the County in total travels over 13 billion vehicle kilometres per year.

Essex has two major train networks operated by Abellio Greater Anglia and C2C. There are 79 railway stations including ~~and~~ seven underground stations within the boundaries of Essex. The network sees a significant number of commuter movements with Chelmsford station recording over 8 million passenger movements per year. In addition there are over 40 bus companies operating throughout Essex.

Essex is served by two international airports; London Stansted and London Southend. London Stansted is the fourth busiest airport in the UK.

Essex has three international ports Tilbury, DP World London Gateway at Thurrock and Harwich International.

Economy

Essex is a diverse county with Chelmsford City and a number of significant sized towns including Basildon, Colchester, Harlow, Southend-on-Sea. Thurrock has a major shopping retail park at Lakeside.

Agriculture, commercial, industrial, transport infrastructure, energy, public services, construction, retail, leisure and tourism make up the County's economy.

Essex has a high population despite approximately 72% of its land area being in agricultural use. The urban populations in South East Essex generate substantial commuting flows into London.

Pandemic Flu

An influenza (flu) pandemic is a worldwide event in which many people are infected with a flu virus in a short time.

The World Health Organisation considers an outbreak to be a pandemic when:

- The infectious agent hasn't been seen before and there is no natural immunity to it
- The agent infects humans
- It spreads easily and survives in humans

Unlike a normal flu virus, which has a 'season' (October to May in the UK); a flu pandemic can occur at any time.

Based on what has happened during previous pandemics, a pandemic is likely to occur in one or more waves, possibly weeks or months apart. Each wave may last around 15 weeks and up to half the population could be directly affected.

History

The most notable influenza pandemic of the last century occurred in 1918 and is often referred to as 'Spanish flu'. It caused serious illness, with an estimated 20-40million deaths worldwide (with the largest rates of death in people of between 20-45 years old) and major disruption. In the UK alone there were an estimated 228,000 additional deaths. In recent times, the UK was affected by the Swine Flu outbreak of 2009.

Lead Agencies – NHS England Essex Area Team / Public Health England

Risk Impacts

Based on historical information, scientific evidence and modelling, the following impacts are predicted for future pandemics:

- Many millions of people around the world will rapidly become infected causing global disruption and a potential humanitarian crisis.
- Up to half the UK population may become infected and between 50,000 and 750,000 additional deaths may have occurred by the end of the pandemic.
- Health care and local authority social care systems become overwhelmed.
- Normal life is likely to face wide disruption, particularly due to staff shortages affecting the provision of essential services, including production and transportation of goods.

Consequences

The consequences could include:

- Vulnerable people exposed to lower levels of care.
- Longer and more frequent disruptions to essential utilities.
- Reduced levels of emergency services cover.

- Disruptions to businesses and organisations through staff shortages and supply chain interruptions.
- Impacts on the national and local economy.

What do you need to do?

- Keep healthy – a healthy lifestyle will be a great defence against flu and other illnesses.
- Maintain personal hygiene – wash hands and dispose of tissues appropriately after sneezing and coughing ‘Catch It – Kill It – Bin It’.
- Identify a flu friend – somebody who would collect your medication, food and other supplies allowing you to be isolated from the public.
- Keep personal stocks of “over the counter” cold and flu medication to relieve your symptoms.
- Know the arrangements for your child’s school.
- Look out for and observe advice and guidance from the NHS.

What are we doing in Essex?

We work together to plan for:

- Management of the demand on the NHS and Social Care.
- Distribution of anti-viral medication to the public.
- Vaccinations to at risk or vulnerable persons.
- Public awareness and media management.
- Managing increased levels of death.
- Individual ERF organisations have their own business continuity plans in place to cope in times of staff shortage.

River & Surface Water Flooding

Flooding can take different forms and, at its most serious, can affect many different aspects of our daily lives. Over the coming years, rising temperatures and sea levels, and an increase in frequency and severity of extreme weather events, are likely to raise the risk of flooding in the UK.

Excluding coastal flooding, the two main types of flood are river and surface water flooding (caused by excess rainfall flows from surfaces that cannot easily absorb water). These two types can be grouped under the general description of 'inland flooding' as they can and do occur simultaneously.

For Essex, the Environment Agency confirms that 12,000 properties across the County are at risk from Fluvial (river) Flooding. With regards to surface water flooding, there are three lead local flood authorities that cover Essex; they report the following number of properties believed to be at risk from surface water flooding as:

- Thurrock Council area: approx. 21,600 properties
- Southend-on-Sea Borough Council area: approx. 6,000 properties
- Remaining Essex County Council area: approx. 108,000 properties

[some of these may be blocks of flats in which case they will only count as one property]

History

Extreme rainfall was experienced over the August Bank Holiday period 2013. Areas in the south of the County suffered significant impact from surface water flooding, with over 300 incidents being reported to Essex County Fire and Rescue Service for assistance with flooded properties. A family with young children were rescued by members of the public after their vehicle was driven into flood water, which was deeper than the driver had expected. This was classed as a near fatal incident

From the start of January 2014 until mid-February a series of Atlantic depressions tracked across the Country. The impact on Essex was an increase in rainfall resulting in the Environment Agency issuing 28 Flood Alerts and 19 Flood Warnings. These conditions placed some 3683 properties across the County at risk of flooding.

In Essex

Different agencies are involved in **managing flood risk**. These are:

Coastal and River Flooding :	Environment Agency 0345 988 1188
Surface Water, Ground Water and Ordinary Watercourses	Lead Local Flood Authority Essex County Council : 0845 603 7631 Southend on Sea Borough Council: 01702 215003 Thurrock Council : 01375 366100
Flooding from the Highway :	Essex County Council Highways 0845 7037631 Southend on Sea Borough Council 01702 215003 Thurrock Council 01375 366100

Flooding from water mains :	Contact the water provider for your area : Affinity Water 0845 782 3333 / Essex and Suffolk Water 0800 526 337
Flooding from sewers: Contact the waste water company for your area:	Anglian Water 08457 145 145 / Thames Water 0800 714 614

Environment Agency Floodline Warning Direct

Floodline Warning Direct is a free service that gives advance warning of coastal and fluvial (river) flooding by telephone, mobile, fax or pager. To register your telephone number for the service call Floodline on 0345 988 1188; it is available 24 hours a day, seven days a week. Calls to the Floodline are charged at local call rates.

You can also find out what flood warnings are in force in your area any time of day or night by;

- Contacting Floodline 0345 988 1188 and listening to recorded flood warning messages or speaking to Environment Agency staff
- Viewing the flood warning (updated every 15 minutes) on the Environment Agency website www.environment-agency.gov.uk/floodline

The Environment Agency is the main place for information on past floods, flood maps, and practical guides on protecting your home during a flood event. You can access these services and more at www.environment-agency.gov.uk

There are no warnings issued for surface water flooding. However, Emergency Planning Officers from all responding organisations liaise regularly with the Flood Forecasting Centre, a joint operation between the Met Office and the Environment Agency, to monitor any situations when the risk of surface water flooding is developing

Lead Agency – Environment Agency (coastal and river flood risk management), Essex County Council, Southend on Sea Borough Council and Thurrock Council (surface water flooding, ground water and ordinary watercourses flood risk management)

Risk Impacts

The predicted impacts include:

- Risk to life (people and animals).
- Damage to property, businesses, agricultural land, roads, structures and infrastructure.
- Pollution and contamination of local environment.
- Long-term damage to tourism , businesses and agriculture.

Consequences

The consequences include:

- Disruption to utilities (electricity and water supply).
- Evacuation of residents.
- Short, medium and long term accommodation of those whose homes are flooded.
- Long-term psychological and health impacts.
- Long-term restoration and recovery issues for homes and businesses.

What do you need to do?

Firstly, find out if your property is in a fluvial (river) flood risk area. If you are at risk of fluvial flooding:

- Sign up to the free Environment Agency Floodline Warning Direct 0345 9881188
www.environment-agency.gov.uk
- Understand what each level of the Environment Agency's flood warning means for you:

 <p>FLOOD ALERT Flooding Possible. Be Prepared</p>	 <p>FLOOD WARNING Flooding is expected. Immediate action is required.</p>	 <p>SEVERE FLOOD WARNING Severe Flooding. Danger to Life</p>
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- Find out if your property is at risk of surface water flooding, by asking other local residents and gaining local knowledge of your area.
- Plan where you will go if you have to evacuate and how you will get there.
- Know what to do to protect your property during a flood: www.bluepages.org.uk
- Identify neighbours who may need assistance or who may be able to provide assistance to you, in case of evacuation.
- Have supplies in your home that will enable you to cope for 3 days if you are unable to evacuate.
- Where possible, move valuable/irreplaceable items to upper floors during times of flood risk
- Ensure you have appropriate insurance:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69578/pb13082-flood-insurance.pdf

What are we doing in Essex?

- Identifying areas that could be affected by river flooding and who is at risk.
- Producing multi-agency plans to assist with the evacuation of those communities who are at risk.
- Strategic planning to protect the areas at risk.
- Provision of guidance to the public about protecting property when there is a significant flood risk.
- Promoting the Environment Agency Floodline Warning Direct 0345 988 1188.
- Developing ways and means of alerting the public when there is a significant surface water flood risk.
- Continuity to invest in maintaining and improving our river flood defences.
- Developing flood rescue and assistance for those who become isolated by flooding.
- Conducting post-flood investigation by the Lead Flood Authority following surface water flooding.

East Coast Flooding

The risk of coastal flooding is one of the most significant risks on the National Risk Register. The east coast (from Northumbria to Kent) is under threat from the possibility of tidal flooding caused by a combination of low atmospheric pressure over the North Sea, high tide levels (spring tides) and north-westerly gales driving a storm surge down the east coast towards the English Channel. The surge could combine with heavy rainfall.

The outcome could be a very large sea surge in the North Sea, with tides, gale force winds and potentially heavy rainfall. Many coastal counties and tidal reaches of rivers could be affected, from South Yorkshire down the coast as far as Kent.

Very high tidal levels could cause coastal and estuary defences to be overtopped or breached with no warning, even though they are maintained to a high standard. ~~and~~ Drains may back up. Flooding from these breaches would be rapid and dynamic. The weather and tidal conditions that lead to this type of event can be identified in advance, enabling the Environment Agency to issue appropriate level of Flood Warnings to the “at risk” communities and the responding organisations, (emergency services, local authority and partners), to plan and carry out (if required) an evacuation before any flood water arrives. Although maintained to a high standard, there is always risk of sea defences being breached, for which there can be no warning and which may leave little or no time for evacuation.

History

The last significant events of this type to affect the UK were through December 2013 and January 2014 when both the east and west coasts of the UK were hit by storm surges. This was unlike the previous significant event in 1953, where an east coast surge resulted in the flooding of coastal communities from Lincolnshire to Kent, with the loss of 307 lives. In these events, although costly with regard to recovery, rebuilding and the impact on the local economy, the loss of life was significantly different, with no fatalities associated with the flooding on the east coast and less than five on the west coast. These fatalities were caused when the individuals were “wave watching” and tragically swept away, rather than drowning in their homes as in 1953.

In Essex

Essex’s coastline is a major attraction for holiday makers and day trippers. There are thousands of static caravans along the coast at approximately 49 Caravan sites, as well as other homes, and businesses that support the coastal tourist industry. Many of these static caravans are occupied for the majority of the year. The coast is a popular place for retirement and therefore more reliant on social care.

The Essex’s coastline plays host to some significant industrial sites, including major oil and gas installations. Flood damage of these sites could have a significant impact on utility services to the UK.

Much has been done to protect the Essex coastline since the 1953 floods, particularly in the construction of sea defences. However, sea levels are rising, and because of the national and local impacts of a serious flood event, this risk is something which must be taken seriously.

The risk of coastal flooding remains low as we have good flood defences within the County. However, the consequences of flooding, should the defences be breached, are high.

Lead Agency – Environment Agency

Risk Impacts

The predicted impacts could include:

- Risk to life (people and animals).
- Damage to property, businesses, agricultural land, roads, structures and infrastructure.
- Pollution and contamination of local environments.
- Long-term damage to tourism, businesses and agriculture.
- Damage to national critical infrastructure (oil and gas installations).

Consequences

The consequences could include:

- Fatalities and / or injuries.
- Disruption to utilities (electricity and water supply).
- Flooding of properties for up to 14 days.
- Evacuation of residents.
- Short, medium and long term accommodation of those whose homes are flooded.
- Unrecoverable damage to businesses.
- Long-term psychological and health impacts.
- Long-term restoration and recovery issues for homes and businesses.

What do you need to do?

Firstly, find out if your property is in a flood risk area. If you are at risk of coastal flooding:

- Sign up to the free Environment Agency Floodline Warning Direct 0345 9881188
www.environment-agency.gov.uk
- Understand what each level of the Environment Agency's flood warning means for you:

 <p>FLOOD ALERT Flooding Possible. Be Prepared</p>	 <p>FLOOD WARNING Flooding is expected. Immediate action is required.</p>	 <p>SEVERE FLOOD WARNING Severe Flooding. Danger to Life</p>
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- Plan where you will go if you have to evacuate, what you will take and how you will get there.
- Know what to do to protect your property during a flood.
- Identify neighbours who may need assistance or who may be able to provide assistance to you, in case of evacuation.
- Have supplies in your home that will enable you to cope for 3 days if you are unable to evacuate.
- Where possible, move valuable/irreplaceable items to upper floors during times of flood risk.
- Ensure you have appropriate insurance:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69578/pb13082-flood-insurance.pdf

What are we doing in Essex?

- Identifying areas affected by flood water and who is at risk.
- Producing multi-agency plans to assist with the evacuation of those communities at risk.
- Strategic planning to protect the areas at risk.
- Promoting the Environment Agency Floodline Warning Direct Service.
- Continuity to invest in maintaining and improving our sea and tidal flood defences.
- Developing flood rescue and assistance for those who become isolated by flooding.

Severe Weather

With a temperate climate and occasional continental and Arctic influences, the United Kingdom experiences severe weather from time to time. These severe conditions can be associated with heavy rain, snow, strong winds or extreme temperatures. As past weather has demonstrated, severe conditions can lead to significant impacts and disruption to our usual day to day life.

Over the coming years, climate change means that it is likely we could experience a continued rise of global air temperatures – and sea levels. Although there are many uncertainties, it is possible that we could see an increase in the frequency and severity of extreme weather in the UK.

As the UK's national weather service provider, the Met Office issues severe weather Alerts and Warnings as part of the National Severe Weather Warnings Service. These are the types of weather that are included:



These Alerts and Warnings are classified with a colour – and each colour has a specific meaning:

			
No Severe Weather	Be Aware	Be Prepared	Take Action

All weather Alerts and Warnings are issued based on the **Likelihood** of severe weather occurring **and** the **Impact** that this severe weather may cause.

A full guide to the Met Office Alerts and Warnings can be found here:

<http://www.metoffice.gov.uk/guide/weather/warnings>

In addition to Severe Weather Warnings the Met Office provides its partners and the public with information on extremes in temperatures throughout the summer and winter months.

Cold Weather Alerts are issued between the 1st November and 31st March each season. The Alert is triggered when and if an average temperature of 2C or less for at least 48 hours is expected, or the Met Office anticipate issuing a Warning for Snow or Widespread Ice.

Heat Health Watch is issued between 1st June and 15th September each season. An increase in the Heat Health Watch Level for the Essex area will occur when the daytime temperature reaches or exceeds 30C, followed by a night minimum temperature that does not fall below 15C and then is followed by another daytime temperature reaching or exceeding 30C.

History

The hot summer of 2003 is estimated to have resulted in more than two thousand excess deaths, mainly among vulnerable people. It was this hot weather that led to the introduction of the Heat

Health Watch. This forecast was introduced during the hot weather of July 2006 and significantly fewer (680) excess deaths were recorded

In January 2007, a storm affected many parts of the UK, with gusts of wind exceeding 70mph in many parts of the UK, including parts of Essex. This storm caused nine deaths and widespread damage to trees and buildings across the Country, along with power and transport disruption.

In February 2007 and 2009, heavy snow brought transport disruptions and affected individuals and organisations across the Country. There have also been a number of occasions where snow has covered large areas of the Country for over a week.

In January 2010, snow led to major disruption across many areas of the UK, resulting in school closures, power outages and some people being unable to get to work for a number of days.

With the predominant wind direction across the UK blowing from the south west, weather systems that develop over the Atlantic Ocean sweep across the UK. Northern, western and some southern regions of the UK often bear the brunt of the storms, as they track generally west to east close to or over land, bringing with them associated strong winds and rain.

On 28th October 2013, a storm named 'St Jude' developed as it crossed the Atlantic Ocean, before tracking up close to the Bristol Channel – then over the Midlands, before moving away into the North Sea. As the storm tracked across England, it brought exceptionally strong winds and heavy rain. This resulted in widespread impacts on power and transportation infrastructure. The maximum gust in Essex was observed at Andrewsfield where 79mph was recorded.

In Essex

Much of the landscape of Essex is flat or gently undulating. At the same time, the population is spread over wide areas. This means that severe weather can leave the vital transport networks in the County vulnerable.

At a local level, there is nothing that can be done to reduce the likelihood of severe weather events occurring; however we can be prepared for these events in order to stay safe and maintain essential services.

The latest weather Alerts and Warnings for Essex can be found here:

<http://www.metoffice.gov.uk/public/weather/warnings/#?tab=warnings®ionName=ee>

The Met Office provides advice for what to do in severe weather:

<http://www.metoffice.gov.uk/guide/weather/severe-weather-advice>

The latest weather forecast for the Essex area can be found here:

<http://www.metoffice.gov.uk/public/weather/forecast/chelmsford-essex#?tab=regionalForecast&map=SignificantWeather&fcTime=1386817200>

To contact the Met Office, please call (0870) 900 0100 or 01392 885680

Risk Impacts

Storms and Gales

- Danger to life from windswept objects and structural failures.
- Damage to property.
- Damage to infrastructure and communications networks.
- Travel disruption.

Low Temperatures and Heavy Snow

- Travel disruption.
- Vulnerable people exposed to health threatening temperatures.
- Power and water failures.
- School and public building failures.

Heatwaves

- An increased number of admissions to hospital and consultations with GPs due to sunburn, heat exhaustion, dehydration, respiratory problems and other illnesses such as food poisoning.
- Increased vehicle breakdowns due to overheating engines.
- Road surfaces deteriorating as tarmac begins to melt.

Consequences

The consequences of severe weather are varied. Some common issues include road and travel disruptions, damage and disruption to basic utilities and damage to property.

These have a knock-on consequence to individuals, businesses and the ability for organisations to deliver essential functions to the community.

What do you need to do?

- Listen to weather forecasts and heed any warning of extreme weather.
- Plan any journeys or activities with the weather in mind.
- If you have to travel in severe weather make sure you have adequate clothing and emergency supplies in your vehicle.

What are we doing in Essex?

- Producing multi-agency plans to manage severe weather events.
- Considering weather forecasts prior to any large events in the County.
- Receiving and distributing early notifications of severe weather.

Fuel Shortages

All organisations rely to some extent on fuel, whether it is for getting staff to work, or distributing products or services. The availability of fuel within the UK is generally very good; however there have been examples within recent years of brief disruptions to supply on both a regional and national basis.

A disruption could be caused by a number of factors, including scarcity of supply, a technical problem with part of the fuel supply infrastructure, industrial action or public protest. In the event of such a disruption to supply, it is also possible that stocks could be further depleted through increased consumer demand (panic buying).

History

In September 2000, blockades at key oil distribution points caused nationwide fuel shortages over a week. Threats of similar action in August 2005 led to panic buying which caused localised disruptions across the UK.

The industrial action taken by Shell tanker drivers in June 2008 had a widespread effect on fuel distribution through the UK resulting in some filling stations running out of fuel.

In Essex

Essex is heavily dependent on its road network with large rural areas of the County without any other form of transport links. There are a number of towns of considerable size within the County without rail links and with limited public transport links of any other nature (Saffron Walden, Halstead, Great Dunmow, Maldon, Tiptree, Ongar).

In many parts of the County that are totally reliant upon road transport of some form or another, retail fuel stations are few and far between and often limited to those outlets allied to one of the supermarket chains. (Saffron Walden, a town with a population of 14,572, has one retail petrol station).

Lead Agency - Essex Police/ECPEM

Risk Impacts

The predicted impacts include:

- Public and commercial filling stations exhausted within 48 hours.
- Up to 10 days to return to normal supplies.

Consequences

The consequences could include:

- Inability to provide essential services to vulnerable individuals.
- Local and national economic impact.

What do you need to do?

- Maintain your vehicle in order that it is as fuel efficient as possible.
- Minimise travel during fuel shortages, and only make essential journeys.
- Consider other means of conserving fuel, such as car sharing, public transport, walking or cycling.
- Avoid panic buying.

What are we doing in Essex?

- Identifying filling stations for essential fuel users such as emergency service vehicles which links to the National Emergency Plan for Fuel.
- Producing multi-agency plans to manage a fair distribution of fuel to the public when it is in a limited supply

Loss of Critical Infrastructure

Critical Infrastructure is the name given to all the different essential services which we rely on as part of modern society and the economy. The UK's critical infrastructure is made up of electricity water, gas, oil/fuel, transport, telecoms, food, health and financial services.

Many parts of the infrastructure network are dependent on one another, e.g. electricity is required at the water pumping stations, telecoms and electricity are required to allow cash machines and cash registers to function correctly.

Those services which could directly or indirectly impact upon other elements of the infrastructure are detailed below:

Electricity / Gas Incident

Wide-scale loss of electricity or gas would have a direct effect or impact on all other infrastructure sectors. In the event of a major gas or electricity supply disruption, both industry and government will have significant roles to play in managing the incident and its consequences.

The gas and electricity companies have well established plans and procedures in place to respond to incidents, which can range from the management of a local incident to national level of disruption.

Telecoms

Wide-scale telecoms disruption will have a direct or indirect impact on all other infrastructure sectors. Individuals and businesses are increasingly dependent on the telecoms network either for mobile and fixed line telephony or the provision of internet connections.

Water

Water disruptions include burst water mains, supply disruption and minor or major contamination. Dependent on the severity of the incident, a multi-agency emergency may be declared to ensure that people's basic water needs are met. Water companies are heavily regulated under the Water Industry Act, and have established business continuity plans and mutual aid agreements to mitigate the effects of incidents relating to water supply.

Food

There are no realistic scenarios within the UK which would lead to a shortage of food supplies. However, if a large area of agricultural land was affected by an incident it would affect the economy of the Country as well as impacting on food prices nationally.

In Essex

Because of our increasing reliance on utilities such as electricity, water and gas for so many aspects of our lives, even localised losses can have a significant impact on those affected.

Following a wide-scale incident, people who live in the more rural areas of Essex may be affected for longer than those in the larger towns as rural areas are often the last to be reconnected when there is a disruption to utilities such as gas, water and electricity.

Lead Agency – the lead agency for Essex infrastructure failures varies, dependent on the nature of the emergency and its impacts.

Risk Impacts

The predicted impacts include:

- People exposed to poor sanitation and lack of drinking water.
- Homes without heating and limited ability to heat food and water.
- Limited ability to keep food cold or frozen.
- No ability to get fuel from filling stations.
- Businesses closing temporarily (sanitation and drinking water)
- People unable to get cash from cash machines or make card purchases.
- Limited telecommunications (including mobile phones).

Consequences

The consequences of a wide-scale infrastructure incident could include:

- Disruption to essential services and activities.
- Risk to vulnerable people.
- Financial impact on businesses.
- Civil unrest.
- Increased demand on emergency services.
- Travel disruption.
- Disruption to businesses and normal home life.

What do you need to do?

- Keep a home phone that does not require electricity in order to operate and keep a separate list of the emergency contact numbers for your utilities suppliers.
- Keep a battery or wind up radio.
- Know where the cut off points are for your utilities, in case of gas and water emergencies. It may be necessary to shut off the supply to every property in the affected area.
- Keep an emergency kit in your home containing items such as a wind-up torch and supplies of tinned food and drinking water.
- Outages may come without warning.
- Be on alert for bogus callers posing as utilities company workers.

What are we doing in Essex?

- Working with utilities companies to manage supply interruptions.
- Producing multi-agency plans to manage long-term utilities outages and identifying vulnerable people who will need special treatment in the event of a utilities outage

Animal Disease

Animal diseases that present the most concern are those which are highly contagious, cause high fatality rates amongst livestock or have the possibility of infecting humans.

Within emergency planning, the following diseases are considered: Foot and Mouth Disease, Bluetongue, Avian Influenza, Rabies, Classical Swine Fever, West Nile Virus and Newcastle Disease.

History

There have been a number of significant animal disease outbreaks in the United Kingdom. Foot and Mouth Disease, Blue Tongue and Avian Influenza (Bird Flu) are the most notable recent examples.

The Foot and Mouth outbreak of 2000 was one of the key factors that led to the 2004 Civil Contingencies Act, due to its huge impacts on the UK economy.

In Essex

An animal disease outbreak will affect the agricultural economy as well as the economy of the County and the Country. An outbreak may cause the temporary closure of farms and markets to the public, invoking measures to stop the spread of the disease. An outbreak may also affect domestic and international markets as a foreign outbreak may cause the importation of certain products to be suspended. Advice would be sought from the Animal & Plant Health Agency (APHA), in conjunction with the Department for Environment, Food and Rural Affairs (DEFRA), on the control of a disease outbreak and also any further measures to take. In the event of a major disease outbreak, a strategic co-ordination group will meet to respond to the needs of the outbreak.

Lead Agency – DEFRA, Animal Health & Essex County Council Trading Standards

Risk Impacts

The predicted impacts could include:

- Damage to local agricultural economy.
- Mass cull/disposal of animal carcasses.
- Loss of livelihoods for farmers and farm workers.
- Health risks to farm workers.

Consequences

The consequences could include:

- Long term psychological health impacts experienced by farmers.
- Increased food costs to consumers.
- Knock-on effect on tourism and other service industries (e.g. catering).
- Unrecoverable damage to businesses.

What do you need to do?

- Register any livestock that you own with DEFRA.
- If an outbreak is declared follow any guidance from the government to protect your livestock and limit the spread.
- Vaccinate livestock where possible.

What are we doing in Essex?

- Producing multi-agency plans for managing animal disease outbreaks.
- Raising disease awareness amongst farmers and farm workers.

Coastal Pollution

The English Channel is a major international transport route and one of the busiest shipping lanes in the world. One of the risks to Essex is the potential for a shipping accident, causing oil or other hazardous cargo to be released into the sea, washed up on the shoreline causing widespread pollution and damage to the local environment, wildlife and economy.

History

In 1996 the tanker MV 'Sea Empress' ran aground off the coast of South Wales resulting in 72,000 tonnes of crude oil being lost in the week-long salvage operation. One hundred kilometres of coastline were affected including wildlife, fishing and tourism. The clean-up operation took almost five years with an estimated cost of £60 million.

In January 2007 the MSC Napoli ran into difficulties in the English Channel after being damaged by storm force winds. It beached in Lime Bay, where the salvage operation was focused. During this time oil, debris and cargo from the ship was washed up onto the local shoreline.

In Essex

The Essex coastline is one of the longest of the counties in England, at over 500km in length. The salt marshes, estuaries and islands, a distinctive feature of this area of the UK, are home to a vast array of wildlife.

Essex has three major ports in the County; Harwich International, Port of Tilbury and the newly completed London Gateway, all of which attract a large amount of international shipping to the area.

Risk Impacts

The predicted impacts include:

- Pollution of sea water.
- Pollution of beaches and shoreline.
- Damage to Sites of Special Scientific Interest (SSSI).
- Damage to wildlife and the environment.
- Health risk to coastal residents and holiday makers.

Consequences

The consequences include:

- Economic impact to agriculture and tourism economy.
- Closure of ports affecting movement of passengers and freight.
- Irreparable damage to coastal businesses.

What are we doing in Essex?

Lead Agencies:-

Maritime & Coastguard Agency (offshore response and clean-up)

Essex County Council (shoreline response and clean-up)

- Producing multi-agency plans to effectively clean up any oil spills in order to minimise pollution and impacts on coastal communities and safely dispose of hazardous materials.
- Through the Maritime and Coastguard Agency:
 - Protecting the environment by minimising the risk and impact of pollution from ships and offshore installations.
 - Promoting high standards of safety at sea.

What do you need to do?

- Co-operate with responding organisations during any clean-up operation
- If possible, volunteer time and resources to assist with the clean-up operation
- Avoid temptation to scavenge any cargo which has been washed-up, as this remains the property of the vessel owner

Industrial Accidents

Certain industrial activities involving dangerous substances have the potential to cause accidents. Some of these accidents may cause serious injuries to people or damage to the environment both nearby, and further away from the site of the accident.

History

Buncefield

Recent experience of this type of incident in the UK was in Hemel Hempstead with the Buncefield Oil Depot explosion in 2005. The explosion measured 2.4 on the Richter scale, and caused the largest fire in Europe since the Second World War. Two thousand businesses employing 16,500 people were affected. Sixty members of the public required medical aid and the accident caused major disruption to roads, fuel supplies, local businesses and the supply chain. Essex County Fire & Rescue Service supported the emergency response to this incident in Hertfordshire, along with other Fire & Rescue Services.

COMAH

The Control of Major Accident Hazards Regulations 2015, (COMAH) are the enforcing Regulations within the United Kingdom. They aim to prevent major accidents involving dangerous substances and to limit the consequences to people and the environment of any incidents that do occur. The Regulations are enforced by the Health and Safety Executive and are applicable to any organisation or site storing or handling large quantities of industrial chemicals of a hazardous nature. Types of establishments include chemical warehousing, chemical production facilities and some distributors.

In Essex

Essex has a number of COMAH sites, especially in the industrial areas along the Thames corridor. These are industrial sites, fuel and gas pipelines and storage depots that all have the potential to cause a major fire or explosion.

The potential for a large impact does not always come from a large industrial site. If a fire involves acetylene cylinders (as found in many commercial garages and workshops) fire service procedures require the imposition of a 24 hour, 400m hazard zone. Anyone living within this zone will be evacuated until it is safe to return – it is important to be prepared so you know what to do if this affected your home or business.

Lead Agencies – The Health and Safety Executive and Environment Agency are the Competent Authorities for COMAH on- site plans and Local Authorities are responsible for preparing the Off-site plans.

Public Information Zones (PIZ)

The COMAH Regulations puts a duty on the “Competent Authority” to determine an area around a COMAH establishment within which information must be made available. This area is known as the Public Information Zone (PIZ). It is the responsibility of the site operator to provide this information.

People within the PIZ must receive information about how they may be affected by a major accident at that establishment. This includes information about the potential major hazards and the safety measures that are in place as well as how they will be warned and kept informed in the event of a major accident and the actions that they should take.

Risk Impacts

The predicted impacts include:

- Endangerment of life.
- Damage to property and the local area.
- Pollution of the local environment and water courses.

Consequences

The consequences could include:

- Impact to UK oil and gas supplies.
- Economic impacts through damage to local businesses.
- Long term restoration and recovery of the local area.
- Contamination of crops and agricultural land.

What do you need to do?

- Be aware if you live near a hazardous site. If you hear warning of an incident, go indoors, close all your doors and windows and tune into BBC Radio (Essex 95.3FM or 103.5FM) for advice.
- This advice also applies in the event of a significant fire related smoke plume from any industrial site.

What are we doing in Essex?

- Working directly with site operators who manage particularly hazardous sites.
- Identifying ways and means of communicating with the public.
- Supporting local communities to develop their own emergency plans.
- Preparing and exercising plans for all COMAH sites

Transport Incidents

All of us will rely on a form of transport to either to get to or from work, or to receive essential services. The disruptive consequences of a transport emergency are far reaching and can further endanger life.

Transport emergencies can be the result of accidents and also disruption caused by severe weather such as snow and floods. The situation can be further complicated by extremes of temperature if people are confined in their vehicles for long periods of time.

Road

The road network in Essex is managed by two separate organisations. The majority of the roads are managed by the Highways Departments of Essex County Council, and Southend and Thurrock Unitary Authorities. The roads forming part of the UK's strategic network (the M25 and M11) are managed by the Highways England. The M25 at Brentwood carries an average of 113,000 vehicles every day.

Other significant roads within the County include the A12, A13 and A127. These roads are heavily used by haulage companies and commuter traffic.

Most road accidents are within the routine capabilities of the three lead emergency services. However, there is always the risk of an accident going beyond these capabilities and the need to engage with additional agencies to co-ordinate the response, especially if the accident involves chemicals or hazardous materials.

Rail

Essex is well serviced by two main line rail services run by Abellio Greater Anglia, into London Liverpool Street, and C2C into London Fenchurch Street. Essex is also connected to the London Underground network starting at Epping on the Central Line with seven stations within the County.

Essex has a significant number of rail commuters travelling around the County and into London with over 8 million entries and exits from Chelmsford Station alone in 2014/15.

Sea

The North Sea has some very busy shipping lanes carrying cargo and passenger vessels. Essex has three major ports Harwich International, Tilbury and London Gateway Development. The Community Risk Register considers the possibility of an incident involving a passenger vessel off the coast (fire, stranding, collision and sinking).

Air

Essex has two international airports; London Stansted and London Southend. London Stansted airport handled 21.9 million passengers in 2015 London Southend Airport handled over 894,287 passengers. There is considerable aircraft movement throughout Essex airspace including stacking of planes for Heathrow. There are also a number of smaller airfields in Essex mainly used by light aircraft and gliders for pleasure.

History

There have been a number of light aircraft crashes in Essex over the last decade, none of which caused significant impact on the wider community. In 1999 a Korean Airlines Boeing 747 cargo aircraft crashed shortly after take-off from Stansted, falling into farmland.

There have not been any significant rail related incidents in Essex.

In Essex

Lead Agency – Essex Police (although the lead agency can vary depending on the nature of the transport accident)

Risk Impacts

The predicted impacts could include:

- Disruption to normal travel capabilities.
- Death or injury to people.
- People stranded in vehicles potentially in extreme weather conditions.
- Environmental impact if goods or fuel are spilled into the local environment.
- Possible damage to buildings.

Consequences

The consequences could include:

- Impact on businesses through delayed or failed deliveries.
- Extreme delays to passenger journeys.
- Delays in emergency services reaching people.
- Impact on economy if damage to critical transport infrastructure.

What do you need to do?

- Have an emergency kit in your car for basic items when you travel. You may not be directly involved in an accident but the transport disruption could last for hours.
- When driving, abide by the rules of the road, adhere to speed limits and drive safely.
- Ensure your vehicle is kept in a roadworthy and safe condition.
- Avoid non-essential journeys during times of severe weather.

What are we doing in Essex?

- Working with the national transport companies to plan for dealing with accidents.
- The County Council's Highways department work alongside the Highways England to keep all major county roads accessible during times of severe weather.

Emergency Management in Essex



The work of the Resilience Forum in Essex follows a simple cycle with each phase of the cycle leading to the next. Each Emergency response effort leads into an assessment of what didn't go as well as it could have. , this kicks off the next planning and preparation phase.

Mitigation

- Understanding the risks, how they are caused and what impact they would have locally
- Working in partnership to reduce the likelihood or the risk occurring and lessen the impacts if the risk should occur

Preparedness

- Understanding the impacts and consequences of each risk
- Developing emergency response plans for response to the risks
- Matching our capabilities to the needs of each emergency
- Developing longer-term recovery plans
- Awareness of each organisation roles and responsibilities
- Training and exercising
- Lessons learned from previous incidents
- Developing incident management procedures
- Establishing links for help and assistance from other Countries for lengthy/large-scale incidents

Response

- Initial emergency activities (public safety, evacuation and shelter, limiting the spread of the incident, search and rescue)
- Initial damage assessment
- Multi-agency command and control
- Informing the public of the incident and what actions they should take

Recovery

- Initial and long-term recovery efforts
- Re-housing and displaced people
- All recovery activities are based around 4 key areas:
 1. Human Assistance
 2. Infrastructure (roads, water, sewer, power, communications etc.)
 3. Economic
 4. Environment

Analyse

- Identify what went well.
- Identify what did not go so well.
- Amend plans as necessary.

Are you prepared?

Knowing what to do during an emergency is an important part of being prepared and may make all the difference when the seconds count.

What can you do to be prepared in your own home?

Some emergencies require evacuation and some require staying put – are you ready?

In the case of most major emergencies the simple advice is to go inside, stay inside and tune into local radio.

We use local radio to broadcast emergency warnings and information as it is one of the most accessible means of communication. It can be received in homes, businesses and cars.

With most residents, the safest place to be is indoors and with the correct preparation you should be able to stay there safely for some time (remember in the case of a fire in a building you are in – get out and stay out).

The ERF works together with BBC Essex (and other media outlets) to make sure that they can give out accurate and up to date information to keep people fully informed on what to do during any emergency.

Go in

Stay in

Tune In

Planning for an Emergency

To prepare for an emergency, you should take time to find out:

- Where and how to turn off water, gas and electricity supplies in your home.
- The emergency procedures for your children at school.
- The emergency procedures at your workplace.
- How your family will stay in contact in the event of an emergency.
- If any elderly or vulnerable neighbours might need your help.
- How to tune into your local radio station.

At home in an emergency

If you are at home and an emergency happens, in the limited time available (and if safe to do so) try to gather together:

- A list of useful phone numbers e.g. for your doctor and close relatives.
- House and car keys.
- Toiletries, sanitary supplies and any regularly prescribed medication.
- A battery or wind-up radio, with spare batteries.
- A battery or wind-up torch with spare batteries.
- A telephone that works when there is no electrical supply.
- A first aid kit.
- Your mobile phone and charger.
- Cash and credit cards.
- Spare clothes and blankets.
- Bottled water, ready to eat food (e.g. tinned) and a bottle/tin opener, in case you have to stay in your home for several days.

Also check on neighbours and vulnerable people in your community where it is safe to do so.

Leaving Your Home in an Emergency

In certain situations, you may be asked to leave your home by the emergency services. If this happens, leave as quickly and calmly as possible.

If you have time:

- Turn off electricity, gas and water supplies, unplug appliances and lock all doors and windows.
- Put together a grab bag (*see below*) – you may wish to have some of these items in a bag ready just to be prepared.
- If you leave by car, take bottled water and blankets.
- Take your pets (with suitable carriers or leads).
- Tune in to local radio for emergency advice and instructions.
- Inform emergency services responding to the incident where you have gone and how you can be contacted.

Grab Bag

This is a check list of key items for you grab bag, there may be more...

- List of prescription medicines for the family – inhalers/epi-pens.
- Copy of Identity documents.
- Copy of Insurance details.
- Basic first aid kit.
- Spare glasses/contact lenses.
- Radio (battery or wind up).

- Torch (battery or wind up).
- Note book, pen/pencil.
- Mobile Phone Charger.
- Contact List – including phone numbers (Doctor, Emergency Services, Insurance Company,
- Spare keys for house/car.

Returning Home after an Emergency

Listen to advice from emergency services or local authorities about any specific actions which you must follow when it is safe to return home.

How can your community be prepared?

Community Resilience

Wide-scale emergencies can and do happen. The UK has in recent history experienced significant flooding, drought, heavy snow, large-scale industrial fires, terrorist attacks, utilities failure and fuel shortages.

The lessons learned from the 2013-14 floods showed that those communities which were prepared for emergency events were better equipped to deal with the impacts. This means that the individuals within those communities were able to cope without fear or panic.

What is a Community Emergency Plan?

A Community Emergency Plan provides advice and guidance to a local community (this may be the parish council, ward, neighbourhood watch area, community group or even a single street) both in advance of and during any significant emergency.

The Essex Resilience Forum is encouraging Parish Councils to develop Community Emergency Plans in order to be better prepared for realistic risks which they face.

Why have a Community Emergency Plan?

The purpose of community resilience is to encourage people to plan and be prepared to put in place a self-help response within a community which is affected by an emergency.

Experience has shown that sometimes due to the scale and/or nature of the emergency, the normal response provided by the emergency services and the local authorities can be delayed. On these occasions anything which that the local community can do to support each other will help them to deal with the emergency more effectively.

How to Get Started

Have a look on the Essex Resilience Forum Essex Prepared website (www.essexprepared.co.uk) and see if your community has a plan, or speak to your Local Council Emergency Planning Officer. If there is no plan for your community, there is plenty of help and advice on the ERF website to help get you started.

Community resilience measures can be as little as just having a designated point of contact within the parish who can receive warnings and messages from the emergency services and local authorities. The Plan can grow overtime to include areas such as:

- A parish emergency team.
- Community buildings which can be used as emergency evacuation facilities.
- Knowledge of skills and expertise within the community.
- Knowledge of special equipment or vehicles within the community.
- Identification of vulnerable premises and people within the local area.
- Specific actions based on specific risks.

How can your business be prepared?

If you own or are responsible for a business or organisation, have you considered the impacts from external emergencies?

How would your organisation cope, with:

- A sudden and significant reduction in staff?
- Denial of access to a site or geographical area?
- Unexpected loss of mains electricity?
- A temporary disruption to gas supplies?
- A disruption to the supply of mains water and sewerage?
- Significant disruption to transport?
- Disruption to the availability of fuel?
- A loss of telecommunications?
- A loss of or disruption to your computer systems?
- A disruption which affects your key suppliers or partners?

Does your organisation have adequate business continuity measures in place?

Business Continuity Management

Business Continuity Management is the process through which organisations aim to continue the delivery of their key products and services during and following a disruption to normal activity and to recover afterwards. Effective business continuity is the first line of defence for any organisation to ensure they are able to maintain the delivery of their core services and, in the long-run, to assure their survival.

Organisations should consider a wide range of potentially disruptive challenges, both internal, for example disruption to computer systems and external, for example severe weather.

5 Steps to Effective Business Continuity

- 1. Understand your business**
 - What parts of the business are critical and what priority would you allocate to restoring functions should they fail?
- 2. Risk Assessment**
 - What risks does your business face (internal and external)?
 - Consider these risks within your business risk assessment. What can you put in place to reduce the likelihood of the risk and/or the impact of them?
- 3. Consider the resource needs of each of your business functions?**
 - People.
 - Premises.
 - Equipment.
 - Information.

- Communications.
 - External suppliers / contractors.
4. **Document information in a user-friendly format about your business' critical functions and the resources required including alternatives / backups for each.**
 - This will assist you during and after an emergency.
 5. **Train and test your staff in activating the continuity plan and the roles and procedures within it.**

Further information on preparing your business can be found on the Essex Resilience Forum's Essex Prepared website (www.essexprepared.co.uk).

Want to know more?

Further information on the Essex Resilience Forum and its partners are available on the Forum website. Use the URL www.essexprepared.co.uk to find us on the internet.

The website contains:

- Links to all of the Resilience Forums partner organisations.
- Further advice and information on how to be prepared for emergencies.
- Details of Community Groups involved in emergency planning in your area.
- Games and activities for children.
- News items.

Contact us:

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With thanks Lincolnshire Resilience Forum.