

COMMUNITY
RISK

REGISTER FOR
THAMES VALLEY

Thames Valley's Resilience



PREPARING FOR EMERGENCIES



COMMUNITY RISK REGISTER FOR THAMES VALLEY

Emergency preparedness and management of the main risks in the Thames Valley

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Introduction

Thames Valley's Community Risk Register (CRR) provides information on the biggest emergencies that could happen in the Thames Valley, together with an assessment of how likely they are to happen and the impacts if they do. This includes the impacts to people, their houses, the environment and local businesses. These risks are regularly reviewed and have led to this updated CRR.

PURPOSE

This document is designed to educate people about the risks that could occur where they live, so they can think about what they can do to be better prepared in their homes, communities and businesses.

Looking at all of the risks together can also help emergency services, local authorities and other organisations plan their joint response. The CRR aims to help these agencies make decisions on emergency planning work, and will help them develop better relationships whilst considering their capabilities and capacity.

Any gaps identified can then be dealt with appropriately, depending on the priority of the risk. The overall aim of this is to identify the generic capabilities, which are required in response to many of the risks, so we can develop a strong capacity to respond to any incident.

The LRF

WHO WE ARE

Thames Valley Local Resilience Forum (TVLRF) is a partnership, made up of all the organisations needed to prepare for and respond to any major emergency in the Thames Valley area,

which is made up of Oxfordshire, Berkshire and Buckinghamshire.

The Forum covers the Thames Valley Police Force area, and includes the emergency services, local authorities, the Environment Agency and health agencies along with voluntary and private agencies.

Under the Civil Contingencies Act (2004) every part of 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, which we regularly test and exercise, necessary to help us manage most emergencies.

They include:

- evacuation and shelter
- contingency communications
- dealing with mass casualties
- dealing with excess deaths
- site clearance
- humanitarian assistance.

WHAT WE DO

The strategic aim of Thames Valley's Local Resilience Forum is:

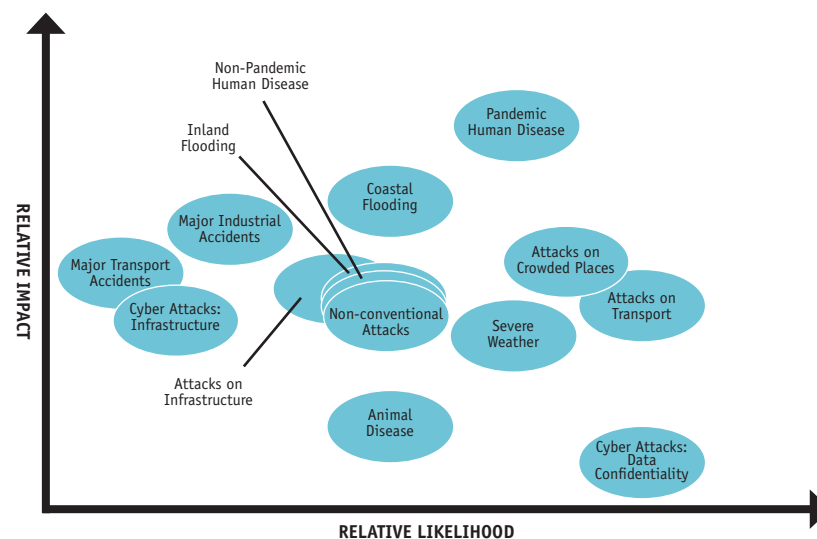
'To establish and maintain effective multi-agency arrangements to respond to emergencies, minimise the impact of those emergencies on the public, property and environment of the Thames Valley and to satisfy fully the requirements of the Civil Contingencies Act'.

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 to any threat.

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

- prevent the disaster getting worse
- save lives
- relieve suffering
- restore normality as soon as possible
- protect property
- facilitate a criminal investigation and judicial process if necessary.

AN ILLUSTRATION OF THE HIGH CONSEQUENCE RISKS FACING THE UNITED KINGDOM SOURCE: NATIONAL RISK REGISTER (2015)



What is the Community Risk Register?

Thames Valley Local Resilience Forum legally has to produce a Community Risk Register (CRR) to look at the likelihood and impact of a range of hazards happening.

Nationally, every resilience forum uses its own professional judgement along with guidance from the national version of this document (National Risk Register), to put together its CRR. 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.

Thames Valley's CRR helps identify emerging issues and also situations where a risk may be increasing or decreasing in the Thames Valley area. It helps highlight any gaps in an organisation's ability to respond to an emergency and indicates what response is required. If a risk is included in the CRR, it doesn't mean it will happen. It means we know it is a possibility, and organisations have made arrangements to reduce its impact.

SCOPE OF THE CRR

The CRR does not assess every single risk. It assesses the risks that are most likely to happen and the impact these would have across the Thames Valley area.

The risk assessments included in the register only cover non-malicious events (i.e. hazards) rather than threats (i.e. terrorist incidents). Specific information about threats is not detailed in a CRR.

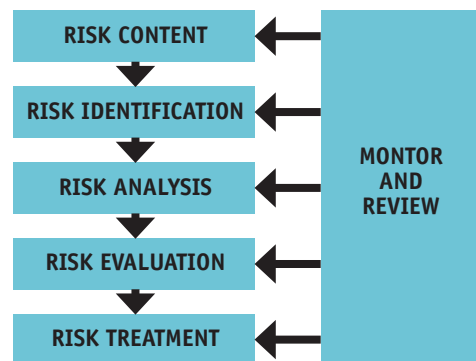
The CRR focuses on serious risks that could result in an emergency, defined as:

- an event or situation which threatens serious damage to human welfare in a place in the United Kingdom
- an event or situation which threatens serious damage to the environment of a place in the United Kingdom
- war or terrorism which threatens serious damage to the security of the United Kingdom.

Source: Civil Contingencies Act (2004)

RISK MANAGEMENT PROCESS

The CRR is put together through a risk management process. This process follows a cycle, and is carried out by the Risk and Capability Group – a group of people from the main organisations in Thames Valley's Resilience Forum.



RISK CONTEXT

The Thames Valley CRR puts the national risks in a local context, by looking at things like economic, geographic and demographic factors, whether the risk has happened before and what is in place to control it. Even within the the Thames Valley area, a risk can have a different impact.



RISK IDENTIFICATION

Some risks are more obvious than others. There are several main categories: natural events, human diseases, animal diseases, major accidents and malicious attacks.

RISK ANALYSIS

Each entry in the CRR has a lead organisation responsible for co-ordinating the risk assessment. This looks at the likelihood and the impact:

- Likelihood is the probability of an incident related to a hazard or threat, happening over the next 5 years.
- Impact is a measure of the severity of the potential harm caused by the hazard or threat, looking at the impacts on health, the economy, the environment and society.

RISK EVALUATION

After the lead organisation has completed the risk assessment, it has to be agreed by the RAWG before being included in the CRR. Each risk is then displayed on a graph to show the risks relative to each other.

RISK TREATMENT

A risk treatment plan is agreed by the LRF to prioritise ways of reducing risks, with the ultimate aim of reducing them to an acceptable level as far as possible.

MONITORING AND REVIEW

All risks in the CRR are reviewed continually and changes made as required.

The CRR has a review date showing when the annual comprehensive review is carried out.

THE THAMES VALLEY PROFILE



The Thames Valley Profile

Some risks will be more likely to happen in the Thames Valley, or they may have a bigger impact here, compared to other parts of the country.

To understand why some risks are more significant in the Thames Valley, 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 in the area.

POPULATION

The Thames Valley comprises a geographical area covering the unitary local authorities of Berkshire and Milton Keynes, and the county and district local authorities of Buckinghamshire and Oxfordshire. It has over two million residents, with significant ethnic minority populations and a high concentration of universities and colleges creating a seasonal student population.

ENVIRONMENT

The Thames Valley consists of several cities, towns and villages, and rural countryside of woodlands, heaths, downs and agricultural land. In general terms the area is more urbanised in the east, more rural in the west and north. The area is one of the driest regions in the UK and thus vulnerable to water shortages. Conversely the Thames and a large network of other river systems are historically prone to flooding, which remains a significant risk for many parts of the area.

Source: Environment Agency

ECONOMY

The Thames Valley is a major economic centre, both within the UK and Europe. Economic activity is largely focused on high-tech services and knowledge-based industries, including telecommunications, software, pharmaceuticals, aerospace, R&D, business services, distribution, and retailing. Most major international corporations are represented in the area, and it also has a strong entrepreneurial culture with a high density of businesses per capita. Whilst economic resilience, innovation and adaptation are key features of the Thames Valley's economic and business activity, in common with other economic centres it remains susceptible to national and global economic disruption.

Source: Thames Valley Economic Partnership

INFRASTRUCTURE

The area has a large concentration of key transport infrastructure serving the Thames Valley, London and cross-country routes. Major motorways and trunk routes include the M1, M3, M4, A329 (M) and M40, and the A40, A34, A5 and A4. A significant majority of rail routes to the South, West, Midlands, and North of the UK transit through the Thames Valley. The area borders Heathrow Airport and a number of flight paths cover the region. As a result of the concentration of transport infrastructure, disruptions caused by accidents, weather or other reasons can have a significant impact on local communities.

Several canals, including the Grand Union and the Kennet and Avon, cross the area. The main use of the canals and the River Thames is leisure.

The area contains major retail and leisure sites, in addition to tourist attractions of world renown such as Windsor Castle and Oxford, which attract large gatherings of local people and visitors.

The Thames Valley contains a number of military and other Government sites.





TOP RISKS



Influenza Type Disease

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 to 40 million deaths worldwide (with the largest rates of death in people between 20 and 45 years old) and major disruption. In the UK alone there were an estimated 228,000 additional deaths.

IN THE THAMES VALLEY

As a result of rapid spread from person to person, pandemics have significant global consequences on communities and economies, as well as on human health.

Lead Agency – Health



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 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 a pandemic
- health care and local authority social care systems become overloaded
- normal life is likely to face widespread disruption, particularly due to staff shortages affecting the provision of essential services, including production and transport 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.
- 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 help relieve your symptoms.
- Know the arrangements for your child's school.
- Look out for, and observe, advice and guidance from the NHS.

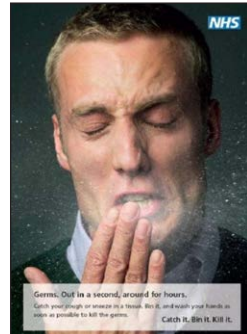


WHAT ARE WE DOING IN THE THAMES VALLEY?

We work together to plan for:

- management of the demand on the NHS and social care
- distribution of anti-viral medication to the public if required
- vaccinations
- public awareness and media management
- managing excessive levels of death.

Individual LRF organisations have their own business continuity plans in place to cope in times of staff shortage.





Fluvial/River flooding

The events of the winters of 2012/13 and 2013/14, and the summer of 2007, showed that flooding can take different forms and can affect many different aspects of our daily lives.

Over the coming years, rising temperatures and an increase in the frequency and severity of extreme weather events are likely to raise the risk of flooding in the UK. The main types of flooding seen in the Thames Valley are fluvial flooding from rivers, groundwater flooding and surface water flooding from excess rainfall and surface water runoff. These types of flooding can and do occur simultaneously.



HISTORY

No two floods are the same. In the winter of 2013/14 the Thames Valley was seriously affected by flooding. The winter as a whole, from the beginning of December 2013 until the end of February 2014, was the wettest recorded in the UK since records began in 1766.

Parts of South East England received almost two and a half times the amount of rainfall that they would normally expect. The record rainfall seen in the South East over that winter, resulted in the same amount of water flowing underneath Kingston Bridge as the amount of both the 1894 and 1947 floods put together.

Late December saw severe storms and heavy rain with flooding over Christmas, several dry days followed which allowed river levels to subside. However, in early January it was again exceptionally wet with rainfall totals averaging 90mm. In some areas, there was up to 150mm of rain. The cumulative effects of rainfall over many days had a profound impact on the River Thames. Levels on the Thames were still above normal and reached their highest on 9 January in Oxford, 10 January in Reading and 11 January on the Lower Thames, from Datchet to Teddington.

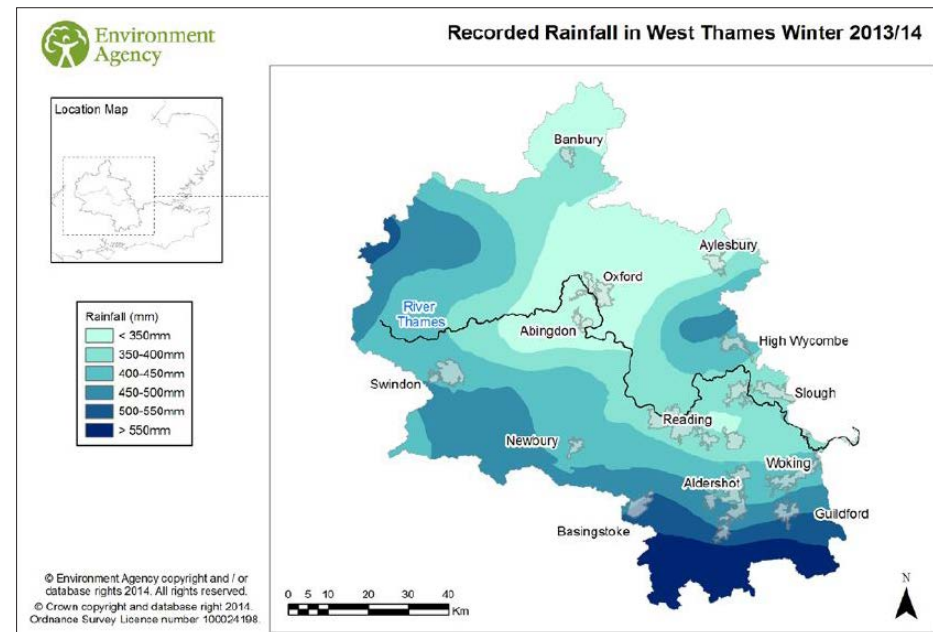
Rainfall during the first week of the year increased levels on the tributaries; these subsequently discharged into the swollen River Thames and exacerbated the situation. Following the prolonged rainfall, groundwater levels across South East England also rose dramatically. In some areas, they exceeded records set in 2000/01 which was the last time significant disruption from groundwater flooding was recorded.

At the end of January, levels on the River Thames were falling slowly. However, further rain prevented river and groundwater levels from falling. Heavy and sustained rainfall at the end of January and in the first week of February caused levels to rise once again.

The River Thames drains a very large area, but unlike other UK rivers of a similar size (such as the River Severn) there are no major upland areas. Mountains and hills have a strong influence on the pattern of rainfall and tend to record more rainfall than lowland areas. The flow of water from each tributary, will vary in each flood event because of the rainfall distribution and catchment conditions. As a result, levels along the whole length of the Thames are rarely the same as in a previous event and comparisons will only

be valid in a reach between two tributaries. Upstream of Reading, the 2014 levels did not exceed those set in other recent events. In the Lower Thames, they were significantly higher: this was because of a concentration of rainfall in the south of the catchment and significant inflow from the Rivers Kennet, Loddon and Wey. Water naturally drains slowly in the Thames catchment; after rainfall, it can take up to a week for the highest levels to be recorded in the lower reaches. The repeated storms generated maximum levels on the tributaries, thereby adding even more water to an already inundated Thames floodplain and increasing the problems. The unrelenting rainfall throughout January and February kept the River Thames running at capacity, as all the swollen tributaries flowed into it. This resulted in the highest levels seen on the Lower Thames for more than 65 years.

The winter flooding of 2013/14 impacted the whole of the Thames Valley, and led to temporary flood defences being erected in many areas they had not been used before. There was also traffic and rail disruption, an electricity substation coming within inches of flooding, innovative solutions were used to tackle problems and unprecedented groundwater flooding in the area.





The winter floods of 2012/13 started with drought and very dry soil conditions across the South East region. However, above average heavy rainfall from April onwards quickly changed the situation and the ground became much wetter than usual. By the end of October the ground was fully saturated. This flood came in two stages. Between 19 and 26 November, rainfall totals averaged 65mm across the Thames Valley area. Rainfall totals were enough to overwhelm river channels and in total 84 properties were flooded from the River Thames. The worst affected areas were Oxford and Purley near Reading. Through November 2012, groundwater levels showed a steady rise at all of the 16 key borehole sites. Between 19 and 29 December, there was very unsettled weather conditions with repeated instances of widespread rainfall. An average of 63mm was recorded across the area. The persistent rainfall caused further fluvial flooding and increased groundwater flooding.

The Thames Valley area has also experienced extreme flooding during the summer. After an unusually wet spring and summer, widespread intense rainfall in July resulted in significant flooding across the Thames Valley area. The flooding was caused by both surface water and subsequent high river levels. Particularly badly affected were Oxford, Abingdon, Witney, Pangbourne, Thatcham, Newbury, Wokingham, Maidenhead, Brackley, Buckingham and Stony Stratford. Approximately 9,390 properties were flooded.

IN THE THAMES VALLEY

Many agencies are involved in responding to floods. Different agencies are best equipped to

deal with a specific type of flood. For example, Oxfordshire County Council, the 6 unitary Authorities of Berkshire and Buckinghamshire County Council can manage flooding on a public highway, while the local water company would deal with a burst water main.

The Environment Agency maintains and operates flood defences and provides a 24-hour flood warning service for properties at risk from river and tidal flooding in England and Wales.

Lead Agencies:

- Reading Borough Council**
- Royal Borough of Windsor & Maidenhead Council**
- Slough Borough Council**
- West Berkshire Council**
- Wokingham Borough Council**
- Bracknell Forest Council**
- Oxfordshire County Council**
- Cherwell District Council**
- Oxford City Council**
- Oxfordshire County Council**
- Cherwell District Council**
- Oxford City Council**
- South Oxfordshire District Council**
- Vale of White Horse District Council**
- West Oxfordshire District Council**
- Buckinghamshire County Council**
- Aylesbury Vale District Council**
- Chiltern District Council**
- South Buckinghamshire District Council**
- Wycombe District Council**
- Milton Keynes Council**

***contact your local council from this list if groundwater flooding is the issue.**

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

CONSEQUENCES
The consequences could include:

- disruption to utilities
- flooding of properties
- evacuation of residents
- provision of accommodation for 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?

- Find out if your property is in a flood risk area by visiting the Environment Agency pages on www.gov.uk
- Sign up to receive flood warnings by registering with Floodline Warnings Direct.
- Complete a flood plan for your household or business.
- Know what to do to protect your property during a flood and have adequate insurance.
- 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 up to three days if you are unable to evacuate.
- Where possible, move valuable/irreplaceable items to upper floors during times of flood risk.

WHAT ARE WE DOING IN THE THAMES VALLEY?

- Identification of what areas could be affected by flood water and who is at risk.
- Production of multi-agency plans to assist with the evacuation of those communities who are at risk.
- Strategic planning to protect the areas at risk.
- Development of ways and means of alerting the public as early as possible when there is a significant flood risk.
- Developing flood rescue and assistance for those who become isolated by flooding.

FLOODLINE WARNINGS DIRECT (FWD)

FWD is a free flood warning service that the Environment Agency uses to send flood warning messages to warn of flooding by telephone, mobile, fax or pager. To register for the service call 0345 988 1188 or register online by visiting the Environment Agency pages on www.gov.uk. To register, all you need is a telephone number where the flood warning messages can be sent 24 hours day, seven days a week.

People can also find out what flood warnings are in force in their area any time of day or night by:

- Calling FWD on 0345 988 1188

(calls are charged at local rates) and listening to regularly updated recorded flood warning messages or speaking to Environment Agency staff.

- **Viewing flood warnings online by visiting the Environment Agency pages on www.gov.uk**

The Environment Agency is the main place for information on past floods, flood maps, checking on flood risk to your property, river levels, registering to receive flood warning messages and guides on protecting your home during a flood event. You can access these services and more by visiting the Environment Agency pages on www.gov.uk



Severe Weather

The United Kingdom does experience severe weather due to its maritime temperate climate with occasional continental and Arctic influences. These can bring with them heavy rain or snow, strong winds and extreme temperatures. As experience has shown, severe weather can take a variety of forms and at times can cause significant problems and disruption to normal life.

Over the coming years, we are likely to see rising temperatures and sea levels, and an increase in the frequency and severity of extreme weather events in the UK. Weather forecasting can now give warning of most events and offer general advice.

There are many types of severe weather that can have a serious local impact in the UK. The main types of severe weather that we need to plan for include storms / gales, low temperatures / heavy snow, heatwaves and drought.

HISTORY

A storm battered many parts of the UK on 18 January 2007, with gusts of wind up to 77mph

recorded at Heathrow. This caused nine deaths and widespread damage to trees and buildings across the UK, along with power disruption. Strong winds can cause significant disruption to businesses due to structural damage and route blockages.

In January 2010, snow caused disruption across most of the UK resulting in school closures, power outages and people being unable to get to work for a number of days depending on their location. November and December 2010 saw temperatures in Berkshire plummet to between -5 degrees centigrade and -15 degrees centigrade and saw around 40 centimetres of snow fall in parts of the county resulting in treacherous road conditions and major disruption to transport and essential services.

The hot summer of 2003 is estimated to have resulted in more than two thousand excess deaths, mainly among vulnerable people. Since then, the Heat Health Watch system has been introduced and during the hot weather of July 2006 significantly fewer (680) excess deaths were recorded.

IN THE THAMES VALLEY

The Thames Valley area includes the hills of the Cotswolds, the Chilterns, and the Berkshire Downs and the River Thames Valley. The area has significant rural and urban populations that can be affected by severe weather. The majority of the severe weather that affects the Thames Valley area approaches from the south west which is the prevailing wind direction.

Depressions tend to be the main source of heavy rain and strong winds, especially during the winter, with the worst conditions often experienced in the west of the area depending on the track of the low pressure. If a season has been particularly wet any heavy rainfall can lead to significant river flooding from the many rivers, including The Thames, which cross the area. Eastern areas such as Milton Keynes and Buckinghamshire often see the worst of the conditions in the winter if the winds turn to the east with the potential for snow showers spreading from the east. Higher ground will tend to see the greater impacts from snow. During the summer the greatest risk is from heavy showers and thunderstorms which could occur anywhere across the area with the greatest impacts likely to be seen in urban areas due to surface water flooding.

Air quality events will often affect Berkshire and Buckinghamshire in southerly or easterly winds as pollutants are transported off continental Europe.

The consequences of severe weather in the Thames Valley are the same as anywhere, but the following impacts should be considered:

- Power outages, often in rural areas, caused by strong winds as trees fall onto overhead power lines.
- Blocked roads especially in the rural areas caused by fallen trees or flooding from smaller watercourses.
- Impassable roads especially in the hills during snow events, as authorities maintain their critical snow routes.
- Fluvial flooding from main rivers, ordinary watercourses, groundwater and ditches.

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 closures.

Heatwaves

- an increased number of admissions to hospital and consultations with GPs due to

sunburn, heat exhaustion, 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 warnings 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 THE THAMES VALLEY?

- Production of multi-agency plans to manage severe weather events.
- Consideration of weather forecasts prior to any large events in the Thames Valley area.
- 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, distributing products or providing 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 for more than a week. Threats of similar action in August 2005 led to panic buying which caused localised disruptions across the country.

IN THE THAMES VALLEY

Thames Valley is heavily dependent on roads and has a large amount of mass transit infrastructure. There is a large take up of public transport. Thames Valley covers a huge geographical area. People and products travel many miles on a daily basis. Many essential services including the daily care of vulnerable people, are reliant on adequate fuel supplies.

Lead Agency – Department for Business Enterprise and Regulatory Reform (BERR)

<p>RISK IMPACTS</p> <p>The predicted impacts could include:</p> <ul style="list-style-type: none"> • public and commercial filling stations exhausted within 48 hours • up to 10 days to return normal supplies. 	<p>CONSEQUENCES</p> <p>The consequences could include:</p> <ul style="list-style-type: none"> • inability to provide essential services to vulnerable individuals • local and national economic impact.
<p>WHAT DO YOU NEED TO DO?</p> <ul style="list-style-type: none"> • Maintain your vehicle so 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, walking or cycling. • Avoid panic buying. 	<p>WHAT ARE WE DOING IN THE THAMES VALLEY?</p> <ul style="list-style-type: none"> • Identification of filling stations for essential fuel users such as emergency service vehicles which links to the national emergency plan for fuel. • Production of multi-agency plans to manage a fair distribution of fuel to the public when it is in limited supply.



Loss of Critical Infrastructure

Critical Infrastructure is the name given to all of 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 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 network are detailed below:

ELECTRICITY / GAS INCIDENT

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

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

TELECOMS

Wide-scale telecoms disruption would 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 provision of internet.

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.

There could also be a significant impact on health and food provision, as well as an impact on the capabilities of fire and rescue services.

FOOD

There are no realistic scenarios within the UK which would lead to a shortage of food supplies.

However, if a large area of Thames Valley's agricultural land was affected by an incident it would affect the economy of the county as well as impacting on food prices nationally.

IN THE THAMES VALLEY

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.

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

Lead Agency – The lead agency in the Thames Valley area for infrastructure failures varies depending on the nature of the emergency and its impacts.



RISK IMPACTS

The predicted impacts could 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
- 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
- endangerment of vulnerable people
- financial impact on businesses
- civil unrest
- increased demand on emergency services
- travel disruptions
- disruption to businesses and normal home life.



WHAT DO YOU NEED TO DO?

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 all premises 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 (see page 35).
- Outages may come with forewarning. If this is the case consider how you can be prepared e.g. fill the bath with drinking water.
- Be on alert for bogus callers posing as utility company workers.



WHAT ARE WE DOING IN THE THAMES VALLEY?

- Work with the utility companies to manage supply interruptions.
- Production of multi-agency plans to manage long-term utilities outages.
- Identification of vulnerable people who will need special treatment in the event of a utilities outage.
- Some utility companies operate a vulnerable persons register. Please contact your utility company for more information.



Animal Disease

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

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

IN THE THAMES VALLEY

Any animal disease within the Thames Valley area would have a significant impact on the farming and rural community as witnessed in the Foot and Mouth outbreak of 2000.



The Thames Valley has a large rural area and farming and animal husbandry is widespread out of towns.

Lead Agency – Defra Animal Health

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 which you own with Defra.
- If an outbreak is declared then follow any guidance from the Government to protect your livestock and limit the spread.
- Vaccinate livestock where appropriate.



WHAT ARE WE DOING IN THE THAMES VALLEY?

- Production of multi-agency plans for managing animal disease outbreaks.
- Raising disease awareness among farmers and farm workers.



Environmental Pollution and Industrial Accidents

IN THE THAMES VALLEY

The area has a large number of visitors each year and the River Thames provides a focal point for tourism as it passes through the Thames Valley. A significant pollution incident would require a rapid and co-ordinated clean up operation to ensure that damage to local wildlife and economy is minimised. The Thames Valley is also home to a large amount of agriculture and horticulture which could become affected by an incident involving inland controlled watercourses.



Lead Agency – Environment Agency

RISK IMPACTS

The predicted impacts could include:

- pollution of rivers or controlled watercourses
- environmental pollution
- damage to wildlife and environment
- health risk to residents and visitors.

CONSEQUENCES

The consequences could include:

- economic impact to agriculture and tourism economy



WHAT DO YOU NEED TO DO?

- Co-operate with organisations during any clean-up operation.
- If possible, volunteer time and resources to assist with the clean up operation.



WHAT ARE WE DOING IN THE THAMES VALLEY?

- Maintaining multi-agency plans to effectively clean up any oil spills in order to minimise pollution and impacts on communities and safely dispose of hazardous materials.



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

A recent experience of this type of incident in the UK was at Hemel Hempstead with the Buncefield Oil Depot explosion in 2004. The explosion measured 2.4 on the Richter scale, and caused the largest fire in Europe since the Second World War. 2,000 people were evacuated from their homes, and 370 businesses were affected, employing 16,500 people. Sixty members of the public required medical aid and the accident caused major disruption to roads, fuel supplies, local businesses and the supply chain.

COMAH

Some industrial processes due to the volume and type of chemicals on site are regulated under the Control of Major Accident Hazards Regulations 2015 (COMAH). These regulations aim to prevent major accidents involving dangerous substances and to limit the consequences to people and the environment of any incidents that do occur. They competent authorities are the Health and Safety Executive (HSE) and the Environment Agency (EA). The regulations also require the Local Authority where these sites are to prepare 'Off-site' Emergency Plans. Types of establishments include chemical warehousing, chemical production facilities and some distributors.

PUBLIC INFORMATION ZONES (PIZ)

Around every COMAH is an area identified by the HSE and EA which is known as the Public Information Zone (PIZ).

People within the PIZ will receive information from the site owner about how the potential major hazards, the safety measures that are in place, how they may be affected by a major accident at that establishment, 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.

REPPIR

There are some sites in the Thames Valley which have radioactive sources on site in high enough quantities that they are Nuclear Licensed sites. These sites are strictly regulated by the Officer for Nuclear Regulation (ONR). The Radiation (Emergency Preparedness and Public Information) Regulations 2001(REPPIR) also require the Local Authority where these sites are to prepare 'Off-Site' Emergency Plans.

Detailed Emergency Planning Zone (DEPZ)

Around every REPPIR establishment there is an area identified by the ONR which is known as the Detailed Emergency Planning Zone (DEPZ)

People within the DEPZ will receive information from the site owner about how the potential major hazards, the safety measures that are in place, how they may be affected by a major accident at that establishment, 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.

IN THE THAMES VALLEY

Although the Thames Valley area is not considered more at risk than any other part of the country, there are industrial sites, fuel and gas pipelines running through the area 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 garages, workshops etc), fire service procedures require the establishment of a 24-hour, up to 200m 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 you would do if this affected your home or business.

Lead Agency – Royal Berkshire Fire and Rescue Service, Oxfordshire Fire and Rescue Service and Buckinghamshire & Milton Keynes Fire and Rescue Service

RISK IMPACTS

The predicted impacts could 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.**
 - Check to see if you are near a COMAH site – [click here](#)
 - Check to see if you are near a REPPIR site – [click here](#)
 - If you are in a PIZ or DEPZ are make sure you know what to do
- **If you hear warning of an incident, go indoors, close all your doors and windows and tune into your local radio station or follow social media 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 THE THAMES VALLEY?

- **Work directly with site operators who manage particularly hazardous sites.**
 - Where there are COMAH or REPPIR sites the local authorities have emergency plans and test them regularly
- **Identification of ways and means of communicating with the public.**
- **Support for local communities to develop their own emergency plans.**



Transport Accidents

Just like our dependence on basic utilities, almost all of us will rely on a form of transport either to get to and 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 but also disruption caused by severe weather such as snow and floods. The situation can be further complicated by extremes of temperature if people are trapped in their vehicles for long periods of time.

ROAD

In the Thames Valley area, the majority of roads are managed by local authorities, while the roads which form part of the UK's strategic road network (the M1, the M40, the M4 and the A34) are managed by the Highways Agency.

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 for more extended agency involvement, especially if the accident involves chemicals or hazardous materials.

RAIL

Several main lines run from Birmingham and Wales through different parts of the Thames Valley, carrying heavy commuter traffic and ending at various London stations. In the future there will be more lines electrified.



AIR

RAF Brize Norton and RAF Benson are based in the Thames Valley, as well as Oxford Airport which has international capability.

HISTORY

On 6 November 2004, a busy train struck a car parked on the line and was derailed at the Ufton Nervet level crossing in Berkshire killing seven people and injuring more than 100.

On 13 March 1991, a multiple-vehicle collision occurred during foggy conditions on the eastbound carriageway of the M4

motorway near Hungerford, Berkshire, between the Membury service station and junction 14. Ten people were killed in the pile-up, which involved 51 vehicles, making it one of the deadliest crashes in the history of Britain's motorway network.

On 14 February 2015, the M40 motorway was closed northbound for more than eight hours between junction 9 at Bicester and junction 10 at Cherwell Valley services, Oxfordshire, following a crash involving 40 vehicles in foggy conditions. One man died at the scene, six people were seriously injured, and more than 50 others had minor injuries.

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 impacts if goods are spilled into local environment
- possible damage to buildings or infrastructure.

CONSEQUENCES

The consequences could include:

- impact on local businesses through delayed or failed deliveries
- delays in emergency services reaching people.



WHAT DO YOU NEED TO DO?

- Have an emergency kit in your car or 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 THE THAMES VALLEY?

- Work with national transport companies to plan for dealing with accidents.
- The councils' Highways departments work alongside the Highways Agency to keep all major roads accessible during times of severe weather.



PREPAREDNESS



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

PLANNING FOR AN EVACUATION

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
- take the items listed on the left of this page
- 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 of where you have gone and how you can be contacted.

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.

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 in to your local radio station.

AT HOME IN AN EMERGENCY

If you are at home and an emergency happens, 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 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 food) and a bottle / tin opener, in case you have to remain in your home for several days.



Preparedness

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

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

Some emergencies require evacuation, 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 also be received in homes, businesses and cars.

Radio is also very reliable as it can still broadcast and be received during a power cut.

With most incidents the safest place to be is indoors, and with 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 LRF organisations work together with local BBC radio (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.



How can your local community be prepared? Make a call, make a plan.

COMMUNITY RESILIENCE

Wide-scale emergencies can and do happen. In the last seven years the UK has seen events such as heavy snow, flooding, the Buncefield fuel storage depot explosion, terrorist attacks, utilities failures and fuel shortages.

The lessons learned from the 2007 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 AND FLOOD PLAN?

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

Thames Valley's Resilience Forum is encouraging and assisting parishes to develop community emergency and flood plans in order to better prepare for the realistic risks which they face.

WHY HAVE A COMMUNITY EMERGENCY AND FLOOD 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 the local community can do to support each other will help them to deal with the emergency more effectively.

HOW TO GET STARTED

Guidance and assistance is available through Thames Valley's Resilience Forum.

(See contact details on page 42.)

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 emergency services and local authorities.

The plan can grow over time to include areas such as:

- a parish emergency planning 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 oil and 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.

The Community Risk Register provides Thames Valley businesses with information on the likelihood and potential impact of a range of different risks, in order to assist their own risk management and business continuity management arrangements.

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 if 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 risks 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 businesses' critical functions and the resources required including alternatives /backups for each.

- This will assist you during and after an emergency

4. Train and test your staff in activating the continuity plan and the roles and procedures within it.

Warning and Informing

The 2004 Civil Contingencies Act includes 'public awareness' and 'warning and informing' as two distinct legal duties for Category 1 responders – advising the public of risks before an emergency and maintaining arrangements to warn the public and keep them informed in the event of an emergency.

WHY WARN AND INFORM

A well informed public is better able to respond to an emergency and to minimise the impact of the emergency on the community.

It is important that the information is seen as knowledge and is not meant to cause unnecessary alarm.

SINGLE MESSAGE TO THE PUBLIC

Confusion would be caused if more than one organisation were to plan to warn the public about the same risk, at the same time and to the same extent. For this reason the various organisations that make up Thames Valley's Resilience Forum work together to produce one single message for the public and deliver it through a variety of media.

As with any other part of planning for emergency response, the communications approach to warn and inform the public (either directly or through the local media) is a key part of our emergency plans.

WHAT INFORMATION IS NEEDED AND WHEN?

We also need to think carefully about what information different audiences will want, and when, in an emergency. It is important to consider for example that not everybody will have internet access or be able to receive messages which are only given out in English.

The timing of information is also critical. People need to be given warning before an incident and then information, advice and guidance during and after the incident.

WARNING METHODS

The methods available to deliver urgent information to members of the public are extremely varied.

Some warning methods include:

- mobilising emergency services crews to go out on foot and knock on doors
- media announcements (typically radio and television)
- automated telephone/fax/email/text messages to subscribers
- loudhailer or other amplified messages from car or helicopter
- electronic/variable message boards (similar to those used on motorways)
- PA announcements in public buildings, for example shopping centres, sports venues, transport systems
- Social media.

WORKING WITH THE MEDIA

In times of civil emergency, the media plays a critical role, broadcasting factual information which will help the public to help themselves.

We work closely with local and regional media to ensure the timely and accurate sharing of information.



The work of the resilience forum in Thames Valley follows a simple cycle with each phase of the cycle leading into 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 of the risk occurring and lessen the impacts if the risk should occur.

PREPAREDNESS

- Understanding the impacts and consequences.
- Developing contingency 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 counties for lengthy/wide-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.
- Warning and informing the public.

RECOVERY

- Initial and long-term recovery efforts.
- Rehousing of displaced people.
- All recovery activities are based around 4 key areas:
 1. Humanitarian assistance
 2. Infrastructure (roads, water, sewer, power, communications, etc)
 3. Economic
 4. Environmental.



WANT TO KNOW MORE?

Want to know more?



Production

The Community Risk Register is produced by the Thames Valley's Resilience Forum and is contributed to by the following agencies:

- Reading Borough Council
- Wokingham Borough Council
- Bracknell Forest Council
- West Berkshire Council
- Royal Borough of Windsor and Maidenhead
- Slough Borough Council
- Buckinghamshire County Council
- Buckinghamshire Fire & Rescue Service
- Oxfordshire County Council
- Berkshire Fire & Rescue Service
- NHS South Central
- South Central Ambulance Service
- Thames Valley Police
- Environment Agency
- Oxfordshire Fire & Rescue Service
- Public Health England
- Milton Keynes Council
- Aylesbury Vale District Council
- Thames Water
- Armed Forces

Web links and further information

If you wish to find out more about the risk assessment process or the LRF please follow the link below:

www.thamesvalleylrf.org.uk

Contact us

For any enquiries regarding the individual risk assessments or any aspect of the work of Thames Valley's Resilience Forum please contact us on:

ThamesValleyLRFBusinessSupport
@thamesvalley.pnn.police.uk

Or write to us at:

Thames Valley Local Resilience Forum
Thames Valley Police
Headquarters South
Oxford Road,
Kidlington
OX5 2NX

All enquiries will be dealt with within 28 days. Specific risk enquiries will be forwarded to the lead agency for that risk.

ThamesValleyLRFBusinessSupport
@thamesvalley.pnn.police.uk

Reference to other documents

The following resources have been useful in compiling this document:

- National Risk Register and Security Strategy (2015)
- Civil Contingencies Act (2004)
- Various documents produced by the Thames Valley Local Resilience Forum and Partner Organisations

www.thamesvalleylrf.org.uk



COMMUNITY **RISK**

REGISTER FOR
THAMES VALLEY

Thames Valley's Resilience



PREPARING FOR EMERGENCIES

www.thamesvalleylrf.org.uk