Communities and Local Government

Fire Statistics

United Kingdom, 2008

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Department for Communities and Local Government

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Introduction

The statistics in this publication are compiled from records submitted to the Department for Communities and Local Government on fires and false alarms attended by the Fire and Rescue Service (FRS) across the UK.

This publication contains detailed analysis of fires and their causes for 2008. The next edition of this publication will be for the period April 2009 to March 2010 and will be published by summer 2011. Headline data for 2009-10 was published in August 2010 in the Fire Statistics Monitor series.

This publication follows the format of previous years as the majority of FRSs switched over to the new Incident Recording System in early 2009. Eight FRSs had adopted the new system by the end of 2008. As a result this publication necessarily draws data from both the new system and its predecessor. Tables have been updated as far as possible. However some of the categories of information collected are different in the new system in a way that means it is not possible to map to the old categories. It was possible to create a mapping that enabled detailed Tables 2, 3, 10 and 11 to be produced in full. Meanwhile it was possible to map only parts of detailed Table 21, and it was not possible to map the categories in detailed Tables 15, 18, 19 and 20 at all.

Explanation of the comparability of data under the new Incident Recording System and its predecessor, the Fire Data Report system, can be found in the Fire Statistics Monitor publication published in August 2010 and which is available at: www.communities.gov.uk/publications/corporate/statistics/monitorq1q420091

Due to delays in receiving data, fatal casualty records since April 2008 have yet to be cross-checked against death certificate data, which takes account of coroner's court findings for England. In the past, this cross-checking has consistently resulted in a small net reduction in the total number of fatalities caused by fire.

Key points 2008

NOTE: Headline data up to March 2010 is available at www.communities.gov.uk/publications/corporate/statistics/monitorq1q420091

Overview

- In 2008 Fire and Rescue Services attended 727,200 fires or false alarms in the United Kingdom, 10 per cent fewer than in 2007 (para 1.1).
- A total of 328,000 fires were attended, 15 per cent less than in 2007. Around 73 per cent of all the fires were outdoor fires (240,000), e.g. vehicles, refuse, grassland. A total of 49,600 (15%) were in dwellings (para 1.1, 1.2 & 5.1).
- The total number of *accidental* primary fires fell by 6 per cent to 77,400 in 2008 – the lowest recorded in this last 14 year period (para 1.8). Deliberate fires decreased by 15 per cent to 53,000 (para 1.9).

Deaths from fires

- In 2008, there were 451 fire-related deaths in the UK, 8 more than in 2007. The highest number recorded was 1,096 deaths in 1979. Through the 1980s and 1990s there was a general downward trend. The 2008 figure is at the lowest level since the late 1950s (para 1.11).
- The majority of fire-related deaths occurred in dwelling fires (para 1.12). The highest fire fatality rates were for people aged 80+ and for males, and in Scotland (para 1.27).

Non-fatal casualties

- There was a 7 per cent fall in the number of non-fatal casualties to 12,200 in 2008 – the ninth consecutive annual fall and the lowest number in this last 20 year period (para 1.16). Non-fatal casualty rates were highest in the North West region (para 1.34).
- Firefighter casualties rose to 280 in 2008 from 268 in 2007 (para 1.20).

Dwelling fires

- The number of dwelling fires in the UK totaled 49,600 in 2008 – a fall of 6% since 2007. The majority of dwelling fires were accidental (83%), 41,000 fires (para 2.1 & 2.2).

Accidental dwelling fires

- The main cause of accidental dwelling fires remained the misuse of equipment/ appliances (14,200 fires), while the main source of ignition was cooking appliances (54%) of all accidental dwelling fires) (para 2.3 & 2.5).

Deaths in dwelling fires

- Of the 353 deaths in dwellings in 2008, 294 (83%) were of accidental causes. The main cause was careless handling of fire or hot substances (e.g. careless disposal of cigarettes), amounting to 38 per cent of all deaths due to accidental causes (para 2.7 & 2.8). The highest fatality rate is for fires which started in the living or dining room (para 2.21).

Non-fatal casualties in dwelling fires

- The number of non-fatal casualties in dwelling fires decreased by 7 per cent to 10,100. The largest cause of injury in accidental dwelling fires was the misuse of equipment and appliances (2,300 injuries) (para 2.14 & 2.15).

Smoke alarms

- Research shows that smoke alarm ownership increased rapidly from 8 per cent in 1988 to 70 per cent in 1994, and has continued to rise in recent years to around 90 per cent in 2008 (para 2.26).
- Smoke alarms were absent from the fire area in 18,600 dwelling fires (38%) (para 2.27).

Other building fires

- In 2008 there were 27,500 fires recorded in buildings other than dwellings, 11 per cent fewer than in 2007. Of these, around 60 per cent were accidental compared to over 80 per cent of those in dwellings (para 3.1 & 3.3).
- Twenty-one people died and there were 1,200 injuries in fires in buildings other than dwellings. (para 3.2 & 3.8).

Road vehicle fires

- Road vehicle fires totaled 44,600 in 2008 – a decrease of 12 per cent from 2007. This is the lowest number of road vehicle fires since 1984 (para 4.1).
- In 2008 there were 44 fatalities and 426 non-fatal casualties in road vehicle fires (para 4.5 & 4.6).

False alarms

- There were 399,000 false alarms attended in 2008, a decrease of 5 per cent from 2007 and over 20 per cent lower than the peak level of 507,000 in 1995 (para 6.1).
- The most common type of false alarm was due to apparatus, representing two thirds of all false alarms in 2008 (para 6.2).

Chapter 1

Summary

Total number of fires and false alarms attended by the fire and rescue service (Tables 1.1, 1.2 and Figure 1.1)

1.1 In 2008, local authority fire and rescue services attended 727,200 fires or false alarms in the United Kingdom, 10 per cent less than the 2007 figure of 804,100. Within this total, fires decreased by 15 per cent to 328,000, while false alarms fell by 5 per cent to 399,200.

Table 1.1: Fires by location, 1998-2008[1]

United Kingdom								Fires and false alarms (thousands)[2]
Year	Total fires & false alarms	Fires[4]				Fires[3]		False alarms
			Building fires[3]			Outdoor Fires[3,5]	Chimney fires	
			Total	Dwellings[4]	Other			
1998	866	410	113	71	42	278	19	457
1999	937	469	116	72	44	337	16	468
2000	937	477	113	71	42	348	15	461
2001	1,028	547	113	69	44	418	16	481
2002[1]	997	519	106	65	41	401	12	477
2003[1]	1,093	621	106	64	42	504	12	472
2004	893	443	97	60	38	336	10	449
2005	869	430	93	58	35	328	10	439
2006[6]	877	438	89	56	33	338	11	439
2007	804	385	84	53	31	292	9	419
2008	727	328	77	50	27	240	11	399

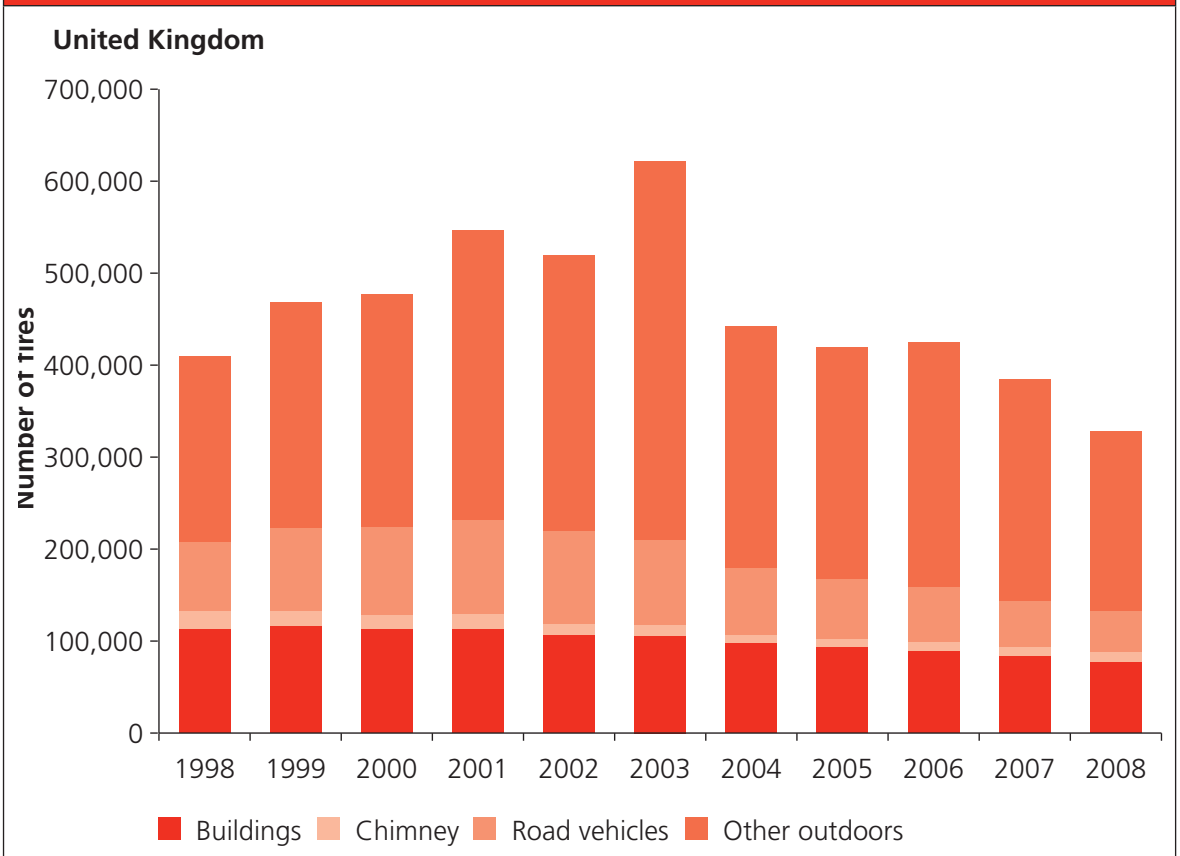
[1] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).
[2] Figures are rounded and the components do not necessarily sum to the independently rounded totals.
[3] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[4] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.
[5] Primary and secondary fires.
[6] Revised figures – secondary fire and false alarm data, supplied by Lancashire, have been revised

1.2 A total of 328,000 fires were attended in 2008, of which 49,600 (15%) were in dwellings. Findings from the 2004/05 Survey of English Housing on all outbreaks of fire experienced by households in England suggested that the fire and rescue service attend approximately one fifth of all domestic fires. This is because many of the fires recorded in the survey are minor and able to be put out by someone in the home, and therefore the fire and rescue service were not called. See ODPM

Statistical Bulletin – *Fires in the home: Findings from the 2004/05 Survey of English Housing*. (See explanatory note 10 for further details.)

1.3 More detailed information is collected on all fires in buildings, vehicles and outdoor structures and any fires involving casualties or rescues ("primary" fires) and is presented in this statistical bulletin. Less detailed aggregated information is collected on "secondary" and chimney fires, so subsequent analysis of them is limited. For fuller definitions, see explanatory note 24 at the end of this statistical bulletin.

Figure 1.1: Fires by location group 1998 – 2008[1,2]



[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[2] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial action – see explanatory notes 3 and 4.

1.4 The number of building fires fell by 8 per cent from 83,700 in 2007 to 77,100 in 2008 This follows the year on year decrease in building fires since 1999. Within this category, dwelling fires fell by 6 per cent to 49,600. Fires in buildings other than dwellings also fell, by 11 per cent to 27,500.

1.5 Outdoor fires (primary and secondary) totalled 240,000 in 2008. Of these 125,500 (52%) were refuse fires (including derelict vehicles), 44,600 (19%) were road vehicle fires and 44,100 (18%) were grassland fires (including heathland and intentional straw and stubble burning). The remaining 25,800 were in other outdoor locations. See explanatory note 5 for the definition of a primary and secondary fire.

1.6 Chimney fires totalled 11,000 in 2008, up by 18 per cent on the previous year.

Causes of fires

Interpretation of trends in accidental and deliberate fires

1.7 Deliberate fires include those where deliberate ignition was merely suspected and recorded by the fire and rescue service as "doubtful". Accidental fires include those where the cause was "not known" or "unspecified".

Table 1.2: Primary fires by cause and location of fire, 1998-2008[1]

United Kingdom					Fires (thousands)[2]
Year	Total[3]	Location			
		Dwellings	Other buildings	Road vehicles	Other outdoors
Deliberate fires[4]					
1998	86.2	13.4	17.1	48.8	7.0
1999	103.0	13.9	17.9	63.0	8.2
2000	111.2	14.2	18.0	70.8	8.1
2001	123.3	14.8	19.8	79.2	9.5
2002[1]	121.8	14.2	18.2	80.2	9.2
2003[1]	115.1	13.8	18.7	72.9	9.7
2004	91.2	11.9	16.1	55.0	8.2
2005	79.7	10.4	14.0	47.8	7.4
2006	72.6	10.1	12.8	42.1	7.5
2007	62.5	9.4	12.0	34.8	6.4
2008	53.0	8.3	10.0	29.4	5.2
Accidental fires[4]					
1998	113.7	57.7	24.7	27.2	4.0
1999	115.4	58.4	25.7	27.1	4.2
2000	108.5	56.7	23.8	24.1	3.9
2001	105.1	54.3	23.8	23.0	4.0
2002[1]	98.6	50.8	22.7	21.0	4.1
2003[1]	97.7	50.0	23.1	19.9	4.8
2004	90.5	47.8	21.5	17.8	3.5
2005	89.7	47.3	21.2	17.4	3.7
2006	87.3	45.7	20.1	17.2	4.3
2007	82.0	43.4	19.0	16.0	3.6
2008	77.4	41.3	17.4	15.2	3.6

[1] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[3] Figures are rounded and the components do not necessarily sum to the independently rounded totals.
[4] Deliberate fires include fires where deliberate ignition was merely suspected. Accidental fires include those where the cause was 'not known' or 'unspecified' (see explanatory note 11).

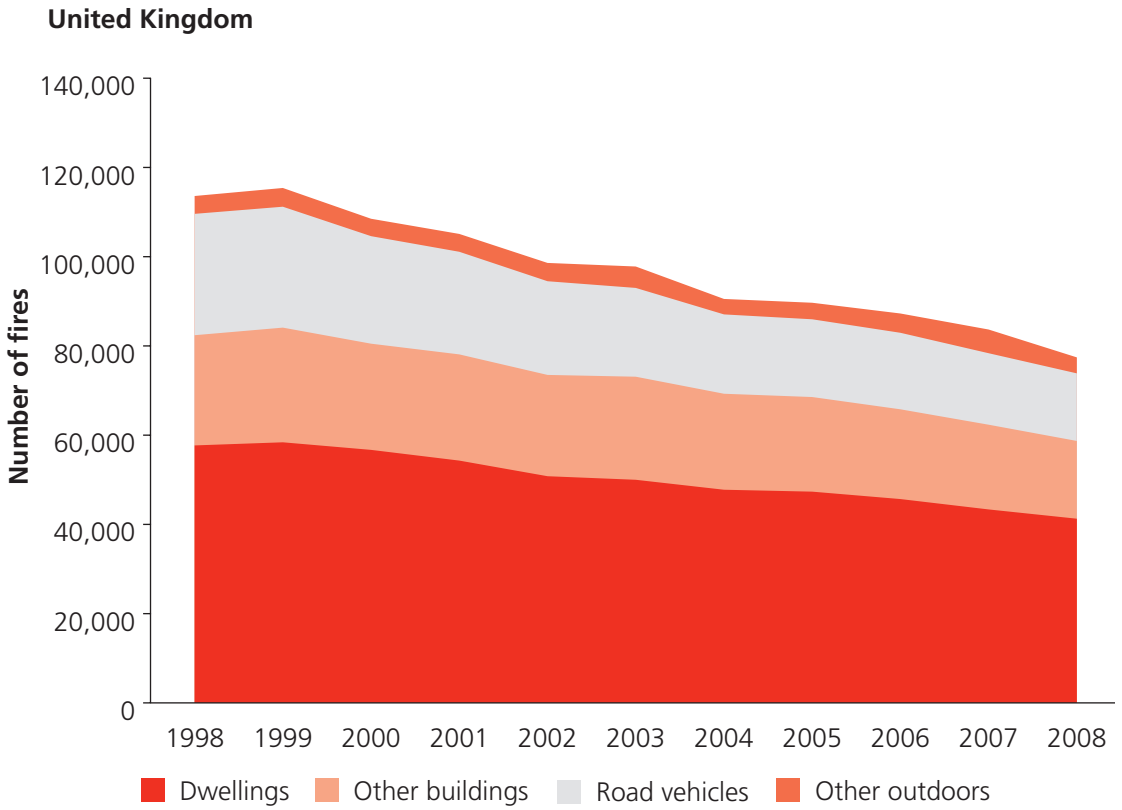
Accidental fires (Table 1.2, Figure 1.2)

1.8 The total number of accidental primary fires in 2008 decreased by 6 per cent to 77,400. Of the total accidental fires, 41,300 fires (53%) were in dwellings, 17,400 (23%) in other buildings and 15,200 (20%) in road vehicles. Accidental primary fires have now fallen year on year since 1999 and the 2007 total number of accidental primary fires represents a drop of 34 per cent since the peak in 1997.

The key changes from 2007 were:

- accidental fires in dwellings fell by 5 per cent to 41,000
- accidental fires in other buildings fell by 9 per cent to 17,000
- accidental fires in road vehicles also fell, down 6 per cent to 15,000.

Figure 1.2: Accidental fires[1] by location group, 1998-2008[2]



[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

[2] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial actions – see explanatory notes 3 and 4.

Deliberate fires (Tables 1.2 and 14 and Figure 1.3)

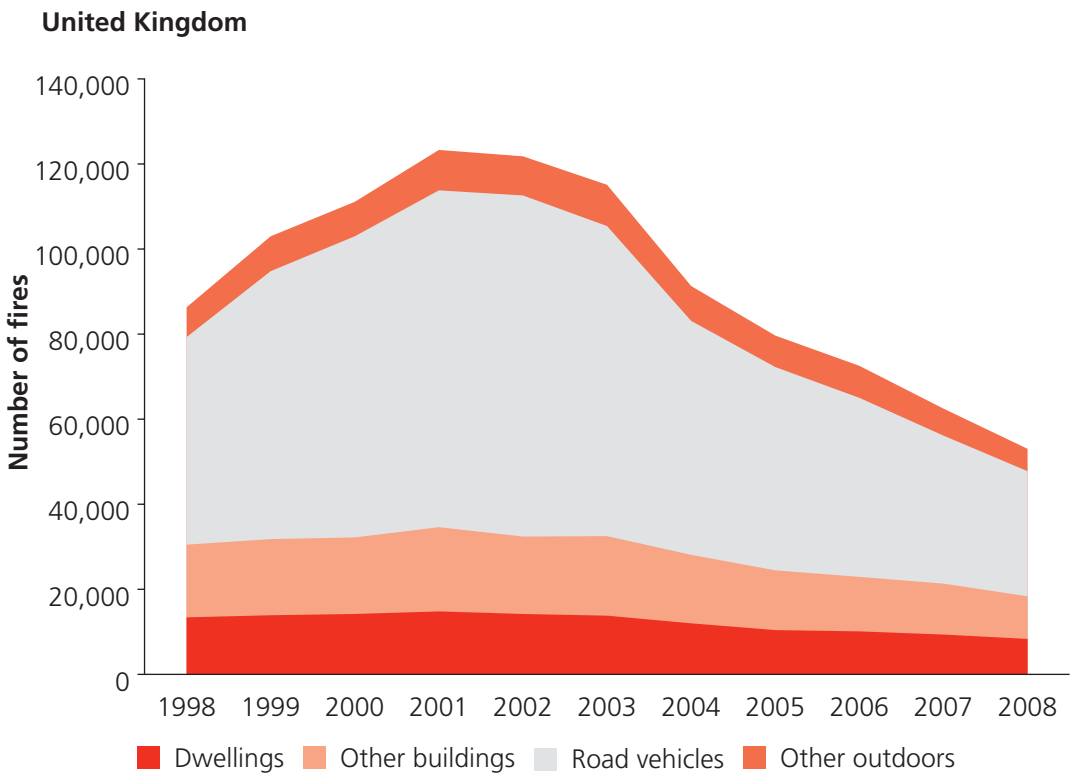
1.9 The number of deliberate primary fires fell for the seventh consecutive year, from 62,500 in 2007 to 53,000 (15%) in 2008.

There was a decline in deliberate fires in most locations:

- Deliberate fires in dwellings fell by 11 per cent to 8,300
- Deliberate fires in other buildings fell by 16 per cent to 10,000
- Deliberate fires in road vehicles also fell by 15 per cent to 29,400.

1.10 Of the 18,400 deliberate fires in buildings recorded in 2008, more than half (55%) occurred in buildings other than dwellings. Of these 10,000 deliberate fires in other buildings, over a third occurred in private garages or sheds. Chapter 3 contains further details of deliberate fires in other buildings.

Figure 1.3: Deliberate fires by location group, 1998 – 2008[1,2]



[1] Figures for primary fires are partially based on sampled data weighted ti individual FRS totals – see explanatory notes.

[2] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial actions – see explanatory notes 3 and 4.

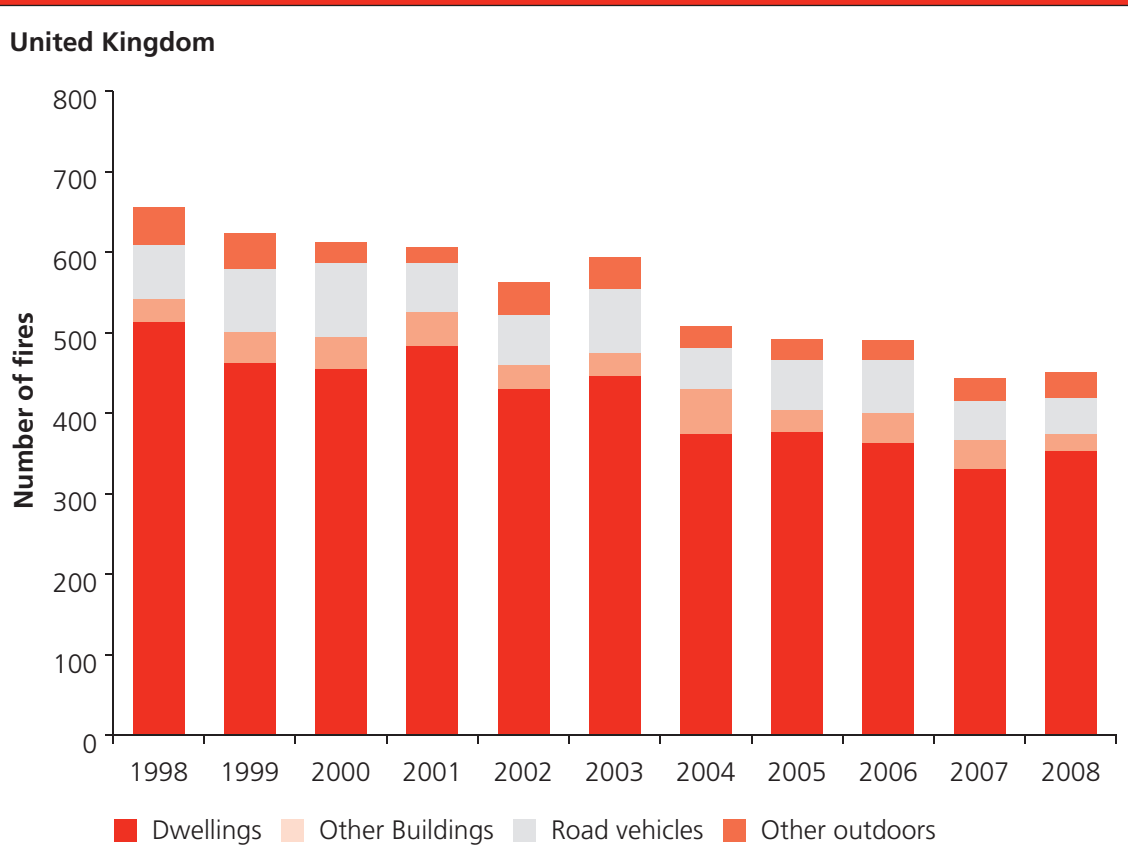
Deaths from fires (Table 17a)

1.11 In 2008, there were 451 fire-related deaths in the UK, up from 443 in 2007. There were no fire-related firefighter fatalities in 2008 – compared with 6 in 2007. The long term trend in fire-related deaths has been downward.

Location (Tables 6 and 26, Figure 1.4)

1.12 The majority of fire-related deaths (around three-quarters) occur in dwelling fires. In 2008, 353 deaths were recorded in dwellings, up by 22 from 2007. The peak in dwelling deaths occurred in 1979 with 865 deaths in dwellings recorded that year. The 2008 total represents a 59 per cent decrease since this high. As in previous years, dwellings also had more fire related deaths per 1,000 fires than any other location. In 2008, there were 7.1 deaths per 1,000 dwelling fires, compared with less than 1 per 1,000 fires in other buildings and 1 per 1,000 road vehicle fires.

Figure 1.4: Deaths from fires by location group, 1998 – 2008[1]

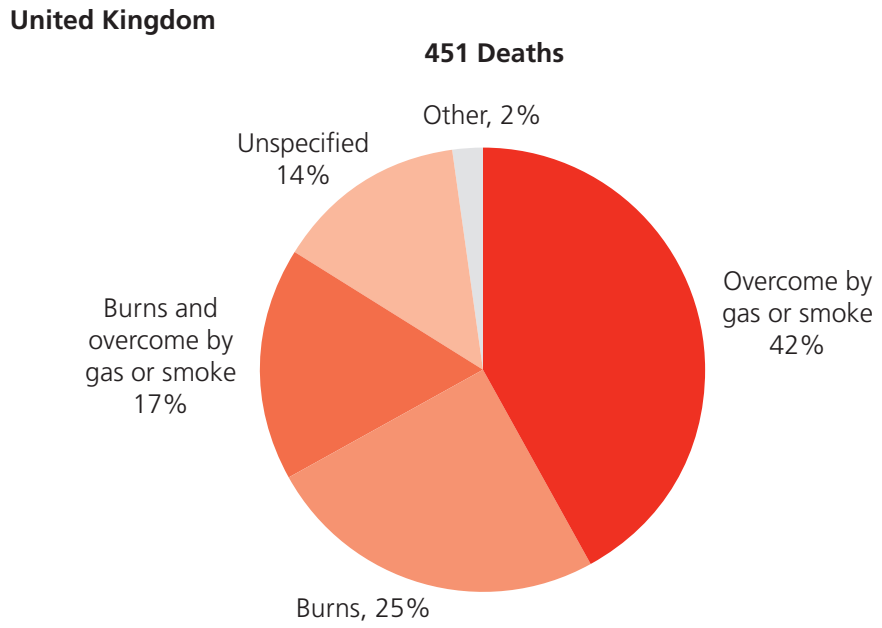


[1] Includes fire related deaths recorded by MOD and the Media in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

Cause of death (Table 7, Figure 1.5)

1.13 The most common identified cause of death from a fire incident is being overcome by gas or smoke. In 2008, fire and rescue services reported that 189 people died this way, accounting for 42 per cent of all deaths. A further 76 (17%) deaths were attributed jointly to both burns and being overcome by gas or smoke, whilst 115 (25%) were due to burns alone.

Figure 1.5: Deaths by cause, 2008



Fatality rates by age and gender (Tables 5b, 17a, 17b and 1.3)

1.14 The fire fatality rate is defined as the number of deaths per million population, abbreviated henceforth to pmp. The fatality rate last peaked at 13 pmp in 1995, since then there has been a general downward trend to 7.3 pmp in 2008.

Table 1.3: Fatal casualties from fires by age and gender, 2003-2008[1]

United Kingdom

Age	Number of fatalities						Per million population[2]					
	2003[1]	2004	2005	2006	2007	2008	2003[1]	2004	2005	2006	2007	2008
Persons by age[3]												
Under 1	2	1	3	1	5	4	*3*	*1*	*4*	*1*	7	5
1 – 4	29	18	13	16	10	6	*11*	*7*	*5*	*6*	4	2
5 – 10	13	13	12	8	3	8	*3*	*3*	*3*	*2*	1	2
11 – 16	11	10	8	7	5	3	*2*	*2*	*2*	*2*	1	1
17 – 24	33	28	31	26	28	27	*5*	*5*	*5*	*4*	4	4
25 – 29	41	21	20	18	25	18	*11*	*6*	*5*	*5*	6	4
30 – 59	250	205	213	189	175	176	*10*	*8*	*9*	*8*	7	7
60 – 64	24	26	35	33	23	33	*8*	*9*	*11*	*10*	7	9
65 – 79	93	92	86	94	85	96	*13*	*13*	*12*	*13*	12	13
80 & over	82	83	58	79	69	70	*32*	*32*	*22*	*29*	25	25
Unspecified	15	11	12	20	15	10	..	..	..	..	..	..
All ages	**593**	**508**	**491**	**491**	**443**	**451**	***10***	***8***	***8***	***8***	***7***	***7***
Males, all ages	373	314	321	308	279	275	*13*	*11*	*11*	*10*	9	9
Females, all ages	212	193	170	178	164	172	*7*	*6*	*6*	*6*	5	6

[1] Includes fire related deaths recorded by the MOD and media in January and February 2003 during industrial action (see explanatory notes 3 and 4).
[2] The per million population rates for all years take into account the revised mid-year population estimates published by the Office for National Statistics in October 2004 (see explanatory note 15).
[3] Including some fatal casualties, whose gender was not recorded.

1.15 Fatality rates are higher for males than females – in 2008 there were 9 male fatalities pmp compared to 6 female fatalities pmp. The highest fatality rates occur for those people aged 80 and over (25 pmp). In recent years the rate for this age group has varied between a high of 32 in 2003 to a low 22 in 2005 fatalities pmp. The lowest rates occur for those aged 11 to 16.

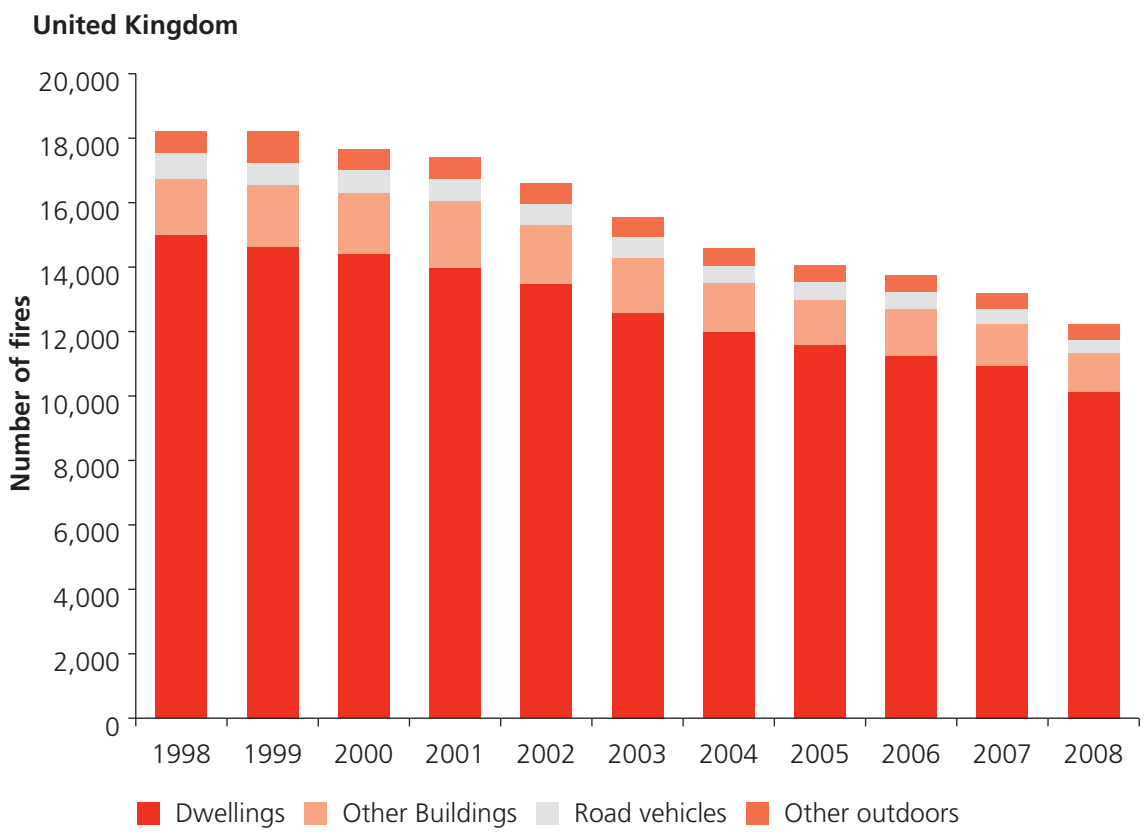
Non-fatal casualties

1.16 There was a 7 per cent decrease in the number of non-fatal casualties (including firefighters) to 12,200 in 2008, representing the ninth consecutive annual fall and at the lowest in the last 20 years.

Location (Table 6, Figure 1.6)

1.17 Just as for fatal casualties, dwelling fires were responsible for the majority of all non-fatal casualties (83% in 2008). In 2008, there were 10,100 non-fatal casualties in dwelling fires. This is 7 per cent fewer than the previous year, and represents the tenth consecutive annual fall.

Figure 1.6: Non-fatal casualties by location group, 1998-2008[1]



[1] Includes estimates for non-fatal casualties not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

1.18 Similarly, dwelling fires had more non-fatal casualties per 1,000 fires than any other location. In 2008, there were 204 non-fatal casualties per 1,000 dwelling fires, compared with 43 per 1,000 for other building fires and 10 per 1,000 for road vehicle fires.

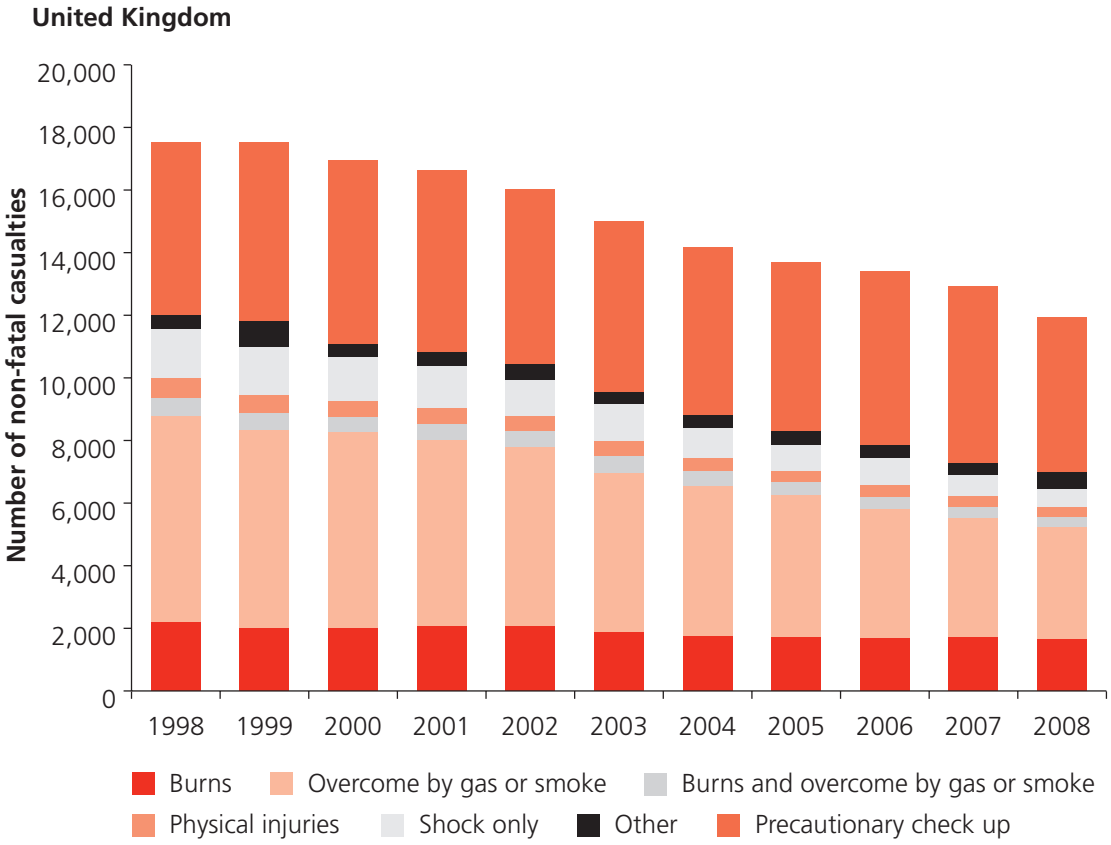
Nature of injury (Table 8, Figure 1.7)

1.19 In 2008 the most frequent non-fatal injury recorded (excluding firefighters) was referral to hospital for a precautionary check-up, accounting for 41 per cent of the total.

Other types of injury sustained include:

- Suffering the effects of gas or smoke, totaling 3,583 and accounting for 29 per cent of all non-fatal casualties (excluding firefighters) in 2008
- Burns, including those suffering from both burns and overcome by gas or smoke totaled 1,962 (16% of all non-fatal casualties (excluding firefighters) in 2008).

Figure 1.7: Non-fatal casualties from fires (excluding firefighter casualties) by nature of injury, 1998-2008[1]



[1] Includes estimates for non-fatal casualties not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

Firefighter non-fatal casualties (Table 9)

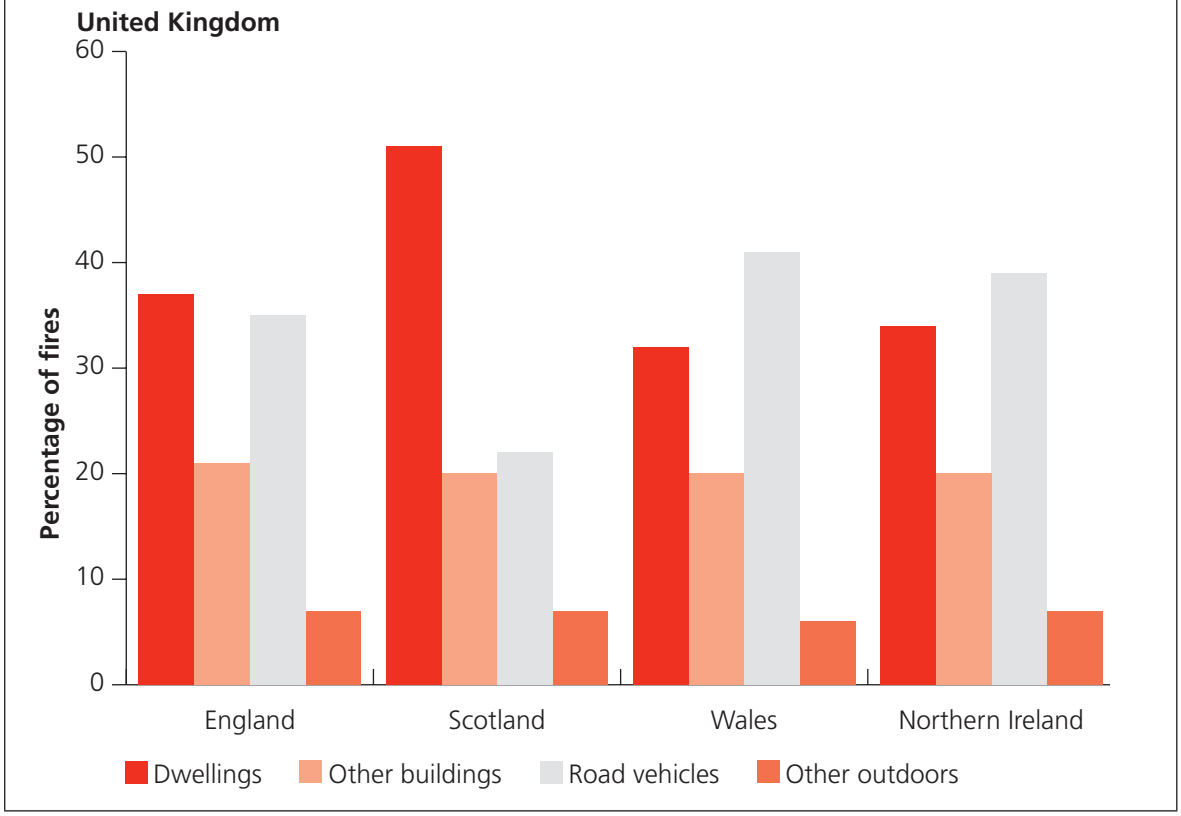
1.20 The number of firefighter non-fatal casualties in fires rose to 280 in 2008 from 268 in 2007. Physical injuries in fires accounted for the majority of the injuries sustained (45%), while precautionary check-ups accounted for 29 per cent.

Country and fire and rescue service area

Primary fires (Tables 5a and 23, Figure 1.8)

1.21 All countries in the UK experienced declines in the number of primary fires attended in 2008 (see explanatory note 19 for definition of a primary fire). In England numbers fell by 10 per cent from 118,400 in 2007 to 106,200 in 2008, while Wales saw an 8 per cent decline to 7,200 in 2008. The number of primary fires in Scotland fell by 4 per cent to 13,200 – the ninth consecutive annual fall. In Northern Ireland numbers fell by 13 per cent to 3,800.

Figure 1.8: Primary fires by country and location, 2008



1.22 The location profile of primary fires differs between countries. In Scotland, 51 per cent of all primary fires were in dwellings, compared with smaller proportions in Northern Ireland (34%), England (37%) and in Wales (32%). Road vehicle fires exhibited a different pattern. Road vehicle fires constituted the largest proportion of primary fires in Wales (41%), Northern Ireland (39%) and England (35%), but only made up 22 per cent of the total in Scotland.

1.23 The location profile broken down by fire and rescue service area also differs. All the Scottish areas recorded a high proportion of primary fires in dwellings (ranging from 44% to 56%). In England, metropolitan fire and rescue services tended to record large proportions of dwelling fires, with the highest percentage in Greater London (50%). Among the non-metropolitan areas, (with the exception of the Isles of Scilly) Lancashire recorded the highest proportion of dwelling fires (45%). The highest proportions of road vehicle fires attended were in South Wales (48%), South Yorkshire and West Yorkshire (both 47%) and Avon (45%) and Cleveland (45%).

Secondary fires (Tables 5a and 23)

1.24 England, Scotland, Wales and Northern Ireland all recorded a decrease in secondary fires in 2008 compared to 2007, (see explanatory note 24 for definition of a secondary fire). In England numbers fell by 19 per cent to 138,600, while in Scotland the decrease was 15 per cent (to 25,900). Secondary fires in Wales were down by 31 per cent at 11,400, whilst in Northern Ireland the decrease was 10 per cent (10,700 fires).

1.25 In 2008 refuse and derelict vehicle fires accounted for around two thirds of all secondary fires in the UK. Grassland fires (including intentional straw and stubble burning) contributed a further 23 per cent and derelict building fires accounted for 4 per cent.

Chimney fires (Tables 5a and 23)

1.26 There were 11,000 chimney fires in the UK in 2008, an increase of 18 per cent compared with 9,300 recorded in 2007.

Fatalities (Table 5b)

1.27 There were 451 fire-related deaths in the UK in 2008, of which 341 (76%) occurred in England. The fatality rate in fires in the UK in 2008 was 7.3 per million population (pmp). Fatality rates differ noticeably between countries:

- Scotland has had a consistently higher fatality rate over the years compared to the UK average, currently at 13.5 pmp
- the rate in Wales decreased from 8.7 pmp in 2007 to 6.7 pmp in 2008
- Northern Ireland's rate increased from 10.8 pmp to 11.3 pmp
- in England the rate was unchanged at 7.3 pmp.

Non-fatal casualties and rates by country (Table 5b)

1.28 The number of non-fatal casualties in England fell by 10 per cent in 2008 to 9,400 from 10,500 in 2007. The number of non-fatal casualties in Wales was constant at 650 and rose by 16 per cent in Northern Ireland to 450. In Scotland the number of non-fatal casualties was constant at 1700.

1.29 Reflecting the decrease in the number of non-fatal casualties in the UK, the non-fatal casualty rate per million population (pmp) also fell, from 217 in 2007 to 199 in 2008. This represents the tenth consecutive annual fall, and the lowest rate in over 20 years. By country, the non-fatal casualty rates were:

- England, down from 205 pmp in 2007 to 183 pmp in 2008
- Wales, constant at 217 pmp in 2008
- Scotland, from 335 pmp in 2007 down slightly to 332 pmp in 2008
- Northern Ireland, from 218 pmp in 2007 up to 251 pmp in 2008.

Non-fatal casualty rates by fire and rescue service area (Table 22)

1.30 As in previous years, some of the highest non-fatal casualty rates in England were in the metropolitan fire and rescue service areas – Greater Manchester (536 pmp) and Merseyside (241 pmp). Northern Ireland had a higher than average rate of non-fatal casualties (251 pmp). In Scotland, Lothian and Borders had the highest rate (413 pmp) followed by Central (383 pmp). The highest casualty rate in Wales was in North Wales (335 pmp). The highest rate recorded by an English non-metropolitan fire and rescue service was in Cornwall (308 pmp). The lowest rate recorded (excluding Isles of Scilly) was in Warwickshire (54 pmp).

Country and regional data

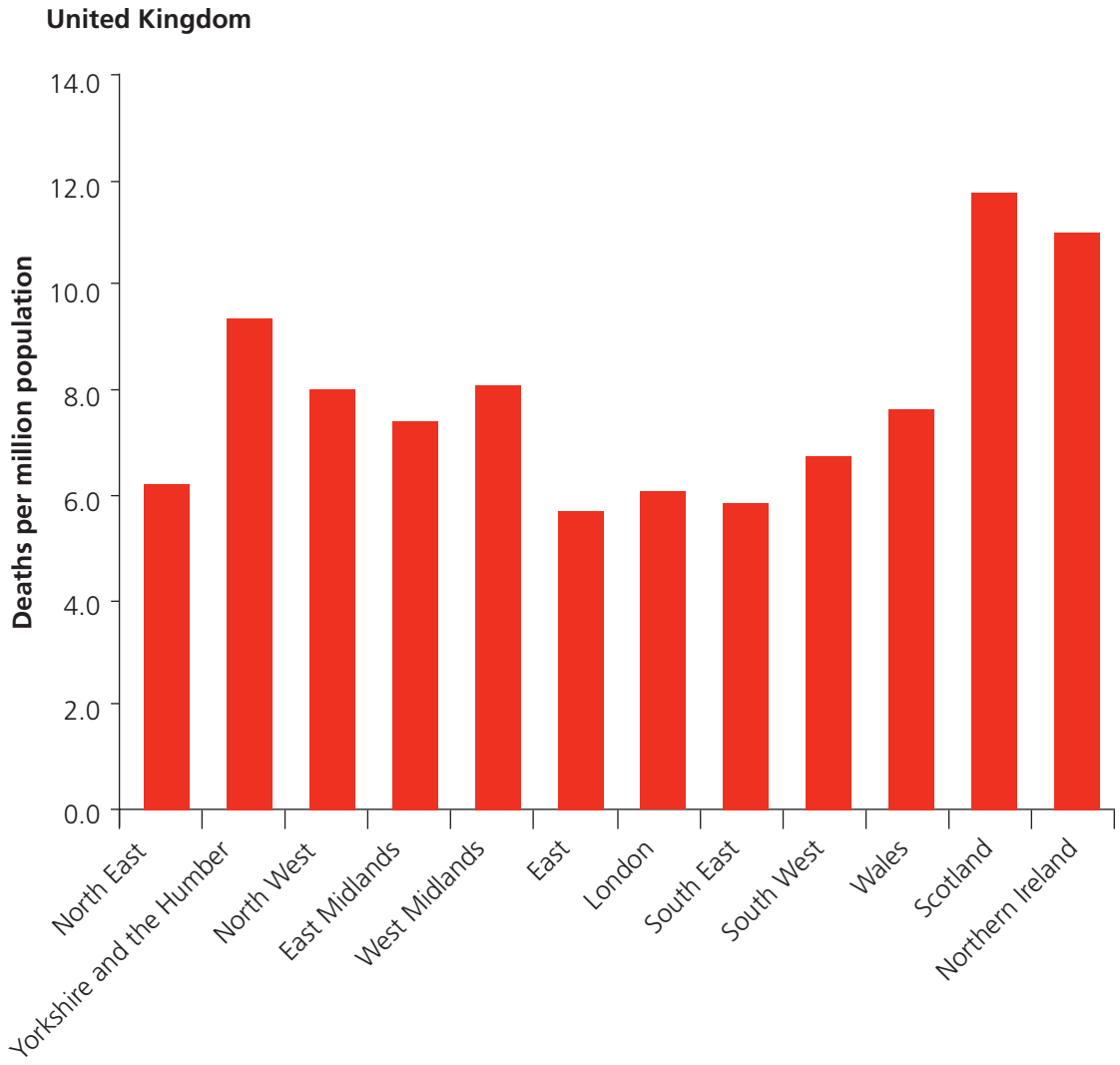
1.31 Data for the last three years for primary fires, deaths and injuries have been aggregated to country and regional level totals and are shown in Table 29. Breakdowns by cause, whether accidental or deliberate, are shown in Tables 30 and 31.

1.32 Based on the average number of primary fires between 2006 and 2008, the five fire and rescue services in the North West region attended the most fires (21,400) although the numbers attended have fallen in recent years. The North East region (four fire and rescue services) attended the fewest fires out of all the English regions (7,800), although this region has a comparatively low population when compared against other regions. Northern Ireland had the least number of fires in the UK (4,300).

Casualties and rates (Table 29 and Figures 1.9 and 1.10)

1.33 Figure 1.9 shows the average fatality rate for each region for 2006-2008. Scotland had the highest rate at 11.7 deaths pmp. The next highest was in the Northern Ireland with 11.0 deaths pmp. The Eastern region had the lowest average fatality rate at 5.7 deaths pmp. The UK average was 7.6 pmp.

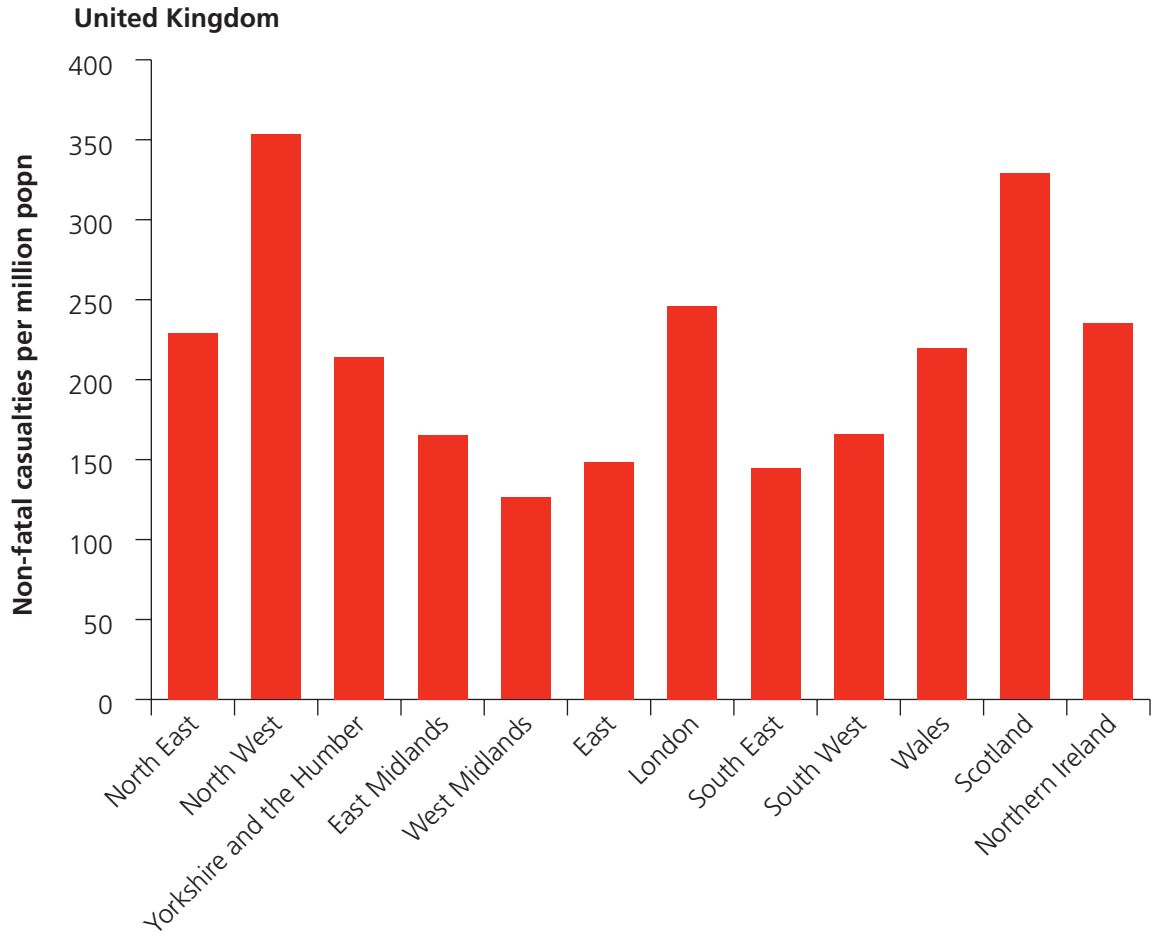
Figure 1.9: Fatality rates by region, 2006-2008 average[1]



[1] Includes estimates for non-fatal casualties not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

1.34 Figure 1.10 shows the average non-fatal casualty rates by region. The North West had the highest rate at 353 pmp. This is due to the high rates in Greater Manchester and Merseyside. The lowest rates were in the West Midlands (126 pmp) and the South East (145 pmp). These compare to a UK average of 214 pmp.

Figure 1.10: Non-fatal casualty rates by region, 2006-2008 average[1]



[1] Includes estimates for non-fatal casualties not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

Cause of fire (Tables 30 and 31)

1.35 There were an average of 82,200 accidental fires and 62,700 deliberate fires per year recorded. The North West had the highest numbers of both causes of fire (11,100 accidental and 10,300 deliberate), although these are lower averages than in previous years. The South East had the next highest number of accidental fires with an average of 10,000 per year, while Yorkshire and the Humber region had the second most deliberate fires recorded with 7,800.

Chapter 2

Dwellings

Introduction (Tables 2 and 6)

2.1 Dwelling fires account for around two thirds of all building fires (i.e. primary building fires) and around 80 per cent of all casualties occur in fires in the home. (See explanatory note 24 for further information on the definitions of primary and dwelling fires.) Overall, the number of dwelling fires fell by 6 per cent to 49,600 in 2008, continuing the downward trend since 1999. The number of deaths in dwelling fires was 353, up 22 on 2007 – the first recorded increase since 2005. There was a 7 per cent fall in the number of non-fatal casualties in fires in dwellings to 10,100.

Accidental fires (Table 2)

2.2 The majority of fires in dwellings are accidental (83% in 2008). The number of accidental fires in dwellings fell by 5 per cent from 43,000 in 2007 to 41,000 in 2008. The 2008 figure represents the lowest number of such fires recorded in more than two decades.

Cause of fire (Table 2)

2.3 The main cause of accidental fires in dwellings remains the misuse of equipment or appliances, with 14,200 cases recorded in 2008 – six percent fewer than in 2007. However, this figure represents the lowest level in over a decade. Other changes in accidental dwelling fires since 1998 include:

- chip/fat pan fires have fallen by over half in ten years to 4,800
- instances of playing with fire have fallen by over two thirds in the decade.

Source of ignition (Table 3)

2.4 This section looks in more detail at the source of the flame, spark or heat that first ignited the fire. This is related to the cause of the fire, and for many sources of ignition there was only one major cause responsible for the fire. For example, for most fires in which the source of ignition was smokers' materials the cause was most likely to be careless handling of fire or hot substances.

2.5 Cooking appliances were the main source of ignition in accidental dwelling fires (over half in 2008). These fires fell by 7 per cent to 22,200 in 2008, the eighth consecutive annual fall and a total fall of around a third from the peak of 34,000 in 2000.

2.6 Other key changes from 2000 were:

- fires where the source of ignition was smokers' materials (i.e. cigarettes, cigars or pipe tobacco) fell by around one third;
- candle fire totals are now around a third less than the 2000 high – 1,400 compared to 2,100.

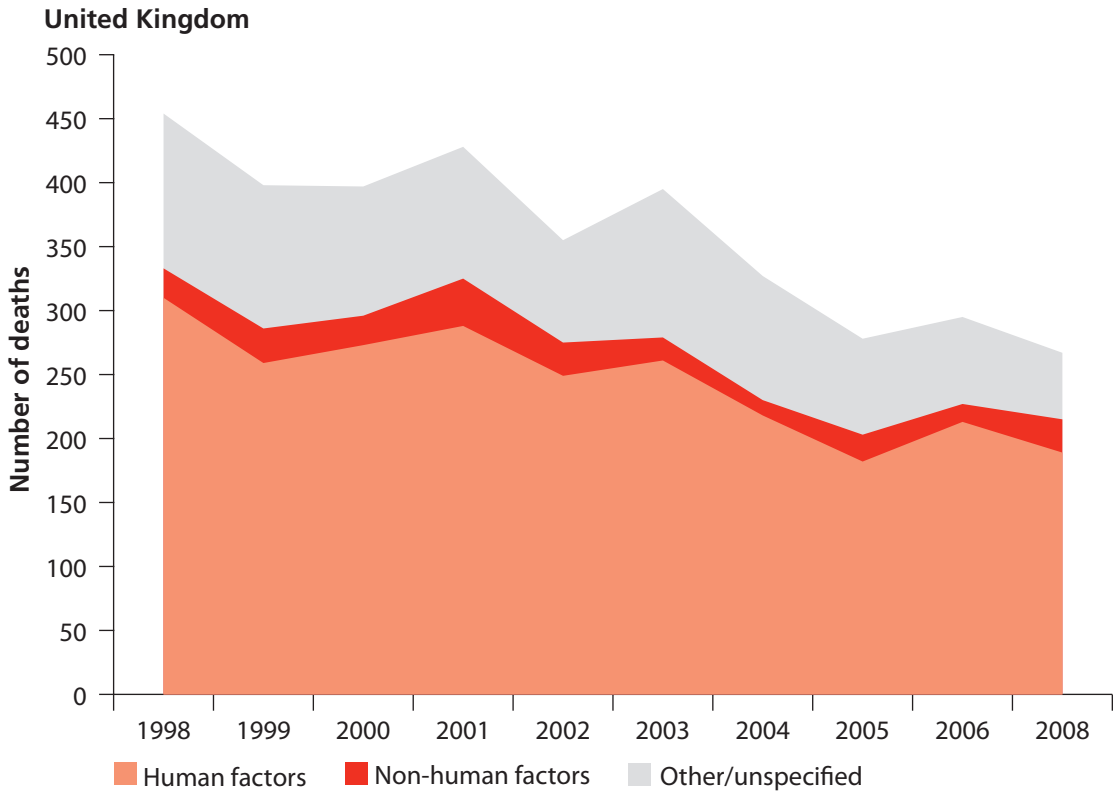
Casualties from accidental fires (Tables 10 and 11)

2.7 The majority of the deaths in dwellings result from fires caused accidentally. Of the 353 deaths in dwellings in 2008, 294 (83%) were of accidental causes. The number of deaths is also 35 per cent less than the 1998 accidental total of 454.

Deaths by cause of fire (Figure 2.1 and Table 10)

2.8 Once again, the leading cause of fatal accidental dwelling fires was careless handling of fire or hot substances (mostly the careless disposal of cigarettes) – 113 deaths (down from 116 in 2007). This has now claimed over 1,200 deaths in accidental dwelling fires in the UK in the last 10 years. Although the latest figure is only a decrease of 3 deaths on the 2007 figure, there has been a general downward trend in such deaths over the last decade.

Figure 2.1: Deaths from accidental dwelling fires by cause, 1998 – 2008[1]



[1] Includes fire related deaths recorded by MOD and the Media with estimates calculated for the breakdown by cause of death in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

2.9 Other key changes in the number of fatal casualties by cause of fire between 2007 and 2008 were:

- faulty appliances and leads accounted for 30 deaths, up from 17 the previous year
- deaths due to the chip/fat pan fires rose from 8 to 19 (although the decade long trend remains downwards – with the 2008 total less than half the 1998 figure).

Deaths by source of ignition of fire (Tables 2.1 and 11)

2.10 Smokers' materials (i.e. cigarettes, cigars or pipe tobacco) were the most frequent source of ignition causing accidental dwelling fire deaths, accounting for over a third of all accidental dwelling fire deaths in 2008. For every 1,000 accidental dwelling fires (where smokers' materials were the source of ignition), 36 people were killed in 2008. Since 1998, such deaths have become increasingly less common and there has been a downward trend in the figures for most of the decade. In 2008 however, the number of these deaths was almost the same as in 2007.

2.11 Fires started by cooking appliances were responsible for 15 per cent of all accidental dwelling fire deaths. There were 44 such deaths in 2007, up from 36 in 2007. Only 2 people were killed for every 1,000 fires started in cooking appliances in 2008. This could reflect the relatively minor nature of many cooking-related fires and the fact that many cooking fires occur when the victims are alert at the time of the fire.

2.12 Accidental dwelling fire deaths started by space heating appliances rose from 20 in 2007 to 25 in 2008. Six people were killed in accidental dwelling fires started by central and water heating appliances.

2.13 In 2008 18 people were fatally injured in accidental dwelling fires started by candles, four more than in 2007.

Non-fatal casualties by cause of fire (Figure 2.2 and Table 10)

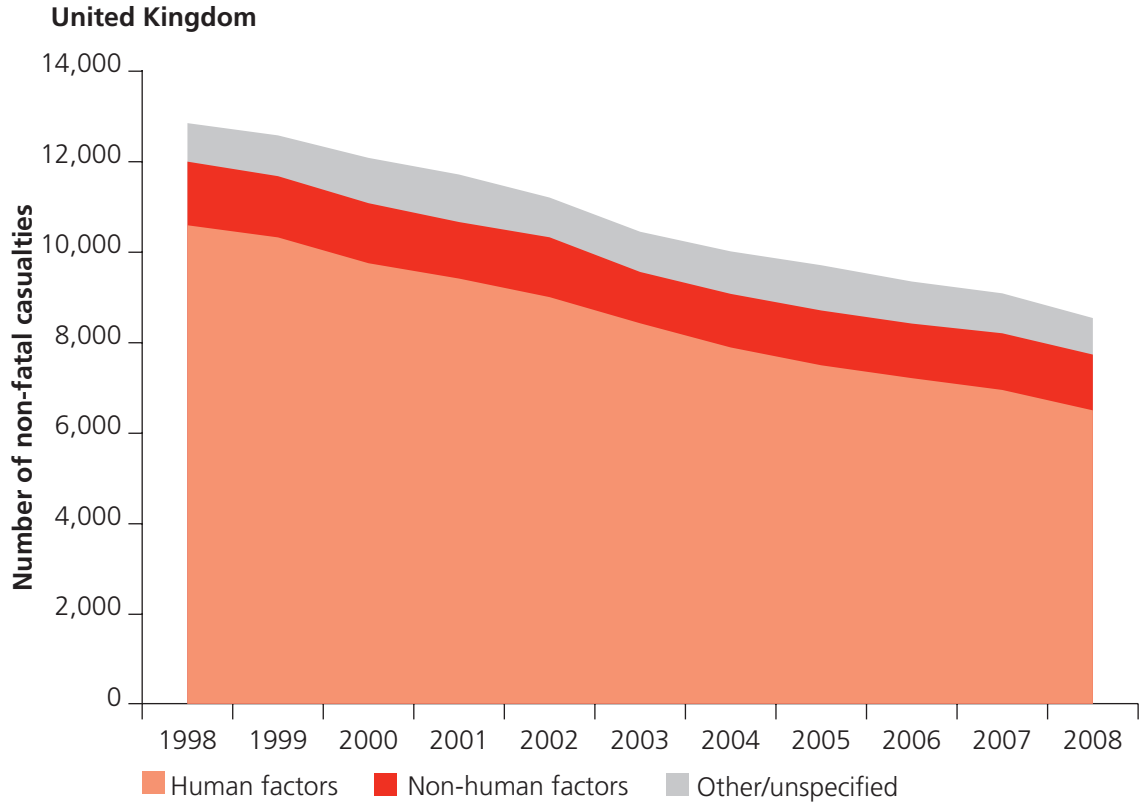
2.14 In 2008, the total number of non-fatal casualties in dwelling fires fell by 7per cent to 10,100. The vast majority of these casualties occurred in fires caused accidentally (84%). The number of non-fatal casualties in accidental dwelling fires fell by 6 per cent from 9,100 in 2007 to 8,500 in 2008. This continues the downward trend seen in recent years and represents the lowest recorded figure in over a decade.

2.15 The misuse of equipment and appliances was the biggest cause of non-fatal casualties in accidental dwelling fires in 2008. Up until 2005, chip/fat pans had been the biggest cause in accidental dwelling fires injuries.

2.16 Other key changes between 2007 and 2008 in the number of non-fatal casualties by cause of fire were:

- Chip pan fire related non-fatal casualties were down by 9 per cent on the previous year – now at 1,700. This was the eleventh successive decrease since the high of 1997.
- Playing with fire – non-fatal casualties down by 28 per cent to 157 (continuing a decade long decline – to less than 40% of the 1998 total).
- Careless handling of fire or hot substances – non-fatal casualties were down by 6 per cent at 1,200.

Figure 2.2: Non-fatal casualties from accidental dwelling fires by cause, 1998 – 2008[1]



[1] Includes fire related deaths recorded by MOD and the Media with estimates calculated for the breakdown by cause of death in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

Non-fatal casualties by source of ignition of fire (Tables 2.1 and 11)

2.17 In 2008, there were 4,600 injuries from accidental dwelling fires started by cooking appliances. This accounted for over half (54%) of non-fatal casualties in accidental dwelling fires and equates to 206 injuries per 1,000 fires relating to cooking appliances. Although cooking appliance fires caused the largest *number* of injuries, they did not have the highest injury rate (per 1000 fires), again possibly reflecting the relatively minor nature of many cooking-related fires.

2.18 The injury rate was highest for fires caused by cigarette lighters – 443 per 1,000 fires, a total of 139 injuries in 2008. The next highest was for fires started by candles – 377 per 1,000 fires, a total of 527 injuries in 2008.

2.19 Fires started by matches resulted in 95 injuries –almost a fifth lower than the previous year continuing the long term downward trend (there were 256 injuries caused by matches in accidental dwelling fires in 1998).

2.20 Accidental dwelling fires caused by other electrical appliances resulted in 861 non-fatal casualties in 2008, a 12 per cent decrease on 2007.

Table 2.1: Sources of ignition for accidental dwelling[1] fires, with casualties, 2007 and 2008

United Kingdom

	Fires[2]		Fatal casualties				Non-fatal casualties			
			Total	*Per 1,000 fires*	Total	*Per 1,000 fires*	Total	*Per 1,000 fires*	Total	*Per 1,000 fires*
	2008	2007	2008	*2008*	2007	*2007*	2008	*2008*	2007	*2007*
Total accidental	**41,283**	**43,351**	**294**	***7***	**267**	***6***	**8,519**	***206***	**9,066**	***209***
Smokers' materials	2,814	3,076	101	*36*	102	*33*	932	*331*	1,047	*340*
Cigarette lighters	314	482	8	*25*	11	*23*	139	*443*	251	*521*
Matches	308	274	9	*29*	7	*26*	95	*308*	116	*423*
Cooking appliances	22,230	23,805	44	*2*	36	*2*	4,610	*207*	4,780	*201*
Space heating appliances	1,599	1,764	25	*16*	20	*11*	334	*209*	376	*213*
Central and water heating appliances	986	1,041	6	*6*	2	*2*	136	*138*	125	*120*
Blowlamps, welding and cutting equipment	363	473	0	*0*	0	*0*	45	*124*	39	*82*
Electrical distribution	3,091	3,050	8	*3*	9	*3*	353	*114*	335	*110*
Other electrical appliances	5,503	5,389	20	*4*	22	*4*	861	*156*	976	*181*
Candles	1,399	1,313	18	*13*	14	*11*	527	*377*	570	*434*
Other	1,922	1,895	14	*7*	13	*7*	291	*151*	276	*146*
Unspecified	754	789	41	*54*	31	*39*	196	*253*	175	*222*

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Casualties by room of origin of fire (Tables 2.2, 12a and 12b)

2.21 In 2008, 114 (38%) accidental dwelling fire fatalities occurred in fires starting in the living or dining room. This equates to a fatality rate of 29 deaths per 1,000 fires, and makes fires starting in the living or dining room the most likely to result in a fatality. By contrast, 66 (22%) fatalities occurred in kitchen fires equating to a fatality rate of only 3 deaths per 1,000 fires, which would again suggest that many cooking-related fires are relatively minor in nature.

2.22 The majority of all non-fatal casualties occurred in kitchen fires (60%), although there was a 2 per cent fall in 2008, down to 5,100 from 5,200 in 2007. As with fatalities, the non-fatal casualty rate in kitchen fires was relatively low at 198 per 1,000 fires compared to the highest rate of 334 per 1,000 fires starting in the bedroom and 302 per 1,000 fires starting in the living or dining room.

2.23 In 2008, 53 per cent of all accidental dwelling fire fatalities occurred in the room where the fire started, down 11 percent on 2007. However, this proportion varies depending on the room in which the fire started. For example, 62 per cent of fatalities from fires starting in the bedroom occurred in the room of origin, while a third of deaths in fires starting in the kitchen occurred in the room of origin.

2.24 The pattern for non-fatal casualties is different to that of fatalities, with 35 per cent occurring in the room of origin in 2008 (similar to previous years). Once again, variations occur according to the room in which the fire started. For example, 42 per cent of non-fatal casualties from fires starting in a bedroom occurred in the room of origin, compared to 34 per cent for fires starting in the kitchen.

Table 2.2: Casualties in accidental dwelling1 fires by use of room where fire started, 2007 and 2008

United Kingdom

	Fires[2]		Fatal casualties				Non-fatal casualties			
			Total	*Per 1,000 fires*	Total	*Per 1,000 fires*	Total	*Per 1,000 fires*	Total	*Per 1,000 fires*
	2008	2007	2008	*2008*	2007	*2007*	2008	*2008*	2007	*2007*
Total accidental	**41,276**	**43,351**	**294**	***7***	**267**	***6***	**8,519**	***206***	**9,066**	***209***
Bedroom or bedsitting room	3,814	4,242	84	22	71	*17*	1,275	*334*	1,517	*358*
Living room, dining room or lounge	3,982	4,131	114	29	114	*28*	1,204	*302*	1,416	*343*
Kitchen	25,873	27,240	66	3	53	*2*	5,130	*198*	5,242	*192*
Bathroom or lavatory	994	1,017	4	4	2	*2*	157	*158*	156	*153*
Corridor, hall or stairs	1036	954	12	12	5	*5*	146	*141*	197	*206*
Laundry or airing cupboard	939	951	0	0	0	*0*	124	*132*	118	*124*
Store room or loft	891	975	0	0	3	*3*	86	*97*	88	*90*
Other	1,796	1,517	3	2	4	*3*	214	*119*	161	*106*
Unspecified	1,952	2,324	11	6	15	*6*	183	*94*	171	*74*

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Smoke alarm analyses (Tables 2.3 to 2.9 and Figure 2.4)

Introduction

2.25 This section looks at the effectiveness of smoke alarms and the likely cause of failure on those occasions when alarms did not operate. The assessment and analysis presented here is based (as elsewhere in this report) on fires attended by the fire and rescue service. Any fires involving alarms where no emergency call was made to the fire and rescue service will not be recorded. Therefore the figures reported should understate the effectiveness of smoke alarms. If a smoke alarm is working correctly it will provide the occupier with an early warning of fire or smoke. They can then react quickly and put out the fire so that it is less likely the fire and rescue service will be called. Findings from the 2004/05 Survey of English Housing (SEH) suggest that the fire and rescue service were called to just over a fifth of all domestic fires (see paragraph 1.2 and explanatory note 10 for further details). This would suggest that working smoke alarms do prevent fires becoming serious on many occasions, making fire and rescue service attendance unnecessary.

2.26 Various research (see Table 2.3) shows that the proportion of households with a smoke alarm increased rapidly from 8 per cent in 1988 to 70 per cent in 1994, but has risen more slowly in later years to around 90 per cent.

Figure 2.3: Fires in dwellings by smoke alarm presence and operation, 2008

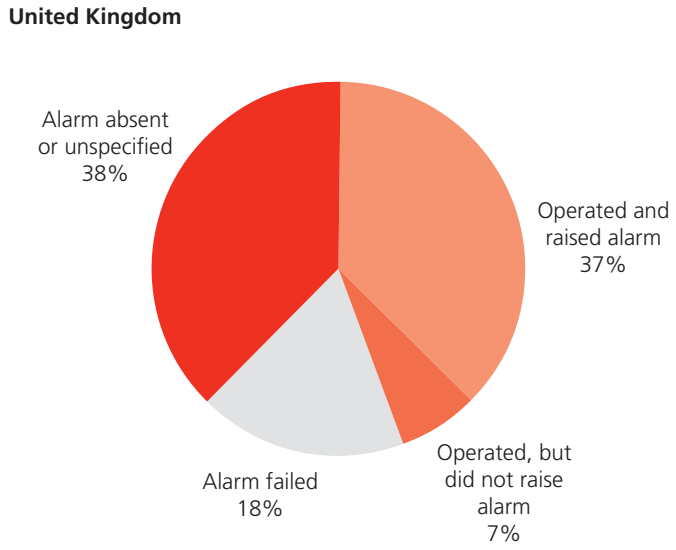


Table 2.3: Smoke alarm ownership, percentage of households, 1988-2008

England and Wales (unless otherwise stated)

Year	Smoke alarm ownership (% of households)	Source[1]
1988	8%	BCS
1989	25%	BJM
1990	..	..
1991	36%	EHCS2
1992	45/50%	BCS/ONS
1993	66%	ONS
1994	70%	ONS
1995	71%	ONS
1996	67/72%	EHCS2/ONS
1997	75%	ONS
1998	82%	NCFSC
1999	77/81%	BCS/NCFSC
2000	83%	NCFSC
2001	81%	NCFSC
2002	..	..
2003	78%	EHCS2

	Working smoke alarm ownership (% of households)	Source[1]
2001	76%	BCS[3]
2002/03	76%	BCS[3]
2003/04	..	..
2004/05	80%	SEH[2,3]
2006	84%	EHCS[2]
2007	85%	EHCS[2]
2008	91%	EHS[4]

[1] Sources: British Crime Survey (BCS); BJM survey commissioned by the Home Office (BJM); English House Condition Survey (EHCS); ONS Omnibus Survey (ONS); National Community Fire Safety Centre 'Fire Safety Attitude and Behaviour Monitor' (NCFSC); Survey of English Housing (SEH); In April 2008 the English House Condition Survey was integrated with the Survey of English Housing to form the English Housing Survey (EHS).
[2] England only.
[3] Refers specifically to ownership of a working smoke alarm.
[4] English Housing Survey
.. Data not available

Smoke alarm presence, type and operation (Tables 2.4 to 2.6)

2.27 A smoke alarm was absent in the area in which the fire started in 18,600 dwelling fires in 2008 (38% compared to 43% in 2007). These fires accounted for 130 deaths (compared to 137 in 2007) and a further 3,300 non-fatal casualties. For the remaining dwelling fires where an alarm was present:

- an alarm operated and raised the alarm in 18,500 cases 37 per cent (the same as in 2007)
- operated but did not raise the alarm in 3,700 cases 7 per cent (a minor increase on 2007)
- failed to operate in 8,800 cases 18 per cent (a 5% increase on 2007).

Table 2.4: Fires and casualties from fires in dwellings[1] by presence and operation of smoke alarms, 2004-2008

United Kingdom — Number

	Presence and operation of smoke alarm					
	Present, operated & raised the alarm	Present, operated, but did not raise the alarm	Present, but did not operate	Absent	Unspecified	Total
Fires[2]						
2004	19,221	3,076	7,166	30,274	5	59,743
2005	19,995	3,144	7,183	27,421	10	57,753
2006	19,800	3,281	6,919	25,788	1	55,789
2007	19,390	3,381	7,052	22,883	5	52,710
2008	18,490	3,683	8,810	18,609	18	49,610
Fatal casualties						
2004	42	35	97	200	-	374
2005	63	41	69	203	-	376
2006	58	41	81	183	-	363
2007	67	42	85	137	-	331
2008	77	46	100	130	-	353
Non-fatal casualties						
2004	3,848	733	2,061	5,335	-	11,977
2005	3,934	812	1,987	4,830	2	11,565
2006	4,045	758	1,660	4,766	-	11,229
2007	4,190	760	1,875	4,112	-	10,937
2008	4,064	890	1,882	3,283	4	10,123

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Type of alarm (Table 2.5)

2.28 In 2008, smoke alarms were present in the fire area in 29,100 dwelling fires. Of these fires, 41 per cent had battery-operated alarms, while 58 per cent had mains-powered.

Table 2.5: Dwelling[1] fires where a smoke alarm was present by type of alarm, 2004-2008[2]

United Kingdom					Number
Year	2004	2005	2006	2007	2008
Total	29,464	30,322	30,000	29,770	29,113
Battery-powered	12,928	12,728	12,627	12,570	12,012
Mains-powered	16,423	17,443	17,204	16,925	16,928
Other/Unspecified	113	151	169	276	173
					Percentage
Year	2004	2005	2006	2007	2008
Battery-powered	44	42	42	42	41
Mains-powered	56	58	57	57	58
Other/Unspecified	-	-	1	1	1

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Discovery of fires (Table 2.6)

2.29 In 2008, a smoke alarm raised the alarm in 37 per cent of reported dwelling fires. This continued the general increase since 2000 (when smoke alarms raised the alarm in only 25 per cent of reported fires). Dwelling fires in which smoke alarms raise the alarm continue to:

- be discovered more rapidly after ignition
- be associated with lower fatal casualty rates
- cause less damage as they are more often confined to the item first ignited.

2.30 Generally, the shorter the interval between ignition and discovery of a fire, the lower the death rate. Working smoke alarms tend to shorten the discovery time. In 2008, nearly two-thirds (61%) of dwelling fires where a smoke alarm raised the alarm were discovered in under five minutes. In contrast, where a smoke alarm did not raise the alarm, just over half (51%) of all dwelling fires were discovered in under five minutes. Consequently, fatality rates in dwelling fires in which smoke alarms raise the alarm are lower than those in which smoke alarms are either absent or do not raise the alarm (4 per 1,000 detected fires compared to 9 per 1,000 for undetected fires in 2008).

Table 2.6: Fires and casualties from fires in dwellings[1] by smoke alarm presence and operation, by percentage discovered in under 5 minutes and percentage confined to item first ignited, 2004-2008

United Kingdom

Year	Fires[2]	Fatal casualties		Non-fatal casualties		% of fires discovered < 5 minutes	% of fires confined to item
	Number	Number	*Per 1,000 fires*	Number	*Per 1,000 fires*	%	%
Fires where an alarm was present, operated and raised the alarm							
2004	19,221	42	*2*	3,848	*200*	64	68
2005	19,995	63	*3*	3,934	*197*	65	68
2006	19,800	58	*3*	4,045	*204*	63	62
2007	19,390	67	*3*	4,190	*216*	62	61
2008	18,490	77	*4*	4,064	*220*	61	56
Fires where an alarm was absent or an alarm was present but failed to raise the alarm							
2004	40,522	332	*8*	8,129	*201*	51	46
2005	37,758	313	*8*	7,631	*202*	51	47
2006	35,988	305	*8*	7,184	*200*	52	45
2007	33,316	264	*8*	6,747	*203*	52	44
2008	31,102	277	*9*	6,055	*195*	51	43

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Smoke alarm failures (Tables 2.7 to 2.9)

2.31 In those dwelling fires where a smoke alarm was present, 24 per cent of alarms in 2008 failed to operate. However, this overall figure masks a wide difference in performance between battery-powered alarms and mains-powered alarms: 36 per cent of all battery-powered smoke alarms failed compared to just 15 per cent of mains-powered alarms in 2008.

2.32 The main reason for smoke alarms failing to activate in battery-powered alarms was missing or flat batteries. In 2008 they accounted for 43 per cent of all failures in battery-powered alarms. The main reason for failure to activate by mains-powered alarms was that the fire products did not reach the detectors (49% of cases).

2.33 The smoke alarm operated but did not raise the alarm in 3,700 fires in 2008, slightly more than in 2007. The main reasons were that a person raised the alarm before the smoke alarm operated (58%) or there was no person within earshot of the alarm (20%).

Table 2.7: Smoke alarm failures in dwelling[1] fires by type of alarm, 2004-2008

United Kingdom					Number[2]
Alarm presence and operation	2004	2005	2006	2007	2008
Total[3]					
Alarm present	29,464	30,322	30,000	29,767	29,113
Alarm failed to activate	7,166	7,183	6,919	7,000	6,938
Failure rate (%)	*24*	*24*	*23*	*24*	*24*
Battery-powered					
Alarm present	12,928	12,728	12,627	12,566	12,012
Alarm failed to activate	5,072	4,842	4,569	4,478	4,284
Failure rate (%)	*39*	*38*	*36*	*36*	*36*
Mains-powered[4]					
Alarm present	16,423	17,443	17,204	16,926	16,928
Alarm failed to activate	2,053	2,287	2,295	2,449	2,590
Failure rate (%)	*13*	*13*	*13*	*14*	*15*

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[3] Total does not sum to individual sections as a small number of alarms with another or an unspecified power source have been included.
[4] Mains-powered alarms include those powered by mains only or by battery and mains.

Table 2.8: Fires in dwellings[1] with a smoke alarm where alarm did not operate by type of alarm and reason for failure, 2003-2007[2]

United Kingdom

Type of alarm and reason for failure to activate	2004	2005	2006	2007	2008
Battery					
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Missing battery	47%	44%	41%	38%	34%
Battery failure/flat	11%	9%	10%	9%	9%
Other act preventing alarm from operating inc. turned off	5%	5%	4%	5%	5%
Fire products did not reach detector(s)	27%	31%	32%	35%	38%
Poor sitting of detector(s)	3%	3%	3%	3%	2%
Faulty system / incorrectly installed	4%	3%	4%	5%	4%
Other including not known e.g. where system too badly damaged	4%	4%	5%	5%	7%
Mains					
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Missing battery	4%	3%	3%	4%	3%
Battery failure/flat	1%	1%	1%	1%	1%
Other act preventing alarm from operating inc. turned off	30%	30%	26%	25%	24%
Fire products did not reach detector(s)	43%	42%	45%	49%	49%
Poor sitting of detector(s)	1%	1%	1%	2%	0%
Faulty system / incorrectly installed	11%	12%	13%	10%	10%
Other including not known e.g. where system too badly damaged	10%	12%	11%	10%	12%

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).

[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Table 2.9: Fires in dwellings[1] with a smoke alarm where alarm operated but did not raise the alarm by reason, 2004-2008[2]

United Kingdom — Percentage

Reason	2004	2005	2006	2007	2008
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Person raised the alarm before system operated	53%	52%	55%	58%	58%
No person in earshot	24%	23%	21%	22%	20%
Poor sitting of detectors meant person raised alarm	2%	2%	2%	2%	1%
Occupants failed to respond	11%	11%	11%	10%	11%
Faulty system inc. incorrectly installed	1%	2%	1%	1%	1%
Other including not known e.g. where system too badly damaged	9%	10%	9%	9%	10%

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Deliberate fires (Tables 2 and 24)

2.34 Approximately 17 per cent of all dwelling fires in 2008 were deliberate or suspected to be deliberately started. The number of deliberate dwelling fires fell for the seventh consecutive year – down by 11 per cent to 8,300 from 9,400 in 2007. Of the total 53,000 deliberate fires in 2008, only 16 per cent were in dwellings. The majority of deliberate fires in 2008 (55%) involved road vehicles – 29,400 fires (see Chapter 4 for further details).

2.35 A large proportion of all deliberate dwelling fires in 2008 occurred in multiple occupancy dwellings (45%), 40% occurred in single occupancy dwellings and the remaining 15 per cent were in dwellings of other or unspecified occupancy.

2.36 In total there were 93 fatalities in deliberate fires in 2008, 14 less than in 2007). The majority of these occurred in dwelling fires, 59 in 2008 – down from 64 in 2007. This represents 17 per cent of the total deaths in dwelling fires – two percent less than the decade high figure in 2007.

2.37 There were a total of 2,200 non-fatal casualties as a result of deliberate fires in 2008 – 13 per cent less than the previous year. The majority of these injuries occurred in deliberate dwelling fires (72%) a little less than in 2007. Just 16 per cent of the total number of non-fatal casualties in dwelling fires occurred in deliberate fires – nearly the same as in 2007.

Fire spread (Table 4)

2.38 Most dwelling fires were confined to the room of origin and did not spread elsewhere in the building (85% in 2008). Of these, 48 per cent were confined to the item first ignited. These proportions have remained fairly constant over the last decade.

Time of call to the fire and rescue service (Table 2.10)

2.39 Just over two thirds of accidental dwelling fires occurred between midday and midnight (69%). However most casualties in accidental dwelling fires occurred between 6pm and 11.59pm (33%). Deliberate dwelling fires occurred most frequently between 6pm and 11.59pm (38%); while over two thirds of casualties occurred between 6pm and 5.59am (70%). In 2008 the fewest number of dwelling fire casualties occurred between 6am and 11.59am.

Table 2.10: Accidental and deliberate dwelling[1] fires, total dwelling fire casualties[2] and casualties per 1,000 dwelling fires by time of day, 2008

United Kingdom					Percentage[3]/Rate[4,5]
Time of day	Accidental dwelling fires	Deliberate dwelling fires	Accidental dwelling fire casualties	Deliberate dwelling fire casualties	*Dwelling fire casualty rate[3]*
Midnight – 5.59am	13%	27%	22%	35%	*338*
6am – 11.59am	18%	11%	17%	13%	*201*
Midday – 5.59pm	36%	23%	27%	17%	*162*
6pm – 11.59pm	33%	38%	33%	35%	*208*

[1] Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling (see explanatory note 24).
[2] Fatal and non-fatal casualties.
[3] Component percentages may not add up to 100% due to rounding.
[4] Per 1,000 fires.
[5] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

2.40 Casualty rates are significantly higher through the night – rising to 338 casualties per 1,000 fires between midnight and 5.59am. The higher casualty rates during the night probably reflect the lack of awareness of the casualties when the fire starts. It must also be borne in mind that many early morning fires may have started earlier in the night – the times used for analysis are those when the fire was first reported to the fire and rescue service.

Chapter 3

Other buildings

Introduction (Tables 1b, 2 and 6)

3.1 In 2008 there were 27,500 fires recorded in buildings other than dwellings, 11 per cent less (3,500 fires) than the previous year. This follows consecutive falls between 2003 and 2007 and follows the general downward trend since 1995. The majority of fires occurred in:

- private garages and sheds (21%) – 5,800 fires
- retail distribution (13%) – 3,700 fires
- restaurants, cafes, public houses etc (10%) – 2,600 fires
- industrial premises (other than construction) (6%) – 1,800 fires
- recreational and other cultural services (5%) – 1,400 fires.

3.2 In 2008, 21 people died in buildings other than dwellings – 15 less than in 2007. Also in fires in other buildings, 1,200 injuries were sustained in 2008 (a decrease of 8% compared with 2007). These figures represent around 5 per cent of all fire deaths and 10 per cent of non-fatal casualties.

Accidental fires (Table 2)

Trends

3.3 Over half of fires in other buildings were started accidentally (around 60% compared to over 80% of those in dwellings). In 2008, a total of 17,500 accidental fires in other buildings were recorded, 8 per cent less than in 2007. The general trend in such fires over the last ten years has been downward, with the 2008 figure nearly 33 per cent lower than the 1995 figure of 26,000.

Cause of fire

3.4 As in the previous year, the main cause of accidental fires in other buildings in 2008 was faulty appliances and leads. These represented 34% of all such fires, a total of 6,000 fires – a similar proportion to 2007 (6,000). There was an 16% fall in the number of fires caused by misuse of equipment or appliances, down to 2,700 fires. Other key changes in the causes of accidental fire in other buildings were:

- chip/fat pan fires – decreased by 10 per cent to 452
- playing with fire – increased by 12 per cent to 47.

Source of ignition (Table 3)

3.5 Around half of accidental fires in other buildings were started by either electrical appliances (5,100 fires) or by cooking appliances (3,300 fires). The number of fires started by electrical appliances was down 9% on the previous year, while cooking appliance fires fell by 11 per cent. Other key changes relating to source of ignition from 2007 were:

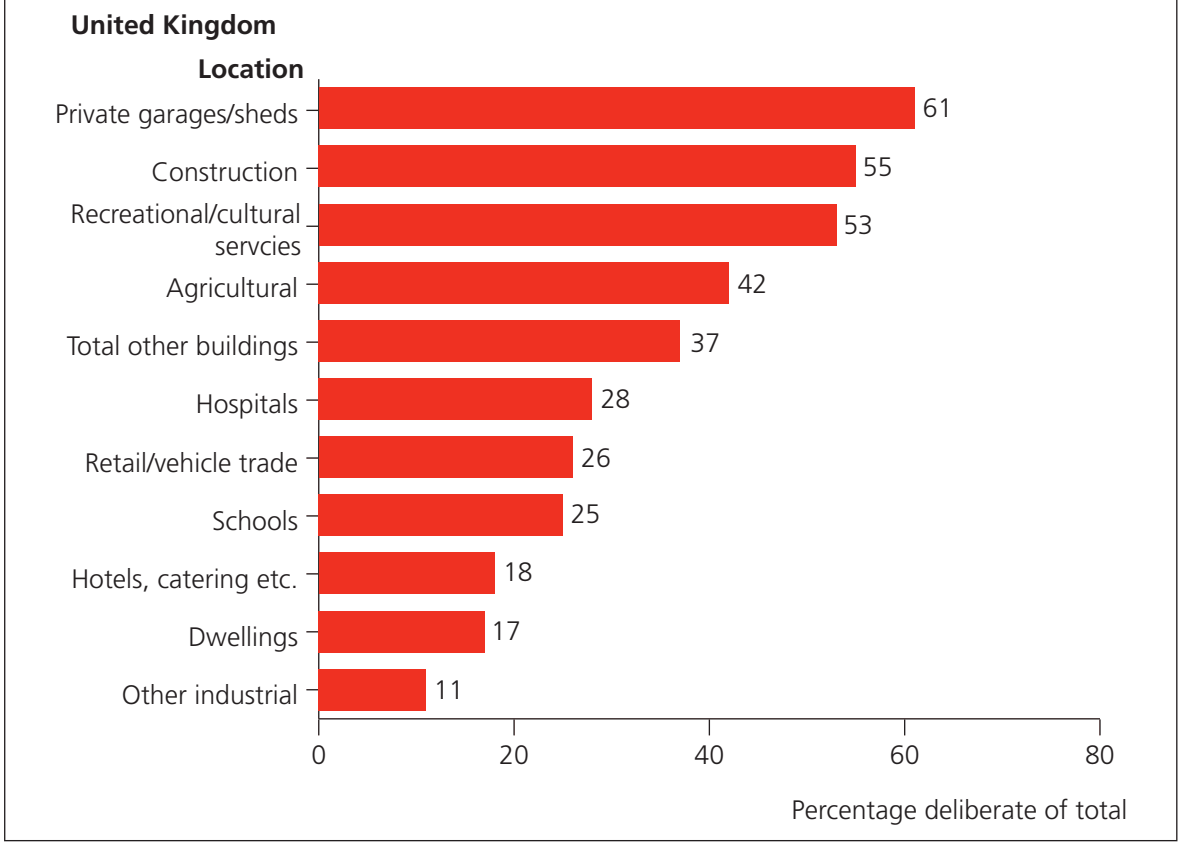
- smokers' materials – decreased by 18 per cent to 1,000, while fires started by matches increased by 22 per cent to 107
- candle fires – decreased by 18% to 141
- electrical distribution (leads to appliances, wires and cables) – decreased by 2 per cent to 2,400.

Deliberate fires (Tables 2 and 24, Figure 3.1)

Trends

3.6 The remaining 10,000 (36%) other building fires were due to deliberate ignition – a similar proportion as in the previous year (12,000). Over the last decade, the number of deliberate fires in other buildings has decreased by 42 per cent, from 17,100 in 1998 (see paragraph 1.10 and table 1.2).

Figure 3.1: Building fires: deliberate fires as a percentage of all fires in each location category, 2008



Location (Figure 3.1)

3.7 A comparison of the number of deliberate fires in other building locations with the total fires experienced shows that certain buildings are more prone to deliberate ignition than others. The main locations in 2008 were private garages and sheds (61% deliberate); construction industry premises (55%); recreational and other cultural services premises (53%); and agriculture (42%).

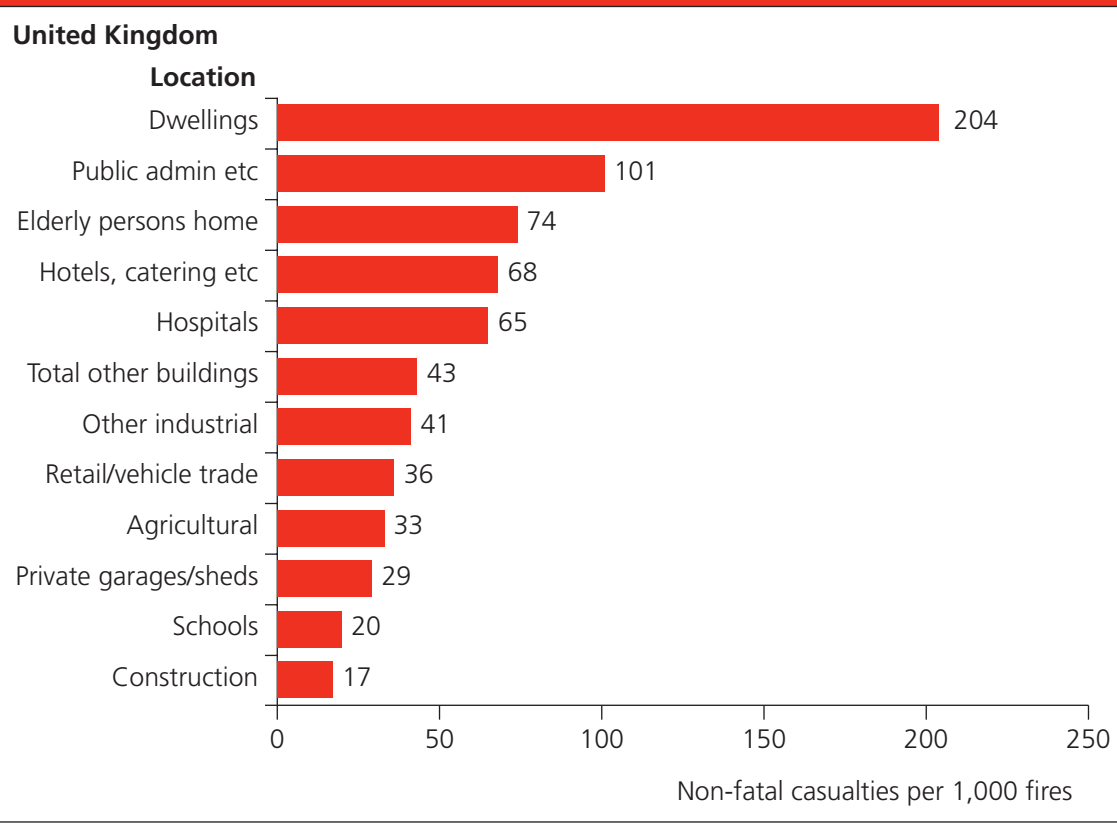
Casualties (Table 22 and Figure 3.2)

3.8 Only a small number of casualties occur in other building fires (see paragraph 3.2). Casualty rates show that in 2008, there were under 5 deaths per 1,000 other building fires (compared with 7 deaths per 1,000 dwelling fires (5 in 2007). For non-fatal casualties the rates were 43 per 1,000 fires for other buildings (up from 41 in 2007) and 204 per 1,000 fires for dwellings (207 in 2007).

Location (Figure 3.2)

3.9 In 2008, the highest non-fatal casualty rates in fires in other buildings occurred in public administration premises – includes police stations and prisons – (101 casualties per 1,000 fires). High injury rates were also recorded in elderly persons – (74 non-fatal casualties per 1,000 fires) and hotels (68 non-fatal casualties per 1,000 fires). This compares with 39 non-fatal casualties in industrial premises. The average in all other building fires was 43 non-fatal casualties per 1,000 fires.

Figure 3.2: Building fires: Non-fatal casualty rates per 1,000 fires in each location category, 2008



Automatic fire detector analyses (Tables 3.1 to 3.3, Figure 3.3)

Introduction

3.10 This section looks at the effectiveness of automatic fire detectors and the likely causes of failure on those occasions when detectors did not operate. The assessment and analysis presented here is based (as elsewhere in this report) on fires attended by the fire and rescue service. Any fires involving detectors where no emergency call was made will not be recorded, meaning that effectiveness of automatic fire detectors may be understated. See paragraph 2.26 for further details in relation to domestic smoke alarms.

Table 3.1: Fires and casualties from fires in other buildings by presence and operation of automatic fire detectors, 2004-2008

United Kingdom — Number

	Presence and operation of automatic fire detectors					
	Present, operated & raised the alarm	Present, operated, but did not raise the alarm	Present, but did not operate	Absent	Unspecified	Total
Fires[1]						
2004	10,156	955	2,579	23,892	-	37,582
2005	10,019	983	2,519	21,727	2	35,250
2006	9,275	979	2,437	20,235	-	32,926
2007	8,295	1,016	2,484	19,159	11	30,965
2008	7,867	988	3,706	14,886	6	27,453
Fatal casualties[2]						
2004	28	-	1	26	-	55
2005	8	1	1	17	-	27
2006	11	2	-	24	-	37
2007	12	1	2	21	-	36
2008	8	-	2	11	-	21
Non-fatal casualties[3]						
2004	498	77	116	828	-	1,519
2005	471	93	96	741	-	1,400
2006	514	65	164	739	-	1,482
2007	468	62	89	663	-	1,282
2008	373	55	183	574	-	1,185

[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[2] Includes fire-related deaths recorded by the MOD and media with estimates calculated for the breakdown by alarm presence in January and February 2003 during industrial action (see explanatory notes 3 and 4).
[3] Includes estimates for non-fatal casualties not recorded in January and February 2003 during industrial action (see explanatory notes 3 and 4).

Table 3.2: Fires in other buildings with an automatic fire detector where detector did not operate by reason, 2004-2008

United Kingdom — Percentage[1]

Reason	2004	2005	2006	2007	2008
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Missing battery	2%	1%	2%	1%	-
Battery failure/flat	1%	-	-	-	-
Other act preventing alarm from operating inc. turned off	7%	8%	8%	8%	8%
Fire products did not reach detector(s)	77%	78%	77%	76%	75%
Poor siting of detector(s)	-	-	-	1%	-
Faulty system inc. incorrectly installed	3%	3%	4%	4%	3%
Insufficient detectors	-	-	-	-	-
Other reason (not act or omission)	-	-	-	-	-
System apparently operational after fire	-	-	-	-	-
Other including not known e.g. where system too badly damaged	9%	9%	9%	10%	14%

[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Table 3.3: Fires in other buildings with an automatic fire detector where detector operated but did not raise the alarm by reason, 2004-2008

United Kingdom — Percentage[1]

Reason	2004	2005	2006	2007	2008
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Person raised the alarm before system operated	68%	66%	66%	68%	69%
No person in earshot	15%	17%	17%	17%	14%
Poor sitting of detectors meant person raised alarm	1%	1%	1%	1%	-
Occupants failed to respond	2%	1%	2%	2%	2%
Faulty system inc. incorrectly installed	2%	2%	3%	1%	1%
Other including not known e.g. where system too badly damaged	13%	13%	11%	12%	13%

[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Automatic fire detector presence and operation

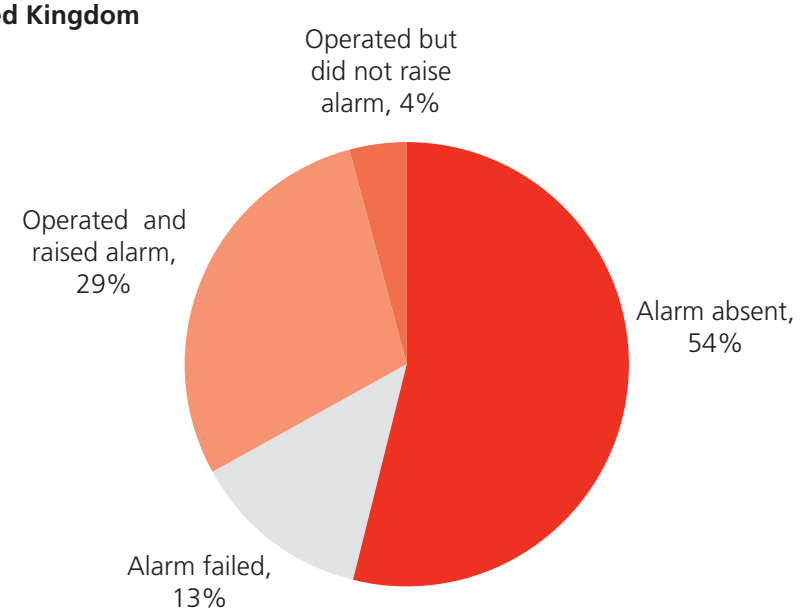
3.11 Automatic fire detectors were absent in the area in which the fire started in 14,900 (54%) of all other building fires in 2008. These fires resulted in 11 deaths and a further 574 non-fatal casualties. For the remaining 46 per cent of other building fires where an automatic fire detector was present:

- the automatic fire detector operated and raised the alarm in 7,900 cases (29%)
- operated but did not raise the alarm in 1,000 cases (4%)
- failed to operate altogether in 3,700 cases (13%)

This follows a broadly similar pattern to that for dwelling fires (37%, 7% and 18% respectively).

Figure 3.3: Fires in other buildings by automatic fire detector presence and operation, 2008

United Kingdom



3.12 The number of fires in other buildings where the automatic fire detector failed to operate has risen from around 3,700 in 2008 compared to 2,500 in 2007. The main reason why automatic fire detectors failed to operate was due to fire products not reaching the detectors (just over three-quarters of such cases).

3.13 The number of fires in other buildings where the automatic fire detector operated, but did not raise the alarm was 990 (1,020 in 2007). The main reasons in 2008 were that a person raised the alarm before the detector operated (69%) or there was no-one within earshot of the alarm (14%) – slightly down from 2007 (17%).

Fire spread (Table 4)

3.14 The vast majority of fires are confined to the room of origin and do not spread elsewhere in the building (80% of other building fires in 2008 compared to 85% for dwellings). Within other buildings 42 per cent of these are confined to the item first ignited. These proportions have remained fairly constant since 2000.

Chapter 4

Road vehicle fires

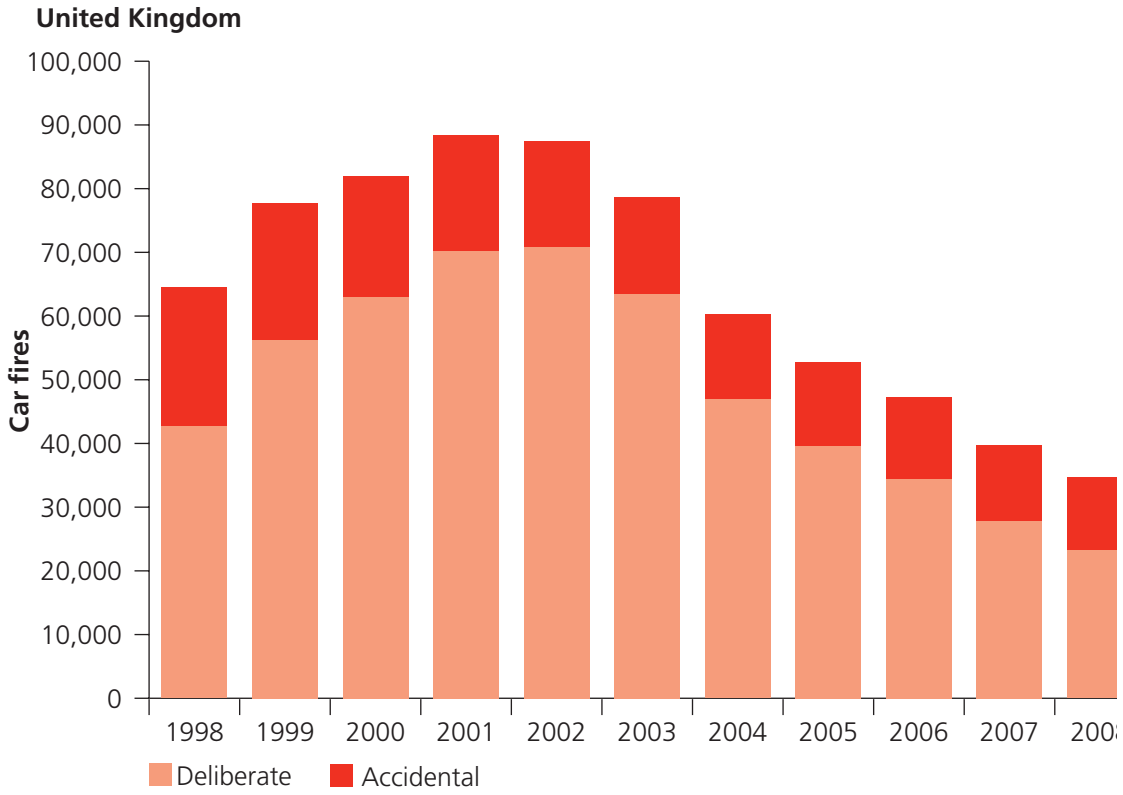
Introduction (Table 16)

4.1 Road vehicle fires totalled 44,600 in 2008, of which 34,600 (78%) were in cars, 3,500 (8%) were in vans and 1,500 (3%) were in lorries. The total number of fires recorded in road vehicles decreased by 12% compared with 2007. The 2008 total represents the lowest in the decade – mainly due to a 56% fall in accidental fires in road vehicles since 1998.

Car fires by cause of fire (Table 15 and Figures 4.1)

4.2 In 2008, the total number of car fires fell for the seventh successive year – decreasing by 13 per cent to 34,600 from 39,800 in 2007. This sharp fall follows a rapid rise in car fires in previous years due to a significant increase in the number of deliberate fires. Deliberate fires now account for 67 per cent of all car fires, this compares with 66 per cent a decade earlier. However, the latest figure (23,200 deliberate car fires) shows another annual fall since the peak of 70,200 in 2001.

Figure 4.1: Fires[1,2] in cars by cause, 1998-2008



[1] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.
[2] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial actions – see explanatory notes 3 and 4.

4.3 The fall in deliberate car fires can be attributed to a number of factors. These are: an improved vehicle licensing regime; the success of vehicle removal schemes; and recent increases in the price of scrap metal, which has increased the value of end of life vehicles making them less likely to be abandoned.

4.4 Accidental car fires fell by 5 per cent to 11,400 in 2008, continuing the general decline, and were nearly half those recorded in 1998.

Casualties (Table 6)

4.5 There were 44 fatalities in road vehicle fires in 2008 compared with 48 in 2007. This equates to almost 1 death per 1,000 fires and contrasts with a fatality rate for dwellings of 7 deaths per 1,000 fires.

4.6 The number of non-fatal casualties in road vehicle fires fell to 426 in 2008 from 469 in 2007, but is much lower than the levels recorded in the mid-1990s (837 in 1996). These latest figures equate to 10 non-fatal casualties per 1,000 fires, compared with 204 in dwellings and 43 in other buildings.

Time of call to fire and rescue service (Table 4.1)

4.7 The time that the fire and rescue service was called to road vehicle fires varied according to the cause of the fire. 86 per cent of deliberate road vehicle fires are started between 6pm and 5.59am. In contrast just 43 per cent of accidental fires in road vehicles are started between these times. Casualty rates drop from 31 casualties per 1,000 road vehicle fires during daytime (6am to 5.59pm) to 16 casualties per 1,000 fires in the late evening and through the night.

Table 4.1: Accidental and deliberate road vehicle fires, total road vehicle fire casualties[1] and casualties per 1,000 road vehicle fires by time of day, 2008

United Kingdom				Percentage/Rate[2]
Time of day	Accidental fires	Deliberate fires	Casualties	Casualty rate
Midnight – 5.59am	13%	45%	19%	6
6am – 11.59am	23%	6%	15%	14
Midday – 5.59pm	35%	8%	28%	17
6pm – 11.59pm	30%	41%	37%	10

[1] Fatal and non-fatal casualties.
[2] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

Chapter 5

Outdoor fires

Introduction (Tables 1c, 5 and 5.1)

5.1 Primary and secondary outdoor fires totalled 240,000 in 2008. Of which 125,500 (52%) were refuse fires (including bonfires, fires in derelict vehicles and refuse containers), 44,100 (18%) were grassland and heathland fires, 44,600 (19%) were road vehicle fires and 25,800 (11%) were other outdoor structures (including derelict buildings). Further details on road vehicle fires are given in Chapter 4. The remainder of this chapter mainly covers other types of outdoor fires.

5.2 Relatively few casualties occur in outdoor fires, other than road vehicle fires. In 2008 there were 33 fire related deaths, and 481 non-fatal casualties in outdoor fires (excluding road vehicle fires), amounting to around four deaths and 54 non-fatal casualties per 1,000 outdoor fires.

Table 5.1: Primary and secondary outdoor fires by location, 1998-2008[1]

United Kingdom — Fires (thousands)[2]

Year	Total[3]	Road vehicles	Grassland, etc (inc. intentional straw and stubble burning)	Refuse, etc (inc. derelict vehicles)	Other outdoor fires
1998	277.8	76.0	40.9	131.3	29.7
1999	336.6	90.1	62.5	150.2	33.7
2000	348.3	94.9	60.2	159.3	33.8
2001	417.9	102.2	73	203.4	39.4
2002[1]	401.3	101.2	65.7	196.1	38.3
2003[1]	503.8	92.8	152.7	215.2	43.2
2004	335.9	72.8	61.5	167.6	34.0
2005	327.6	65.2	72.4	159.2	30.7
2006	340.0	59.2	93.5	155.1	33.0
2007	291.6	50.8	57.9	152.5	30.4
2008	240.0	44.6	44.1	125.5	25.8

[1] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).
[2] Figures are rounded and the components do not necessarily sum to the independently rounded totals.
[3] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

5.3 The number of grassland and heathland fires is very dependent on weather conditions. In 2008, there were 44,100 such fires recorded, almost a quarter fewer than the previous year.

5.4 Refuse fires decreased in 2008 to 125,500 – a fall of 18 per cent from the previous year and the lowest level over the decade. The number of fires in derelict vehicles fell by a quarter – from 4,100 to 3,000. There were 44,600 road vehicle fires in 2008 a decrease of 12 per cent from last year and the lowest level since 1984.

When fires occur (Table 5.2)

5.5 Outdoor fires exhibit the strong seasonal patterns mainly due to the effect of the weather on grassland fires. There was an average of 244 grassland fires per day in May 2008 compared with just 24 fires per day in December 2008. There were nearly twice as many grassland fires in the first half of the year as in the second half – reflecting the below average rainfall in spring 2008. Fires in dwellings showed a different seasonal variation, generally with higher numbers of fires per day occurring in the winter months.

Table 5.2: Daily rates of fires by month and location, 2008

United Kingdom — Fires per day

	Total fires	Buildings		*Outdoor Fires*				*Chimney fires*
		Dwellings	Other	Road vehicles	Grassland[1]	Refuse[2]	Other Outdoor	
2008	896	136	75	122	120	343	71	30
Jan	651	139	69	126	32	201	39	45
Feb	989	145	76	131	153	369	63	52
Mar	919	141	77	118	159	310	67	47
Apr	962	130	75	118	188	333	77	40
May	1,122	142	84	122	244	421	97	13
Jun	1,000	131	82	121	184	379	94	8
Jul	923	123	82	117	166	348	82	4
Aug	779	123	69	122	90	297	71	6
Sep	843	123	67	130	89	343	78	13
Oct	889	134	73	120	72	392	68	29
Nov	998	146	78	125	47	494	68	41
Dec	693	149	68	112	24	236	43	61

[1] Includes intentional straw and stubble burning.
[2] Includes derelict vehicles.
[3] Figures for primary fires are partially based on sampled data weighted to individual FRS totals – see explanatory notes.

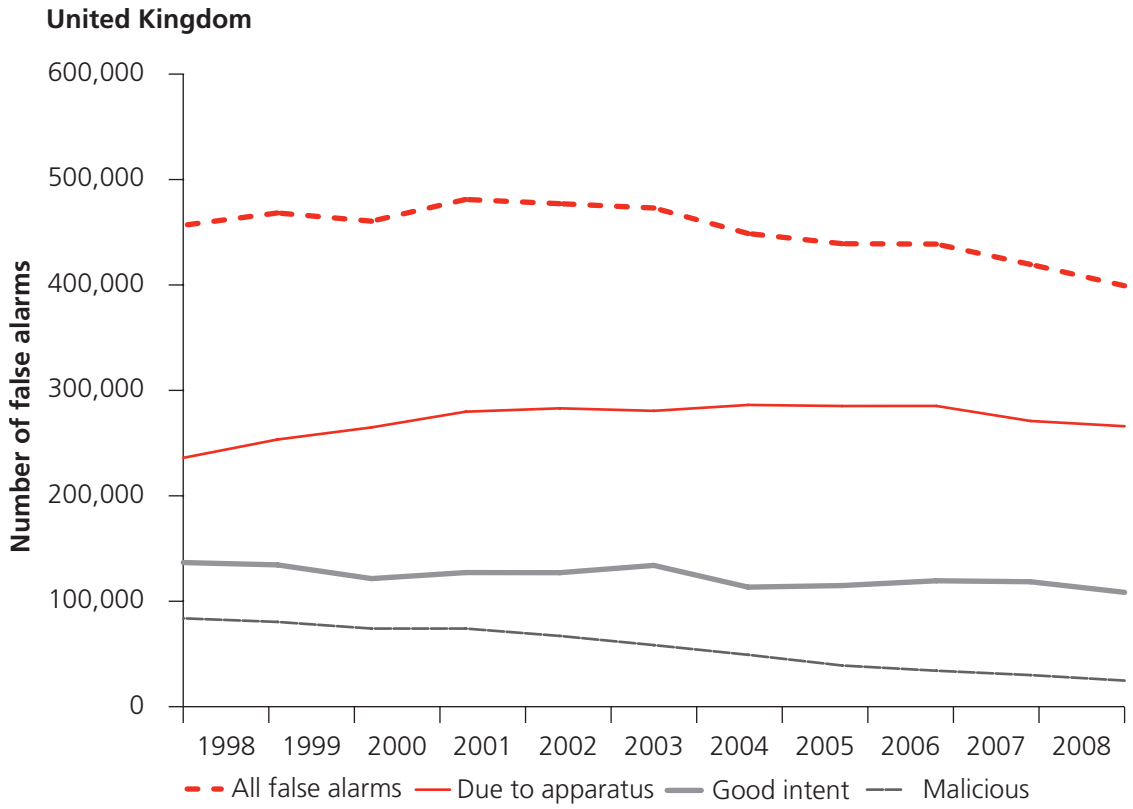
Chapter 6

False alarms

6.1 There were 399,200 false fire alarms attended in 2008, a decrease of 5 per cent (20,300 incidents) from 2007 and over a fifth lower than the peak level of 507,000 in 1995. Within this category, good intent false alarms fell by around than 8 per cent to 108,400, while false alarms due to apparatus decreased by 2 per cent to 266,000. There was also a large de-crease in malicious false alarms (a reduction of 17% to 24,700). This continues the long term downward trend and represents a fall of 85 per cent since 1992.

6.2 False alarms due to apparatus represented two thirds of the total number of false alarms in 2008, compared to just over a half in 1998.

Figure 6.1: Fire false alarms, 1998 – 2008[1]



[1] Includes estimates for non-fatal casualties not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).

6.3 In 2008, over half of all fire-related incidents attended (i.e. all fires plus false alarms) were false alarms. Malicious false alarms accounted for just 3 per cent of all fire-related incidents, whereas false alarms due to apparatus accounted for just over a third of all fire-related incidents.

Table 6.1: False alarms, 1998-2008[1]

United Kingdom — Number (thousands)

Year	Malicious	Good intent	Due to apparatus	Total
1998	83.8	136.7	236	456.6
1999	80.4	134.5	253.4	468.3
2000	74.1	121.5	264.9	460.5
200[1]	74.1	127.2	279.8	481.1
2002[1]	67.1	127.1	283	477.1
2003[1]	58.4	134	280	472.4
2004	49.3	113.6	286.6	449.6
2005	39.0	114.9	285.2	439.1
2006[2]	34.1	119.4	285.3	438.8
2007	30.0	118.5	271.0	419.5
2008	24.7	108.4	266.0	399.1

[1] Includes estimates for incidents not recorded in November 2002 and January and February 2003 during industrial action (see explanatory notes 3 and 4).
[2] Revised figures – secondary fire and false alarm data, supplied by Lancashire, have been revised

6.4 The number of false alarms in England fell by 6 per cent in 2008 compared with 2007. While the number of false alarms in Wales fell by 4 per cent during the same period. The number of false alarms in Scotland was almost the same as in 2007. The highest percentage decrease in the number of false alarms between 2007 and 2008 was in Warwickshire FRS (25%). In contrast, Bedfordshire FRS recorded an 8 per cent increase in the number of false alarms between 2007 and 2008.

Table 6.2: False fire alarms attended by the UK fire and rescue service, 2007 and 2008

United Kingdom — Number

FRS Area	2007				2008			
	Total false alarms	Malicious	Good intent	Due to apparatus	Total false alarms	Malicious	Good intent	Due to apparatus
United Kingdom	**419,477**	**29,975**	**118,507**	**270,995**	**399,184**	**24,741**	**108,443**	**266,000**
England and Wales	**353,900**	**23,836**	**100,491**	**229,573**	**333,948**	**19,511**	**93,042**	**221,395**
England	**334,255**	**22,306**	**94,534**	**217,415**	**315,124**	**18,047**	**88,003**	**209,074**
England – Non-Met	**185,631**	**11,732**	**58,601**	**115,298**	**173,407**	**9,648**	**53,464**	**110,295**
Avon	7,356	658	2,064	4,634	5,946	392	2,901	2,653
Bedfordshire	2,554	213	883	1,458	2,747	159	849	1,739
Berkshire	5,989	362	1,400	4,227	5,644	262	1,287	4,095
Buckinghamshire	3,781	215	765	2,801	3,551	206	938	2,407
Cambridgeshire	5,564	312	1,264	3,988	4,748	283	1,046	3,419
Cheshire	4,923	266	1,335	3,322	4,693	253	1,339	3,101
Cleveland	4,510	219	2,818	1,473	4,073	163	2,453	1,457
Cornwall	1,922	100	678	1,144	1,858	95	615	1,148
Cumbria	2,599	120	533	1,946	2,495	88	484	1,923
Derbyshire	5,717	416	1,544	3,757	5,620	354	1,401	3,865
Devon & Somerset	7,204	345	2,038	4,821	7,006	369	1,807	4,830
Dorset	3,530	190	2,095	1,245	3,545	169	1,021	2,355
Durham	2,932	257	1,062	1,613	2,774	220	1,045	1,509
East Sussex	6,166	351	2,321	3,494	6,333	324	1,364	4,645
Essex	9,711	956	4,696	4,059	9,018	852	4,158	4,008
Gloucestershire	3,362	64	758	2,540	2,966	69	753	2,144
Hampshire	7,746	505	3,205	4,036	7,111	399	3,072	3,640
Hereford & Worcs	3,860	196	905	2,759	3,720	244	872	2,604
Hertfordshire	4,596	176	1,312	3,108	4,743	180	1,450	3,113
Humberside	5,028	394	1,553	3,081	4,894	344	1,464	3,086
Isle of Wight	754	66	213	475	603	49	156	398
Kent	9,737	528	3,181	6,028	9,435	428	3,024	5,983
Lancashire	10,254	832	3,214	6,208	9,602	708	2,935	5,959
Leicestershire	5,785	393	1,259	4,133	4,640	231	1,087	3,322
Lincolnshire	3,020	264	930	1,826	2,788	183	878	1,727
Norfolk	4,667	162	1,207	3,298	4,495	138	1,114	3,243
North Yorkshire	4,019	232	1,010	2,777	3,920	207	978	2,735
Northamptonshire	4,781	254	1,405	3,122	3,834	246	954	2,634
Northumberland	1,516	89	430	997	1,611	65	419	1,127
Nottinghamshire	6,789	548	1,667	4,574	6,636	491	1,493	4,652
Oxfordshire	2,454	128	701	1,625	2,373	100	690	1,583
Shropshire	2,039	137	665	1,237	1,956	90	754	1,112

Table 6.2: False fire alarms attended by the UK fire and rescue service, 2007 and 2008

United Kingdom — Number

FRS Area	2007				2008			
	Total false alarms	Malicious	Good intent	Due to apparatus	Total false alarms	Malicious	Good intent	Due to apparatus
Staffordshire	6,700	377	3,687	2,636	6,377	277	3,191	2,909
Suffolk	3,586	172	832	2,582	3,700	84	776	2,840
Surrey	7,877	609	1,616	5,652	6,322	466	1,567	4,289
Warwickshire	3,382	257	925	2,200	2,533	99	672	1,762
West Sussex	5,927	277	1,678	3,972	5,909	251	1,763	3,895
Wiltshire	3,285	92	749	2,444	3,182	110	694	2,378
Isles of Scilly	9	0	3	6	6	0	0	6
England – Met	**148,624**	**10,574**	**35,933**	**102,117**	**141,717**	**8,399**	**34,539**	**98,779**
Greater Manchester	19,624	1,951	4,855	12,818	17,106	1,001	4,062	12,043
Merseyside	8,626	857	2,439	5,330	8,699	494	2,227	5,978
South Yorkshire	6,979	574	2,668	3,737	6,992	465	2,651	3,876
Tyne & Wear	8,985	678	2,817	5,490	9,060	645	3,094	5,321
West Midlands	18,679	2,310	4,747	11,622	17,103	1,935	4,384	10,784
West Yorkshire	18,924	1,386	5,499	12,039	18,851	1,243	5,540	12,068
Greater London	66,807	2,818	12,908	51,081	63,906	2,616	12,581	48,709
Wales	**19,645**	**1,530**	**5,957**	**12,158**	**18,824**	**1,464**	**5,039**	**12,321**
North Wales	4,161	157	1,033	2,971	4,158	177	980	3,001
Mid and West Wales	5,215	469	1,460	3,286	5,225	474	1,220	3,531
South Wales	10,269	904	3,464	5,901	9,441	813	2,839	5,789
Northern Ireland	**11,737**	**1,219**	**2,952**	**7,566**	**11,506**	**1,141**	**2,852**	**7,513**
Scotland	**53,840**	**4,920**	**15,064**	**33,856**	**53,730**	**4,089**	**12,549**	**37,092**
Central	2,666	298	1,379	989	2,737	299	1,304	1,134
Dumfries & Galloway	709	30	186	493	620	16	139	465
Fife	2,783	144	525	2,114	2,705	151	478	2,076
Grampian	3,280	249	543	2,488	3,317	179	577	2,561
Highland & Islands	2,222	93	546	1,583	2,493	89	615	1,789
Lothian & Borders	11,063	1,001	1,489	8,573	10,745	864	1,262	8,619
Strathclyde	26,671	2,830	9,744	14,097	26,741	2,203	7,549	16,989
Tayside	4,446	275	652	3,519	4,372	288	625	3,459

Explanatory notes

1. The Department for Communities and Local Government assumed responsibility for the fire and rescue service in May 2006. Previously responsibility was held by the Home Office, the Department for Transport, Local Government and the Regions and the Office of the Deputy Prime Minister.

2. The statistics in this publication are compiled from reports submitted to the Department for Communities and Local Government on fires attended by the fire and rescue service in the UK. More detailed information is collected on all fires in buildings, vehicles and outdoor structures and any fires involving casualties or rescues (i.e. "primary" fires). Less detailed aggregated information is collected on "secondary" and chimney fires; so subsequent analysis of them is limited. Brief definitions of the fires and false alarms reported on are given below. However for fuller definitions see paragraph 24.

Industrial action

3. Due to the industrial action by firefighters in November 2002 and January and February 2003 the reporting of fires for these days was disrupted. In total fifteen 24 hour periods were affected:

   from 18:00 on 13th to 18:00 on 15th November 2002 (2 days)

   from 09:00 on 22nd to 09:00 on 30th November 2002 (8 days)

   from 09:00 on 21st to 09:00 on 22nd January 2003 (1 day)

   from 09:00 on 28th to 09:00 on 30th January 2003 (2 days)

   from 09:00 on 1st to 09:00 on 3rd February 2003 (2 days).

   In some cases, this gap has been covered by estimates made by the Department for Communities and Local Government's fire statistics section. Some information relating to this period has been received via data collected by the Ministry of Defence and also from special summary reports submitted by some fire and rescue services. However, for the more complex tables, the figures are as reported by the service and therefore exclude any estimates for strike days. All the tables are labelled accordingly.

4. In order to present the most accurate picture of the fires, casualties and false alarms which occurred in 2002 and 2003, in some cases estimates have been incorporated into the figures to account for missing information. These have been produced using comparable data from November 2001, January 2002 and February 2002. Information on the actual number of fatal casualties which occurred during the strike periods has been obtained from the Ministry of Defence and media. For the

more complex tables in this bulletin the figures are as reported by the fire and rescue service and therefore exclude any estimates for strike days. All the tables are labelled accordingly.

Definitions: primary fires, secondary and chimney fires and false alarms

5. "Primary" fires include all fires in buildings, vehicles and outdoor structures or any fire involving casualties, rescues, or fires attended by five or more appliances. "Secondary" fires are the majority of outdoor fires including grassland and refuse fires unless they involve casualties or rescues, property loss or five or more appliances attend. They include fires in single derelict buildings. Chimney fires are any fire in an occupied building where the fire was confined within the chimney structure (and did not involve casualties or rescues or attendance by five or more appliances). A false alarm is defined as an event in which the fire and rescue service believes they are called to a reportable fire and then find there is no such incident. For fuller definitions, see paragraph 24 below. The term "outdoor fires" used in this bulletin refers to primary and secondary fires in road vehicles, other outdoor property, derelict buildings and derelict vehicles and more minor refuse, grassland and intentional straw/stubble fires.

Data for primary fires

6. The source of these data is the fire data report form FDR1(94) introduced from January 1994 and for Warwickshire from (October 2007) onwards, the electronic Incident Recording System (IRS). For data collected via the FDR1 form, the count specifically included two categories of fire-related incident not recorded in the fire statistics from the early 1980s to 1993. These categories are described as late fire calls and heat and smoke damage only incidents:

   - **"late fire calls"** which are fires not attended as an emergency because they are known to be extinguished when the call was made, or to which no emergency call was made
   - **heat or smoke damage only 'fires'** – where no fire damage is reported (see paragraph 24 for fuller explanation).

7. In order to avoid previous interpretation problems, the contents of all tables and charts were revised in Home Office Statistical Bulletin 25/98 – *Fire Statistics, United Kingdom*, 1997 so that analyses for 1994 and later years include both "late fire calls" and heat or smoke damage only 'fires'. (Because of the way that these types of fire were processed in 1995, this involved some additional estimation for missing data.).

Fatalities

8. A person whose death is attributed to a fire is counted as a fatality even if the death occurred weeks or months later. However, it is not always the case that fire was the cause of death. The figures for fatalities are thus subject to revision, as information supplied by the fire and rescue service needs to be cross-checked against the cause of death that appears on the death certificate. The main area of uncertainty is whether fire was the cause of death in road accident fatalities. This publication contains the finalised fire death figures for all years.

9. Revisions to the time series data relating to fire deaths have been published in previous Statistical Bulletins. A comprehensive revision exercise was undertaken in 1998, which resulted in major revisions (mainly for fires in road vehicles) to fire-related deaths occurring between 1988 and 1996. These revisions were first published in Home Office Statistical Bulletin 25/98 – *Summary Fire Statistics, United Kingdom*, 1997. A further data refinement exercise was undertaken in June 2000 to complete the revision exercise undertaken to the 1998 deaths information. The 2000 exercise resulted in some very minor changes to the information held on non-fatal casualties, rescues and the information held on the location of some fatal casualties for the years 1989 to 1993. The results of these very minor revisions were published in Home Office Statistical Bulletin 20/00 – *Summary Fire Statistics, United Kingdom*, 1999.

Survey of English Housing

10. The Survey of English Housing (SEH) is a large continuous survey carried out primarily to collect information on households in England, their housing and other related issues. In 2004/05 the SEH also asked a set of questions about fire-related issues in the home. A similar module of fire questions was asked in previous years in the British Crime Survey (BCS). Information collected in the SEH on experience of fire provides a valuable source of additional information in measuring the prevalence of domestic fires in England. This is because many of the fires measured by the SEH result in little or no damage and consequently are often not brought to the attention of fire and rescue service, thus escaping official recording via fire data reports (FDR1 and FDR3 forms). Even fires involving property damage or injury are not always brought to their attention. The SEH also collects a wide variety of social and demographic information from households, including details about their ethnicity, housing tenure and economic status. These characteristics together with the fire module responses allow the groups most likely to experience a fire or least likely to own a smoke alarm to be identified.

Deliberate and accidental fires

11. Deliberate fires include those where deliberate ignition is merely suspected, and those recorded by the brigade as "doubtful".

12. In 1994, as a result of a review of the assessment of the motive of primary fires (accidental or deliberate), there were changes in the recording of these classifications, which resulted in:

    - some fires previously classified as accidental being classified as deliberate
    - some deliberate fires previously considered to be "ignition of others' property" being classified as "unspecified cause"
    - a reduction in accidental fires due to "playing with fire".

    The effect appeared most noticeable for building fires, where an estimated 4,000 fires may have been categorised as deliberate where they were previously classed as accidental. These changes affect comparisons before and after 1994, but do not affect comparisons between 1994 and later years.

13. Data for deliberate and accidental fires were further revised in 2000. These revisions were published in Home Office Statistical Bulletin 20/00 – Summary Fire Statistics, United Kingdom, 1999. The revised data corrected an error, which resulted in a small distortion (about 3,500 fires) in the number of deliberate and accidental fires for the years 1996 to 1998. The total number of primary fires (involving property or casualties) for these years was not affected.

False alarms

14. The marked changes between 1995 and 1996 in the numbers of false alarm calls for "good intent" and "due to apparatus" are partly the result of coding changes. Guidance clarifying false alarm calls to be included in the "due to apparatus" category as applied by some fire brigades has resulted in some false alarm calls being classified into this category rather than "good intent".

Population data

15. Population data used in this Bulletin have been provided by the Office for National Statistics (ONS) in the form of mid-year estimates. Since publication of *Fire Statistics, United Kingdom, 2002* ONS revised the mid-year estimates (in May 2010) for all years from 2002 to 2008 and these figures have been incorporated into this bulletin. Further information on the exact changes made to the population estimates can be obtained via the ONS website www.statistics.gov.uk

Fire and rescue services

16. With effect from 1 April 1996, 22 new unitary authorities were created in Wales to re-place the former eight counties. The unitary authorities were arranged into three new combined fire authorities to replace the eight-brigade structure.

17. With effect from 1 April 2007, Devon Fire and Rescue Service and Somerset Fire and Rescue Service merged to become Devon and Somerset Fire and Rescue Service. These changes are displayed in the table below:

New fire authorities	Areas of former brigades
North Wales	Clwyd and Gwynedd
Mid and West Wales	Dyfed, Powys and West Glamorgan
South Wales	Gwent, Mid Glamorgan and South Glamorgan
Devon and Somerset	Devon FRS and Somerset FRS

Selection of samples of primary fires

18. From 2004 onwards*, the primary fire databases contain all fires with casualties, but only a sample of other fires for a selection of periods. The samples were selected systematically for each brigade, with the following approximate sampling fractions: 1994 – 10%, 1995 – 40%, 1996 to 2004 – 20%, 1 April 2006 onwards – 20%.

    *Data was not sampled during the following periods/for the following FRS: January 2005 – March 2006. In 2007 Warwickshire (from November 2007 onwards). As more FRSs move to using IRS and so for go the need to sample, the data being sampled will increasingly decrease.

    The data have all been weighted to agreed fire and rescue service totals. The detailed analysis of data other than for casualties, or fires involving casualties is based on the sampled data grossed to fires and rescue service totals.

Statistical sample confidence limits

19. The sample may well produce figures that differ from the ones which would have been obtained if all forms (the population) had been used. We can construct statistical confidence limits for each estimate at the 95 per cent level of significance. This means we can be confident that there is a 95 per cent chance that the limit contains the true population value of interest. The methodology for constructing confidence limits is shown overleaf.

20. A parameter (R) from the fire incident population (N) will take the form of a proportion (P = R/N) with a particular attribute, for example the number of dwelling fires as a pro-portion of fires in all locations. Using the normal distribution approximation gives confidence limits for p as:

$$p \pm Z_{\alpha} \frac{\sqrt{(1-f)pq}}{\sqrt{(n-1)}}$$

Where p = Proportion of fires with a given attribute

q = 1 – p

f = n/N = Sampling fraction

n = Sample size

N = Known population size

Z_{α}= Normal distribution significance level α (i.e. α=0.05 ⇛ Z_{α}=1.96)

However, this normal approximation requires that

(i) $n \ll \min(R, N-R)$

(ii) $\min(nP, nQ) \geq 30$

(See Cochran, William G, 'Sampling Techniques', Wiley Publications 1977, (p57-60) for details)

21. We cannot use these approximations safely if a proportion (p value) close to zero or one is being estimated. When the normal approximation does not apply limits for p may be found from binomial tables (e.g. Fisher and Yates Statistical Tables (1957)).

An example for car fires

22. In 2004 there were 144,456 primary fire incidents attended by UK Fire and Rescue Services and each of these incidents resulted in a form being sent to DCLG. Of the incidents reported to DCLG on FDR1 forms, data from 82,759, forms were captured and entered onto the database. This breaks down as follows: Of the 144,456 forms received by DCLG, 67,261 forms were automatically set aside to have their data entered on to the database as they were for fires involving casualties or they were received electronically from participating fire and rescue services. Out of the remaining 77,195 forms 20 per cent or 1 in 5 forms (15,498) were selected at random and their data was entered onto the database. Therefore, the 15,498 (n) sampled forms are based on a population of 144,456 – 67,261 = 77,195 forms and the overall sampling fraction (f) was 20 per cent (15,498).

23. If we look within this at fires involving cars (there were 39,783) and calculate a 95 per cent confidence limit, this gives a result of ± 903. Therefore, the number of car fires with 95 per cent confidence is between 40,691 and 38,875.

Definitions

24. From 1994, with the introduction of the fire report form FDR1(94) some definitions were changed or clarified. The following list shows definitions applicable from 1994:

A reportable fire *- no specific definition prior to 1994*	A reportable fire is an event of uncontrolled burning involving flames, heat or smoke and which the fire and rescue service attended.
Late fire call *– no specific definition prior to 1994*	A fire known to be extinguished when the call was made (or to which no call was made, e.g. a fire which comes to the attention of the fire and rescue service as a result of a press report or inquest) and the fire and rescue service attended.
Heat or smoke Damage only Incidents – *no specific definition prior to 1994*	These are reportable 'fires' where there is no fire damage. The damage reported may be due to any combination of heat, smoke and other which will include any water damage.
Location	The type of premises, property or countryside in which the fire *started*. This is not necessarily the type of premises in which most casualties or damage occurred as a result of the fire.
Cause of fire	The defect, act or omission leading to ignition of the fire.
Deliberate	Includes fires where deliberate ignition is merely suspected, and recorded by the brigade as "doubtful".
Accidental	Includes fires where the cause was not known or unspecified
Source of ignition	The source of the flame, spark or heat that started the fire.
Spread of fire	The extent to which fire damage (as opposed to heat, smoke or other damage) spread, for example, beyond the room of origin.
Buildings	All buildings including those under construction, but excluding derelict buildings or those under demolition. Prior to 1994 'buildings' were referred to as 'occupied buildings'.

Dwellings	Buildings occupied by households, excluding hotels, hostels and residential institutions. From 1988, mobile homes have been specifically included in the dwelling count. In 2000, the definition of a dwelling (for FDR1 purposes) was widened to include any non-permanent structures used *solely* as a dwelling, such as caravans, houseboats etc (amounts to about 0.3% of the total number of dwelling fires). This change brings the definition of a dwelling more in line with that required under Best Value legislation. All analyses from 1994 to 1998 relating to dwellings were retrospectively revised to include the new categories of dwellings (prior to 1994 these categories were included in the dwelling count) and published in Home Office Statistical Bulletin 20/00 – "Summary Fire Statistics, United Kingdom, 1999". Caravans, boats etc not used as a permanent dwelling are shown according to the type of property (caravan, vehicle etc.).
Primary fires – no specific definition prior to 1994	These are reportable fires (as listed below i) to vi)) or any fires involving casualties, rescues, or fires attended by five or more appliances. An appliance is counted if either the appliance, equipment from it or personnel riding on it, were used to fight the fire. i) Buildings ii) Caravans, trailers etc. iii) Vehicles and other methods of transport (not derelict) iv) Outdoor storage, plant and machinery v) Agricultural and forestry premises and property vi) Other outdoor structures including post boxes, tunnels, bridges, etc.
Secondary fires	These are reportable fires that: • were not in primary fire locations (before 1994 defined as a list of locations) • were not chimney fires in buildings • did not involve casualties or rescues • were attended by four or fewer appliances. An appliance is counted if either the appliance, equipment from it or personnel riding on it, were used to fight the fire. They are reported in less detail than other fires and consequently less information concerning them is available.

Chimney fires	These are reportable fires in occupied buildings: • where fire was confined within the chimney structure • that did not involve casualties or rescues • attended by four or fewer appliances.
Fatal Casualty	A person whose death is attributed to a fire is counted as a fatality even if death occurred weeks or months later – see paragraphs 8 and 9 for a more detailed discussion.
Non-fatal casualty	Non-fatal casualties consist of persons requiring medical treatment beyond first aid given at the scene of the fire, and those sent to hospital or advised to see a doctor for a check-up or observation (whether or not they actually do). People sent to hospital or advised to see a doctor as a precaution, having no obvious injury, are recorded as "precautionary check-ups".
False Alarm	A **false alarm** is defined as an event in which the fire and rescue service believes they are called to a reportable fire and then find there is no such incident. False alarms are categorised as: **Malicious** – the call was made with the intention of getting the fire and rescue service to attend a non-existent fire-related event. This includes 'deliberate' and 'suspected malicious' intentions. **Good Intent** – the call was made in good faith in the belief that the fire and rescue service really would attend a fire. **Due to Apparatus** – the call was initiated by fire alarm and firefighting equipment operating (including accidental initiation of alarm apparatus by person.

25. Details of the main definitions and classifications that applied to data for the period 1978 to 1993 are set out in the publication Fire Statistics, United Kingdom, 1993.

Standard Industrial Classification (trade or business)

26. In 1994, the classification of industrial fire locations was simplified. The new codes were based on the Standard Industrial Classification (Revised 1980) (SIC) published by the Central Statistical Office but combined or added categories where relevant to fire risk. The aim is to identify the main trade or business carried on where the fire started.

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Symbols

28. Symbols used in the tables are:

–	Nil or less than half the final digit shown.
..	Not available/Not applicable.
p	Provisional figures
pmp	Per million population

Enquiries

29. This publication was written by Sylvia Williams, Jon Gamble and Ray Tomey.

30. Enquiries about the figures in this publication should be addressed to

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31. This publication, together with those listed in sections A and B at paragraph 26 below, can be downloaded free of charge via the Department for Communities and Local Government website http://www.communities.gov.uk/

Previous statistical publications on fires

32. **A. Fire Statistical Publications:**

Fire Statistics, United Kingdom, 2007 (ISBN 978-1-4098-1769-7)

Fire Statistics, United Kingdom, 2006 (ISBN 1-40980-046-0)

Fire Statistics, United Kingdom, 2005 (ISBN 1-85112-873-0)

Fire Statistics, United Kingdom, 2004 (ISBN 1-85112-843-3)

Fire Statistics, United Kingdom, 2003 (ISBN 1-85112-775-5)

Fire Statistics, United Kingdom, 2002 (ISBN 1-85112-695-3)

Fire Statistics, United Kingdom, 2001 (ISBN 1-85112-619-8)

Fire Statistics, United Kingdom, 2000 (FS/PPU/2765)

Fire Statistics, United Kingdom, 1999 (issue number 20/00)

Fire Statistics, United Kingdom, 1998 (issue number 15/99)

Fire Statistics, United Kingdom, 1997 (issue number 25/98)

Summary Fire Statistics, United Kingdom, 1996 (issue number 1/98)

Summary Fire Statistics, United Kingdom, 1995 (issue number 8/97)

Summary Fire Statistics, United Kingdom, 1994 (issue number 13/96)

ISBN 978-1-4098-2660-6

ISBN: 978-1-4098-2660-6

B. Other Department for Communities and Local Government fire related Statistical

Publications/research reports

Fires in the home: findings from the 2004/05 Survey of English Housing
ISBN 978-185-112-8419)

Fires in the home: findings from the 2002/03 British Crime Survey
(ISBN 1-85112-694-5)

Fires in the home: findings from the 2001/02 British Crime Survey
(ISBN 1-85112-620-1)

The Economic Cost of Fire: Estimates for 2004

The Economic Cost of Fire: Estimates for 2003

The Economic Cost of Fire: Estimates for 2000 (ISBN 1-85112-667-8)