

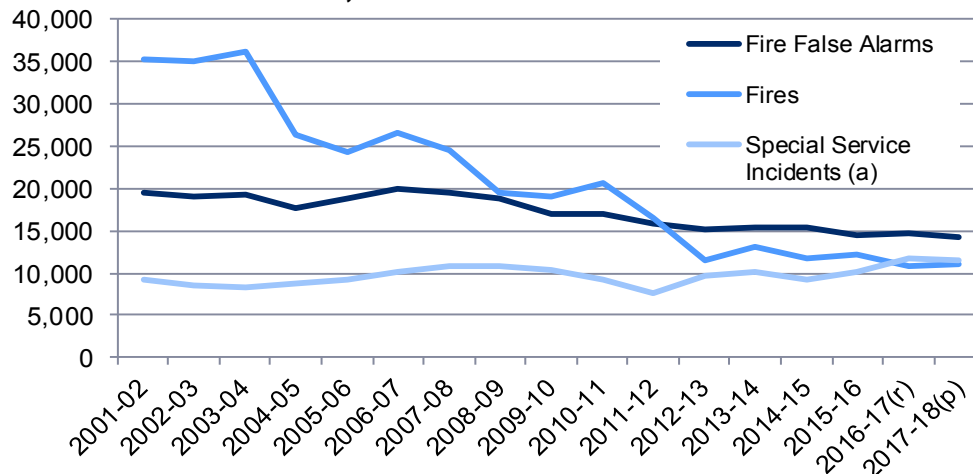


Fire and rescue incident statistics 2017-18

21 Aug 2018
SB 52/2018

Analysis includes details on location, cause, motive, casualties, fire false alarms and Special Service (non-fire) Incidents (SSIs) attended in financial years 2001-02 to 2017-18, where the 2017-18 data are currently provisional.

Chart 1 Number of fire, SSI and fire false alarm attendances



(a) SSIs prior to 2004-05 were collected by the Department for Communities and Local Government. Data from 2004-05 to 2008-09 are taken from the annual Operational data collection; 2009-10 data onwards are taken from IRS. Further details are available in Key Quality information.

(r) Revised data.

(p) Provisional data

- Numbers of fires have seen a downward trend since 2001-02, falling by 69 per cent, and by 44 per cent over the last 10 years. However in recent years the trend has become less clear with numbers staying around the 11,000 to 13,000 mark. The number of fire false alarms has also fallen but to a lesser extent, only decreasing by 28 per cent since 2001-02. Numbers of SSIs have fluctuated throughout the time series, but have actually risen by 26 per cent since 2001-02 (chart 1)
- Compared with 2016-17, numbers of fires rose by 3 per cent in 2017-18
- There were 15 fatal casualties from fires in Wales in 2017-18 (table 8)
- There were 526 non-fatal casualties in 2017-18, a decrease of 15 per cent compared with 2016-17 (table 9). The decrease is due to a fall of 24 per cent in those people receiving first aid or sent for precautionary checks.
- There were 1,634 deliberate grassland, woodland and crop fires in 2017-18, an increase of 24 per cent compared with 2016-17.

About this bulletin

The bulletin provides in-depth analysis of all incidents attended by the three Fire and Rescue Authorities (FRAs) in Wales.

The Welsh Government compiles the statistics in this bulletin from reports submitted by FRAs to the Home Office.

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New analysis included in this bulletin relates to SSIs by time of day (chart 25 page 33).

Fires, Fire false alarms and Special Service Incidents

Fires are classed as primary, secondary or chimney fires.

Primary fires include all fires in non-derelict buildings and vehicles or in outdoor structures, or any fire involving casualties or rescues, or fires attended by five or more appliances.

Secondary fires are mainly outdoor fires including grassland and refuse fires unless they involve casualties or rescues, or are attended by five or more appliances. They include fires in single derelict buildings, derelict road vehicles and derelict outdoor structures.

Chimney fires are reportable fires in occupied buildings where the fire was confined within the chimney structure and did not involve casualties or rescues or are attended by 5 or more appliances.

Fire False Alarms are events in which the Fire and Rescue Authority was called to a reported fire which turned out not to exist.

Special Services Incidents (SSIs) are non-fire incidents attended by Fire and Rescue Authority and include, for example, road traffic accidents, flooding incidents and medical incidents. Further detail is available in the glossary. SSIs may or may not involve fatalities, casualties and rescues.

Incidents attended

In 2017-18 Welsh FRAs attended 36,764 incidents (fires, fire false alarms, SSIs and SSI false alarms), a decrease of 1 per cent compared with 2016-17. Of all attendances 11,020 (30 per cent) were at fires, of which 4,315 were primary fires (12 per cent), 6,299 secondary fires (17 per cent) and 406 chimney fires (1 per cent). There were also 14,161 fire false alarm incidents (39 per cent of attendances) and 11,583 SSIs including SSI false alarms (32 per cent).

Since 2001-02 all types of attendances except SSIs have fallen; numbers of primary fires falling by 66 per cent, secondary fires by 71 per cent, chimney fires by 55 per cent and fire false alarms by 28 per cent. Numbers of SSIs have varied since 2001-02 (up overall by 26 per cent since 2001-02) and in recent years greater collaboration with the other emergency services (for instance with ambulance services in attending medical incidents) may be responsible for increases.

Whilst there is an overall downward trend in the numbers of fire false alarms and secondary fires, they have been erratic and prone to fluctuation. Analysis on pages 14 to 20 focuses on whether the fire was accidental or deliberate and highlights that the fluctuation in the number of secondary fires is due to those started deliberately.

Table 1: Number of fire, fire false alarm and special service attendances (a)

	False alarms	Primary fires	Secondary fires	Chimney fires	Special Service Incidents (b)	All attendances
2008-09	18,855	6,985	11,724	812	10,917	49,293
2009-10	16,901	6,800	11,562	790	10,288	46,341
2010-11	17,006	6,414	13,503	771	9,187	46,881
2011-12	15,874	5,687	10,162	615	7,659	39,997
2012-13	15,088	4,745	5,922	771	9,725	36,251
2013-14	15,312	4,790	7,801	578	10,118	38,599
2014-15	15,485	4,561	6,541	549	9,289	36,425
2015-16	14,491	4,678	6,998	432	10,151	36,750
2016-17(r)	14,790	4,757	5,576	417	11,676	37,216
2017-18(p)	14,161	4,315	6,299	406	11,583	36,764
Percentage change						
2016-17 to 2017-18	-4	-9	13	-3	-1	-1

(a) Data for fire false alarms and fires from 2001-02 onwards are available on [StatsWales](http://StatsWales.gov.wales).

(b) SSI data from 2004-05 to 2008-09 are taken from the annual Operational data collection; 2009-10 data onwards are taken from IRS. Data from 2009-10 onwards have been adjusted to include SSI False alarms; data previously published for 2004-05 to 2008-09 have not been amended but do include SSI false alarms.

(r) Revised data.

(p) Provisional data.

In both North Wales and South Wales the largest category of incident type were fire false alarms. However in Mid and West Wales SSIs made up the largest category.

Incidents attended in 2017-18, by Fire and Rescue Authority(p):

Chart 2a: North Wales

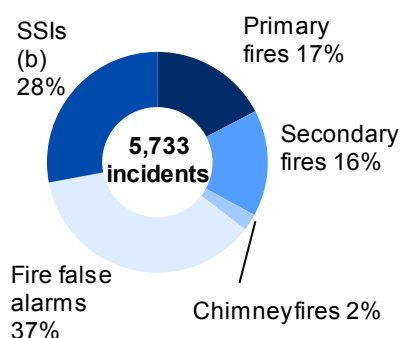


Chart 2b: Mid and West Wales

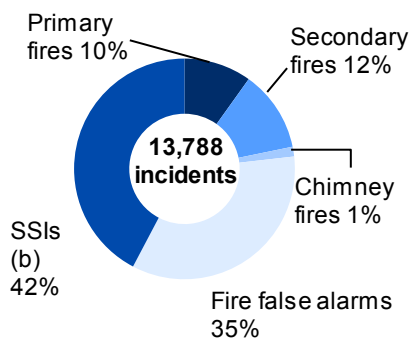
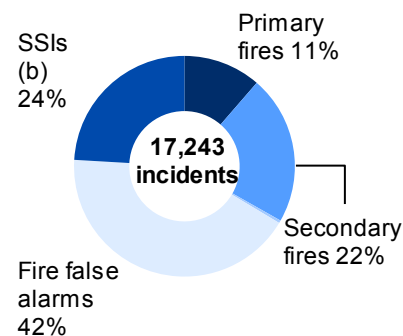


Chart 2c: South Wales (a)



(a) The 68 chimney fires in South Wales equated to less than 0.5% of incidents in 2017-18.

(b) SSI data include numbers of SSI false alarms.

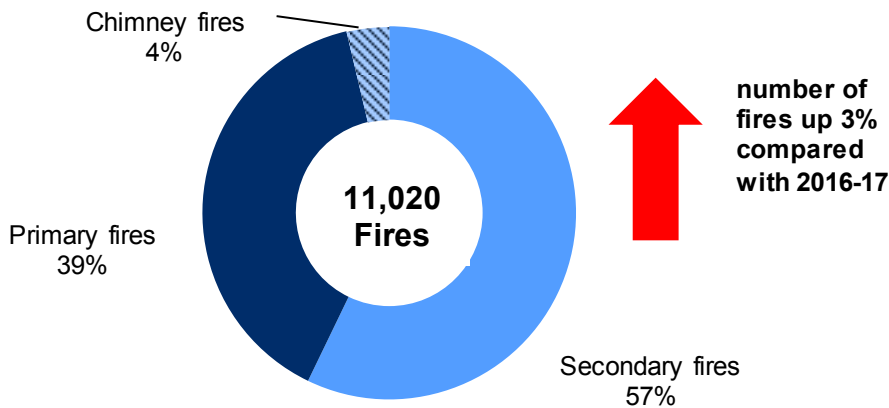
(p) Provisional data.

Fires

In 2017-18 there were 11,020 fires attended in Wales, an increase of 3 per cent compared with 2016-17. Since 2001-02 the number of fires has fallen by 69 per cent.

In 2017-18 secondary fires accounted for 57 per cent of all fires, primary fires accounted for 39 per cent and chimney fires 4 per cent. Prior to 2012-13 secondary fires had accounted for at least 6 in 10 fires each year, but this proportion has fallen in recent years, driven by the greater reduction in secondary fires compared with primary fires.

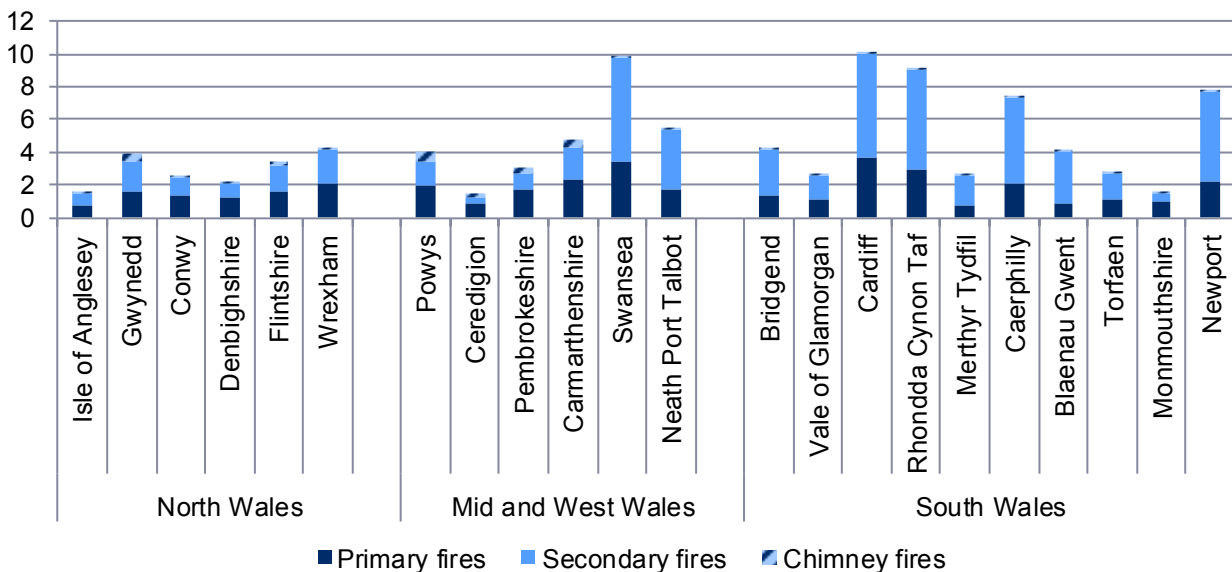
Chart 3: Fires by fire type as a percentage of all fires, 2017-18(p)



(p) Provisional data.

In 2017-18, Cardiff and Swansea each accounted for 10 per cent of fires in Wales, whilst Rhondda Cynon Taf accounted for 9 per cent and Newport 8 per cent. The lowest proportions were in Isle of Anglesey, Ceredigion, Monmouthshire and Denbighshire each with 2 per cent of fires attended.

Chart 4: Proportion of fires by Local Authority and type of fire, 2017-18 (p)



(p) Provisional data

Further data on this topic is available on [StatsWales](https://stats.wales.gov.uk/)

Fires by type

Primary fires

In 2017-18 provisional figures show the number of primary fires decreased by 9 per cent compared with the previous year, to 4,315. All 3 FRAs saw decreases in the number of primary fires, 13 per cent in South Wales, 8 per cent in North Wales and 3 per cent in Mid and West Wales.

Table 2: Number of primary fires by Fire and Rescue Authority (a)

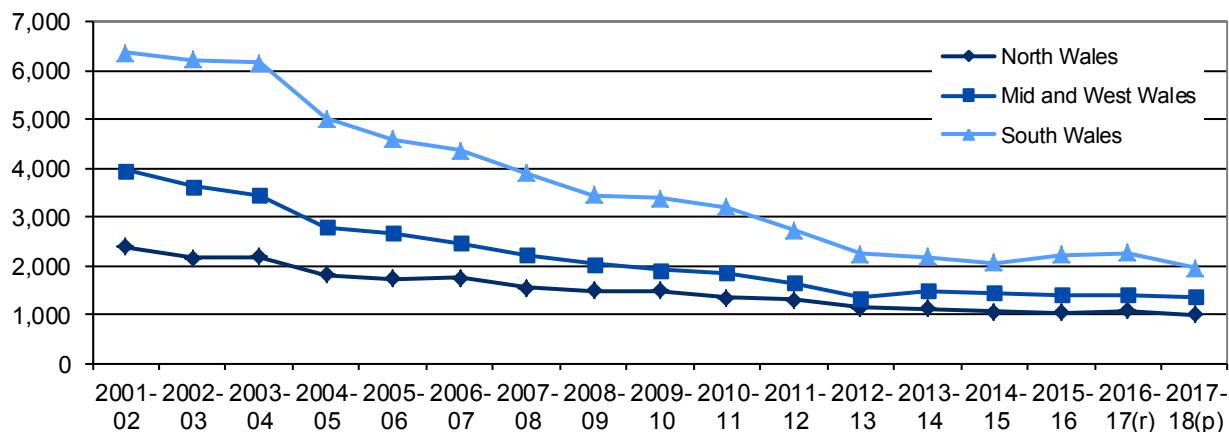
	North Wales	Mid and West Wales	South Wales	Wales
2008-09	1,495	2,042	3,448	6,985
2009-10	1,490	1,914	3,396	6,800
2010-11	1,348	1,862	3,204	6,414
2011-12	1,307	1,648	2,732	5,687
2012-13	1,144	1,353	2,248	4,745
2013-14	1,117	1,498	2,175	4,790
2014-15	1,063	1,443	2,055	4,561
2015-16	1,049	1,409	2,220	4,678
2016-17(r)	1,085	1,411	2,261	4,757
2017-18(p)	995	1,362	1,958	4,315
Percentage change 2016-17 to 2017-18	-8	-3	-13	-9

(a) Data from 2001-02 onwards are available on [StatsWales](#) and in the accompanying Excel tables.

(r) Revised data.

(p) Provisional data.

Chart 5: Number of primary fires by Fire and Rescue Authority



(r) Revised data.

(p) Provisional data.

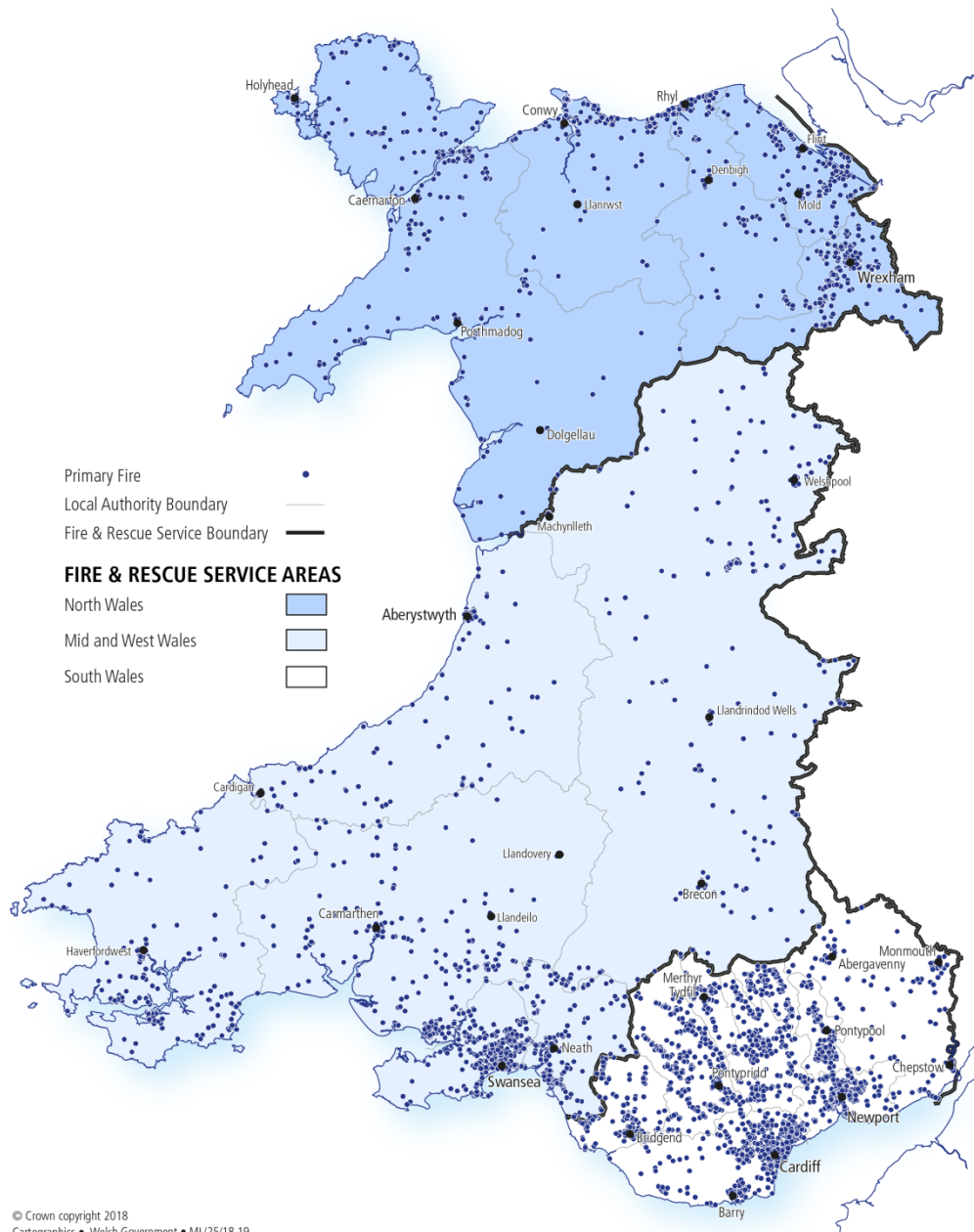
Since 2001-02 both Mid and West Wales and South Wales have seen falls around two-thirds in the number of primary fires. In North Wales the number has fallen by 58 per cent. The FRAs in Wales have a number of ongoing fire safety campaigns¹ and community fire safety work (such as home

¹ [South Wales Fire and Rescue Service](#)
[North Wales Fire and Rescue Service](#)
[Mid and West Wales Fire and Rescue Service](#)

safety checks and school visits²) and these may be a contributory factor in the overall falling numbers of fires although no all-Wales evidence is currently available.

The map below shows the high concentration of primary fires in the south Wales region and other urban areas.

Primary Fires across Wales, 2017-18



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July 2018



² [Home Fire Safety Check StatsWales tables](#)

Table 3: Number and percentage of primary fires by location(a)

	Dwellings (b)		Other buildings		Road vehicles		Outdoors	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
2008-09	2,257	32	1,375	20	2,851	41	502	7
2009-10	2,202	32	1,477	22	2,663	39	458	7
2010-11	2,108	33	1,423	22	2,216	35	667	10
2011-12	2,022	36	1,159	20	1,820	32	686	12
2012-13	1,911	40	985	21	1,518	32	331	7
2013-14	1,910	40	995	21	1,482	31	403	8
2014-15	1,808	40	1,034	23	1,432	31	287	6
2015-16	1,775	38	963	21	1,573	34	367	8
2016-17(r)	1,858	39	931	20	1,669	35	299	6
2017-18(p)	1,617	37	922	21	1,503	35	273	6
Percentage change								
2016-17 to 2017-18	-13	.	-1	.	-10	.	-9	.

(a) Data from 2001-02 onwards are available on [StatsWales](#) and in the accompanying Excel tables.

(b) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

. not applicable

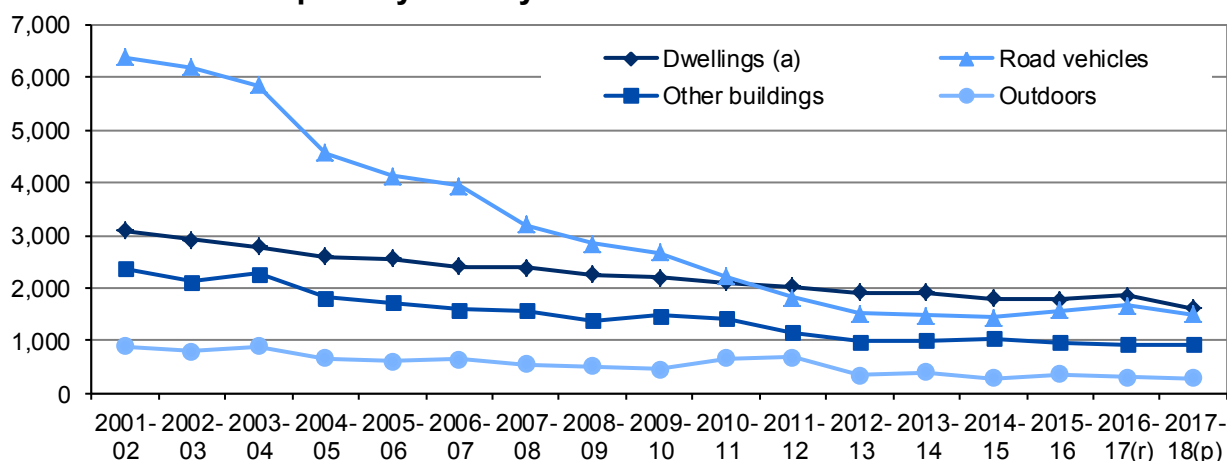
In Wales in 2017-18, 37 per cent of all primary fires were in dwellings, 35 per cent in road vehicles, 21 per cent in other buildings and 6 per cent were outdoor fires. All location types saw a decrease in the number of primary fires, with dwelling fires falling by 13 per cent and road vehicle fires by 10 per cent. These decreases have been driven by falls in the number of accidental dwelling fires and deliberate road vehicle fires.

Since 2001-02 dwelling fires have fallen by 48 per cent (chart 6). In recent years FRAs have targeted their programmes of Home Fire Safety Checks (HFSCs) at dwellings with identified risk factors (e.g. age, sensory/mobility impairment, domestic violence etc.) In 2016-17 FRAs in Wales completed almost 53,000 HFSCs, with almost 90 per cent occurring in properties with at least one risk factor³. A further 6,000 HFSCs were completed by non-FRA organisations.

2011-12 was the first year in the time series in which numbers of primary dwelling fires outnumbered numbers of primary fires in road vehicles in Wales and this has continued to be the case in subsequent years. Numbers of primary fires in road vehicles in Wales have fallen by over three quarters since 2001-02. More analysis of fires in road vehicles can be found in the section 'Fires by motive' (page14).

³ For more information on risk factors see the [data collection form](#).

Chart 6: Number of primary fires by location



(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

Secondary fires

Secondary fires are the majority of outdoor fires. These secondary fires include grassland and refuse fires unless such fires involve casualties or rescues, property loss or are attended by five or more appliances. They also include fires in single derelict buildings, derelict road vehicles and derelict outdoor structures.

Secondary fires are the most common category of fire attended by Welsh FRAs, accounting for 62 per cent of all fires since 2001-02. However since 2012-13, secondary fires have accounted for between 52 and 59 per cent of all fires and this drop in the proportion can be largely attributed to a fall in the number of deliberate outdoor fires. Numbers of deliberate fires are explored in more detail in the section Fires by motive (page 14).

Table 4: Number of secondary fires by Fire and Rescue Authority(a)

	North Wales	Mid and West Wales	South Wales	Wales
2008-09	1,544	3,008	7,172	11,724
2009-10	1,543	2,834	7,185	11,562
2010-11	1,626	3,426	8,451	13,503
2011-12	1,625	2,610	5,927	10,162
2012-13	887	1,552	3,483	5,922
2013-14	1,087	2,151	4,563	7,801
2014-15	964	1,826	3,751	6,541
2015-16	918	1,797	4,283	6,998
2016-17(r)	779	1,329	3,468	5,576
2017-18(p)	893	1,640	3,766	6,299
Percentage change 2016-17 to 2017-18	15	23	9	13

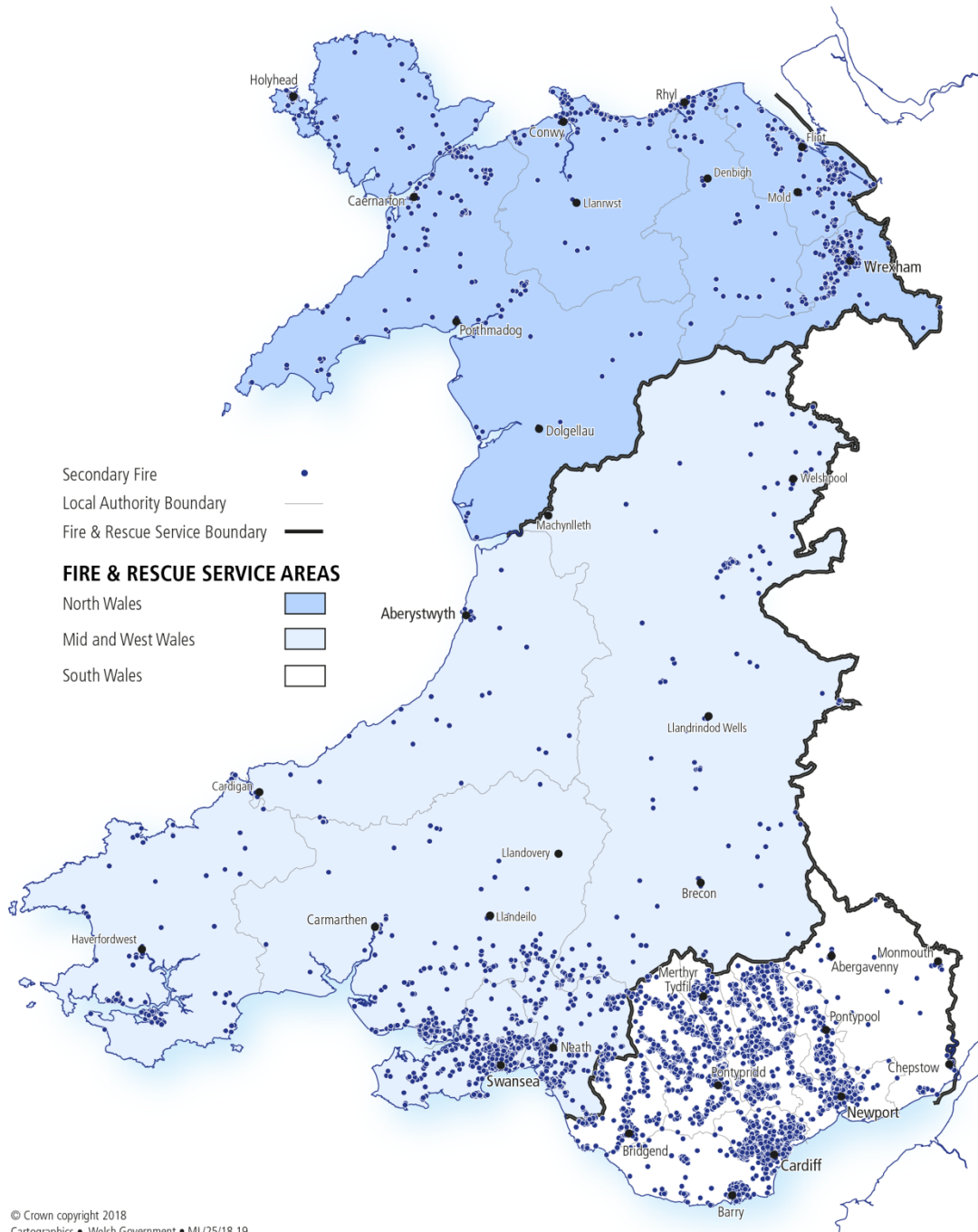
(a) Data from 2001-02 onwards are available on StatsWales and in the accompanying Excel tables.

(r) Revised data.

(p) Provisional data.

The map below shows the high concentrations of secondary fires, noticeably around Cardiff, Swansea and Newport (which could also be seen in chart 4).

Secondary Fires across Wales, 2017-18

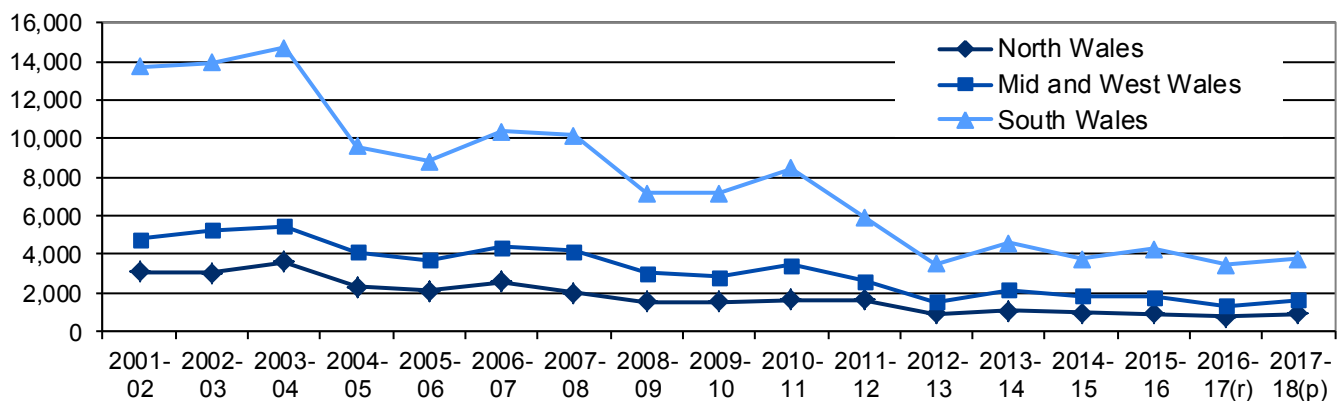


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Provisional figures show the Welsh FRAs attended 6,299 secondary fires in 2017-18, an increase of 13 per cent on 2016-17. However this is the third lowest figure in the available time series (beginning in 1995-96). Compared with the previous year, all Welsh FRAs saw increases; a rise of 15 per cent in North Wales, 23 per cent in Mid and West Wales and 9 per cent in South Wales. Nevertheless numbers of secondary fires in all 3 Welsh FRAs have seen substantial falls since 2001-02; 71 per cent in North Wales, 66 per cent in Mid and West Wales and 73 per cent in South Wales. In South Wales secondary fires accounted for 65 per cent of fires in the area in 2017-18. In North Wales and Mid and West Wales the proportions were 44 per cent and 51 per cent respectively.

Chart 7: Number of secondary fires by Fire and Rescue Authority



(r) Revised data
(p) Provisional data

In 2017-18, the majority of secondary fires (60 per cent) occurred in South Wales. Mid and West Wales accounted for 26 per cent of all secondary fires and 14 per cent were in North Wales..

Grassland fires: In 2017-18, 2,022 (32 per cent of) secondary fires occurred on grassland, woodland, cropland⁴, whilst half occurred on ‘other land’. These numbers increased by 23 and 12 per cent respectively compared with the previous year (equating to over 700 more fires). The number of these fires is likely to have been influenced by weather conditions; for example, 2012-13 saw the second lowest number of secondary fires in the time series and was also the second wettest financial year since 1910-11; it also saw the least hours of sunshine since 1991-92. However, not all fluctuations can be explained by the weather which may suggest the impact that the FRS-run schemes and initiatives have had a positive effect. Further analysis using weather data is shown in the section ‘fires by motive’ (page 14).

Aside from those occurring on grassland, woodland, crops and other land, a further 15 per cent of secondary fires took place in outdoor structures, whilst those in derelict buildings, outdoor machinery and equipment and derelict road vehicles made up a total of 3 per cent.

Refuse fires: In 2017-18, 58 per cent of secondary fires were classed as refuse fires⁵. The number of these fires increased by 7 per cent from 3,414 in 2016-17 to 3,651 in 2017-18. Overall there has

⁴ Data on grassland, woodland and crop fires can be found in StatsWales table [Primary and secondary grassland, woodland and crop fires by month and financial year](#)

⁵ Data on refuse fires can be found in StatsWales table [‘Fires by detailed location and motive’](#)

been a downward trend in refuse fires, falling by 29 per cent since 2009-10, although this is the second consecutive increase and this most recent figure is the highest since 2011-12. As with other outdoor fires, numbers are likely to be affected by weather conditions. Almost 8 in 10 refuse fires in 2017-18 occurred on loose refuse. A number of projects including ‘Tidy Towns⁶’ and ‘Fly Tipping Action Wales⁷’ are attempting to address the issues of litter and fly-tipping. In 2016-17, the number of fly-tipping incidents (recorded by local authorities) in Wales increased by 6 per cent compared with the previous year, but has remained 30 per cent lower than in 2006-07. Keep Wales Tidy is also aiming to prevent litter from occurring through education and awareness raising via the Eco-schools programme⁸. This is an international initiative which encourages pupils to engage with environmental and also sustainable development issues.

More Data on fly-tipping in Wales can be found on the [Statistics and Research website](#) and in [StatsWales](#) tables.

Chimney fires

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).

During 2017-18, there were 406 chimney fires in Wales, a decrease of 3 per cent compared with 2016-17. The majority of these fires occurred in dwellings (95 per cent).

Both North Wales and South Wales FRAs saw decreases in the number of chimney fires, 7 per cent and 1 per cent respectively; Mid and West Wales had the same number as in the previous year (as shown in table 5).

Table 5: Number of chimney fires by Fire and Rescue Authority (a)

	<u>North Wales</u>	<u>Mid and West Wales</u>	<u>South Wales</u>	<u>Wales</u>
2008-09	380	326	106	812
2009-10	351	330	109	790
2010-11	325	337	109	771
2011-12	254	260	101	615
2012-13	319	340	112	771
2013-14	212	265	101	578
2014-15	217	220	112	549
2015-16	173	186	73	432
2016-17(r)	151	197	69	417
2017-18(p)	141	197	68	406
Percentage change 2016-17 to 2017-18	-7	0	-1	-3

(a) Data from 2001-02 onwards are available on [StatsWales](#) and in the accompanying Excel table.

(r) Revised data.

(p) Provisional data.

⁶ [Keep Wales tidy – tidy towns](#)

⁷ [Flytipping Action Wales](#)

⁸ [Keep Wales Tidy – Eco schools](#)

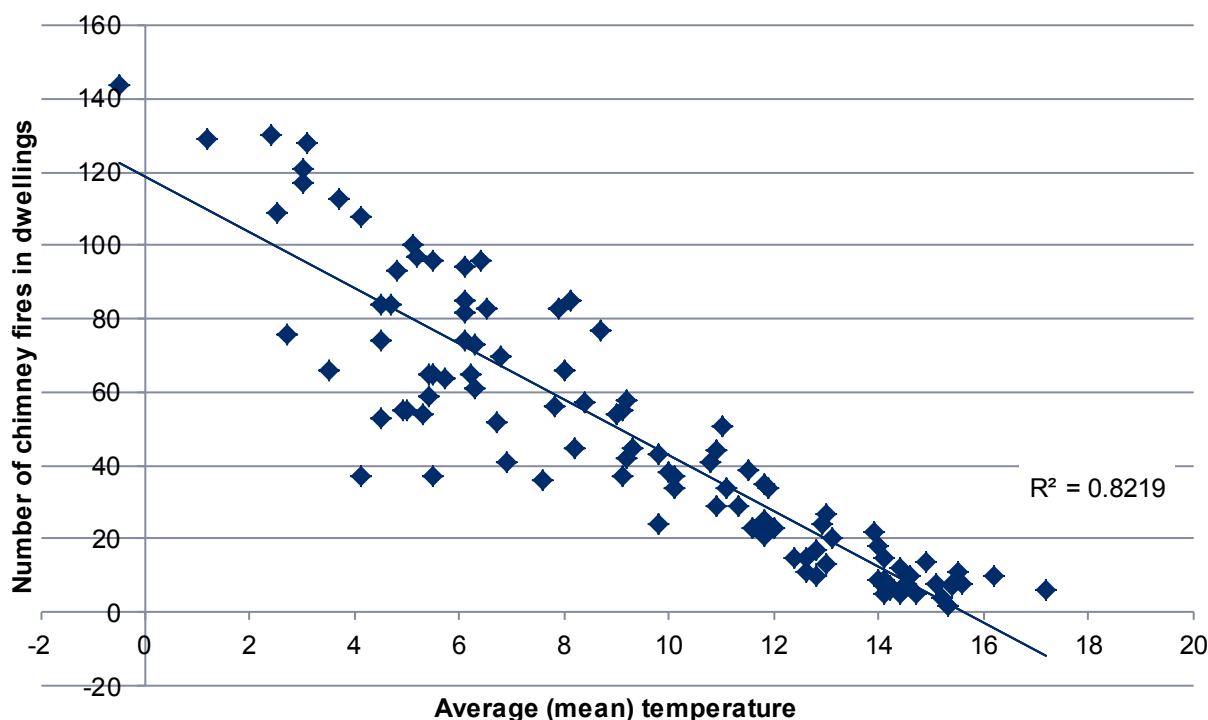
Statistical analysis of chimney fire and temperature data

Since there appears to be a link between the mean temperature and the number of chimney fires, it is worth investigating this relationship further by looking at the statistical correlation between the two datasets.

The correlation coefficient, denoted by ' R^2 ', tells us how closely data in a scatterplot fall along a straight line. The R^2 value ranges from 0 to 1, the closer the value is to 1 the stronger the relationship. A value close to 0 implies no relationship.

The scatter plot below shows how closely the relationship between the temperature data and chimney fire numbers are correlated. The data in the chart shows the monthly mean temperature plotted against the number of chimney fires (in dwellings) seen in that month for the years 2009-10 to 2017-18. The R^2 value of 0.82 indicates a strong correlation in the data which is also intuitive, that in colder months the FRAs are required to attend more chimney fires.

Chart 8a Scatter plot showing statistical correlation between numbers of chimney fires in dwellings and mean temperature



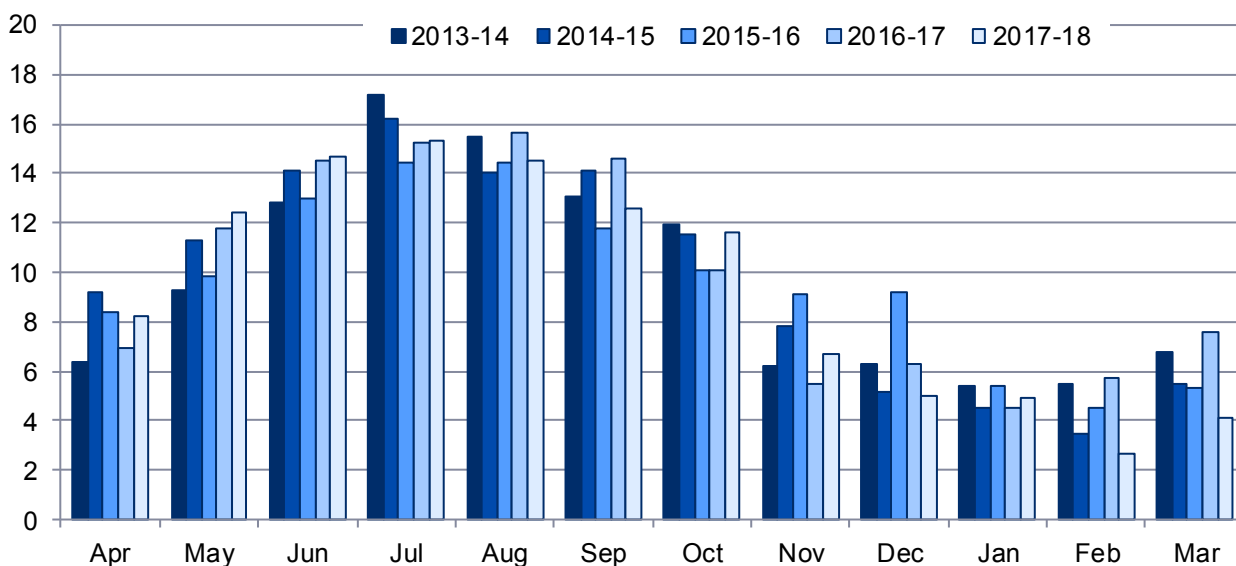
Source: Mean temperature data from the Met Office

This relationship can also be seen by comparing monthly data for chimney fires and mean temperatures.

As might be expected, the number of chimney fires in dwellings is higher in the winter and colder months, for example in the charts 8b and 8c we see that April 2013 was relatively cold and saw more chimney fires in comparison to April in the other years shown. Conversely March 2017 saw the highest temperature for March (of those shown) and corresponds to the fewest number of

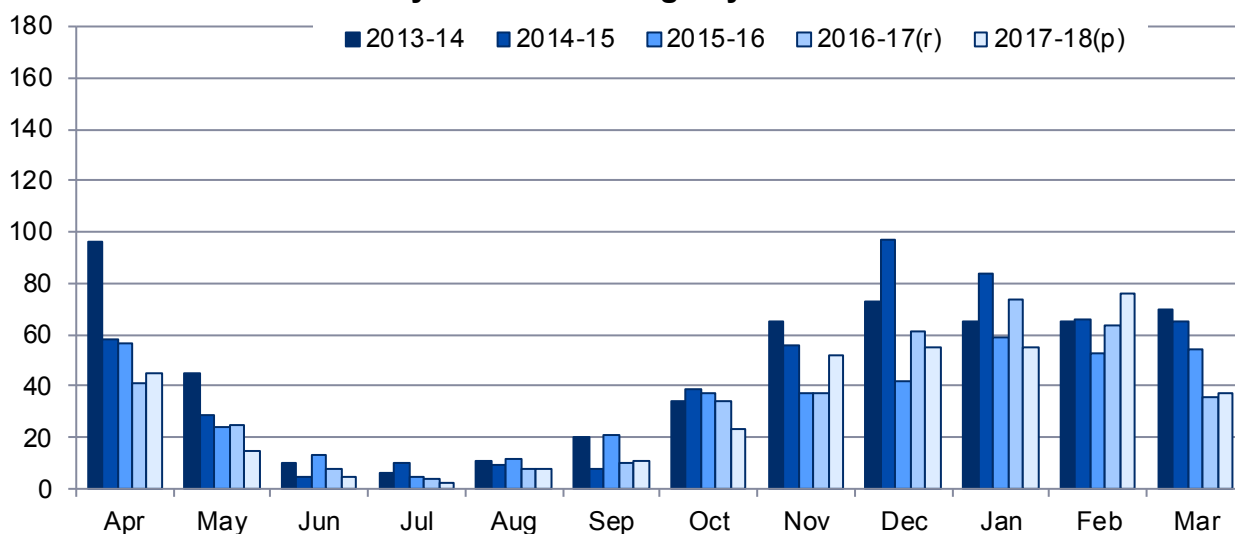
chimney fires. Whilst the pattern does not hold for all months, further examples can be seen throughout the time series.

Chart 8b: Mean temperature by month



Source: Met Office⁹

Chart 8c: Number of chimney fires in dwellings by month



(r) Revised data.

(p) Provisional data

Further data on this topic is available on [StatsWales](https://stats.wales.gov.uk/).

Between 24 February and 4 March 2018 the country suffered a cold wave due to the 'Beast from the East' which brought widespread unusually low temperatures and heavy snowfall to large areas. In this 9 day period, whilst the numbers were small, there was twice as many fires in 2018 than in 2017.

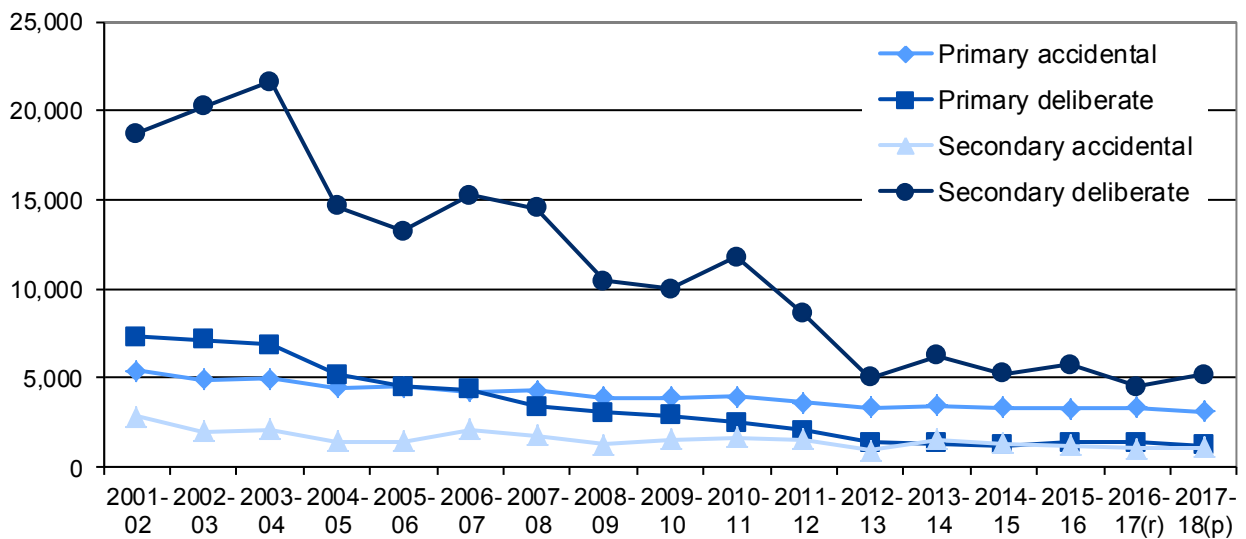
⁹ [Met Office datasets](https://www.metoffice.gov.uk/data/partners/metadata)

Fires by motive

This section looks at motive, in particular whether fires were caused accidentally or deliberately. Accidental fires are defined as fires where the fire was ignited by accident or the cause of the fire is not known or unspecified. Deliberate fires are defined as fires where the fire was ignited deliberately or if it is suspected or recorded as 'doubtful' by the FRA.

The chart below shows that numbers of deliberate secondary fires have been prone to fluctuation, whilst the other categories shown are less volatile.

Chart 9: Number of fires by type and motive

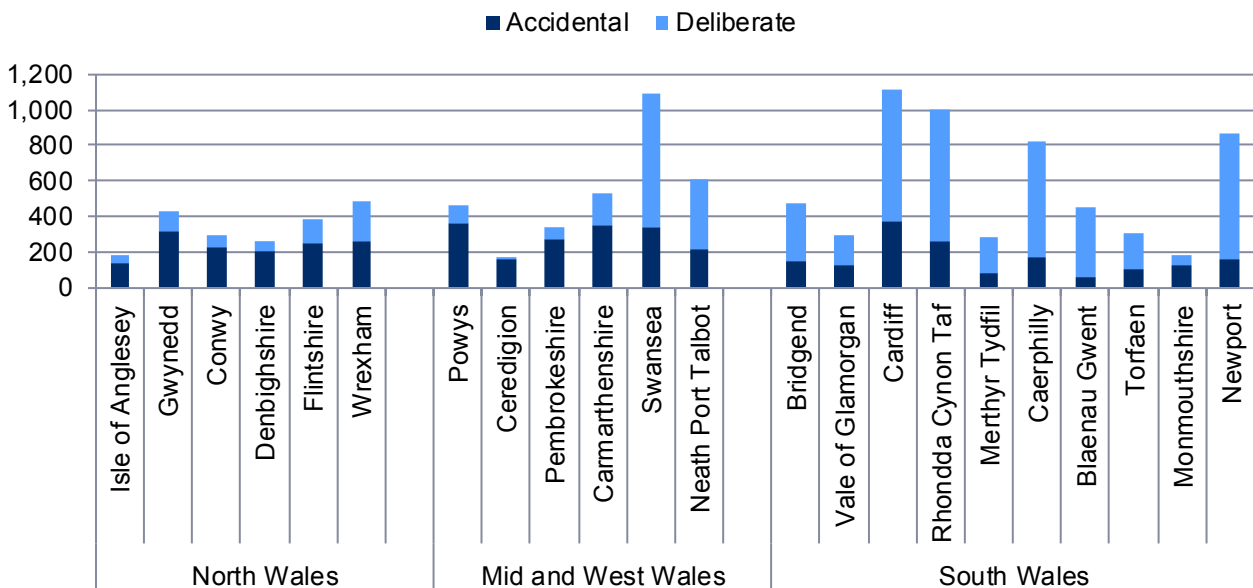


(r) Revised data.

(p) Provisional data.

Chart 10 shows that in those local authorities with high numbers of fires (Cardiff, Swansea, Newport, Rhondda Cynon Taf and Caerphilly), a large proportion were started deliberately.

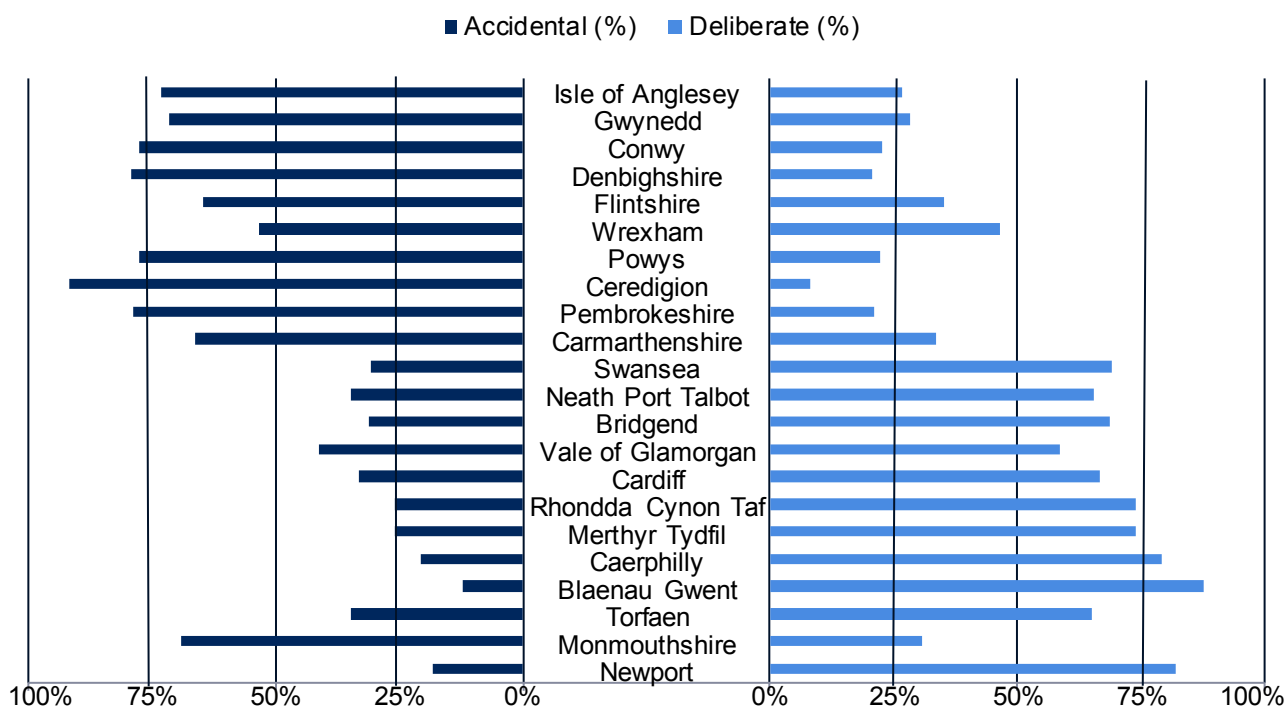
Chart 10: Number of accidental and deliberate fires by Local Authority 2017-18(p)



(p) Provisional data

Chart 11 further shows in 3 local authorities (Blaenau Gwent, Newport, Caerphilly) over 75 per cent of fires were started deliberately, (where Blaenau Gwent has the highest percentage at 88 per cent). In 5 Local Authorities (Pembrokeshire, Ceredigion, Powys, Denbighshire and Conwy) less than 25 per cent of fires were started deliberately, where Ceredigion has the lowest percentage (8 per cent).

Chart 11: Percentage of accidental and deliberate fires by Local Authority 2017-18(p)



Accidental fires

In 2017-18, the number of accidental fires fell by 3 per cent compared to the previous year, (equating to 167 fewer accidental fires) and since 2001-02 the number has fallen by 49 per cent. Accidental fires accounted for 42 per cent of all fires attended in 2017-18, 3 percentage points lower than in the previous year. 72 per cent of all primary fires and 18 per cent of secondary fires were accidental. Almost all chimney fires in 2017-18 were accidental.

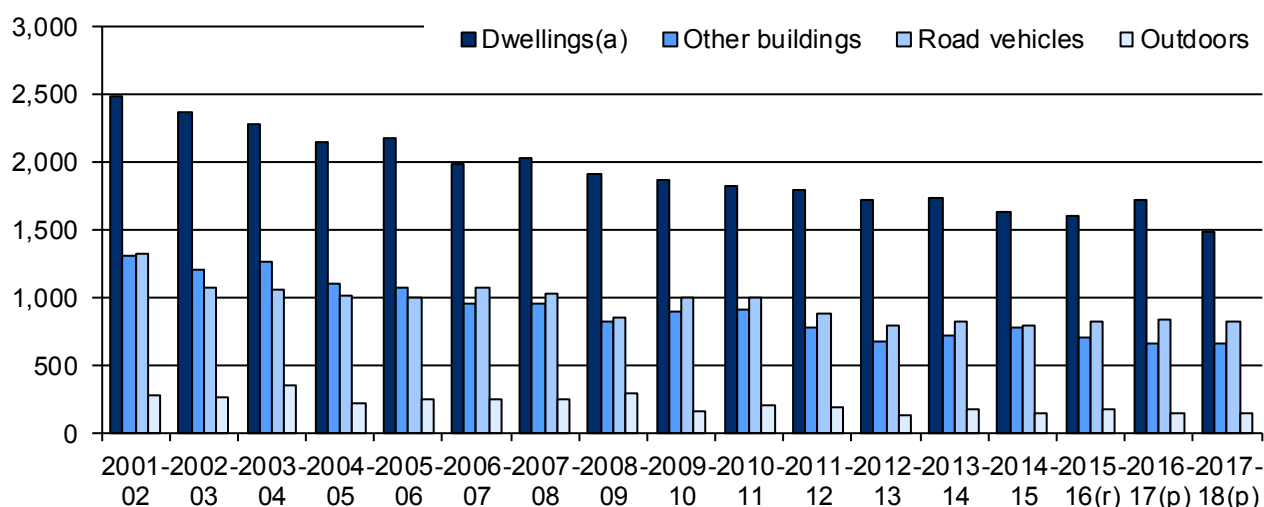
In 2017-18 the number of accidental primary fires decreased by 7 per cent whilst the number of accidental secondary fires rose by 9 per cent (compared with 2016-17).

A large proportion of accidental primary fires occur in dwellings, equating to between 46 per cent and 52 per cent for each year since 2001-02. The number of accidental dwelling fires fell by 14 per cent to 1,485 in 2017-18, continuing the general downward trend in these fires (as can be seen in chart 12), dropping by 40 per cent between 2001-02 and 2017-18. Most dwelling fires (92 per cent) started accidentally in 2017-18, similar to the proportion seen in recent years but more than 10 percentage points higher than in 2001-02.

Overall, in this time the number of accidental fires in road vehicles has fallen by 38 per cent.

The increase in proportion of dwelling fires and road vehicle fires starting accidentally can be largely attributed to the decreases in deliberate dwelling and road vehicle fires. See page 17 for more information on deliberate fires.

Chart 12: Number of accidental primary fires by location



(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

In 2017-18 all 3 FRAs saw decreases in the number of accidental primary fires in dwellings compared with the previous year, as shown in table 6.

Table 6: Number of accidental primary fires in dwellings by Fire and Rescue Authority(a)(b)

	North Wales	Mid and West Wales	South Wales	Wales
2008-09	482	638	799	1,919
2009-10	478	584	802	1,864
2010-11	469	605	752	1,826
2011-12	476	555	758	1,789
2012-13	455	525	745	1,725
2013-14	479	572	681	1,732
2014-15	401	579	655	1,635
2015-16	385	542	682	1,609
2016-17(r)	433	595	691	1,719
2017-18(p)	386	532	567	1,485
Percentage change 2016-17 to 2017-18	-11	-11	-18	-14

(a) Data from 2001-02 onwards are available on [StatsWales](#) and in the accompanying Excel tables.

(b) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

Over a third of accidental dwelling fires occurred between the hours of 5pm and 10pm¹⁰. Analysis on page 39 relates to cause and source of ignition and shows that, cooking appliances were the main source of ignition, being responsible for almost half of the accidental dwelling fires in 2017-

¹⁰ Data on time of accidental dwelling fires can be found in the StatsWales table [‘Fires and casualties by time’](#)

18. In around 10 per cent of accidental dwelling fires alcohol or drugs were recorded as a contributory factor to the start of the fire.

Deliberate fires

Over the years there have been a number of national programmes for dealing with deliberate fires for instance the Wales Arson Reduction Strategy (WARS) in 2007¹¹ (it was reviewed in 2009 with an update strategy for 2012-15 published in 2012¹²). A delivery plan from WARS III resulted in a multi-agency taskforce 'Operation Dawns Glow' being established in 2015 and aiming to reduce the number of deliberate grassland fires.

More information on the Joint Arson group and associated initiatives can be found [here](#).

The original WARS report noted that vehicle crime had continued to fall, and reflected that vehicles are designed and built more securely. According to police recorded crime data (not currently National Statistics) published by the Office for National Statistics¹³, offences against vehicles in Wales have fallen by 73 per cent and thefts or unauthorised taking of vehicles have fallen by 79 per cent between 2002-03 and 2017-18. However in 2017-18 vehicle theft increased by 14 per cent compared with 2016-17, the second annual increase in a row. Deliberate road vehicle fires have also seen increases in recent years (both in 2015-16 and 2016-17, compared with the preceding year); however in 2017-18 numbers have once again fallen, resuming the previously observed downward trend, falling by 19 per cent to the lowest figure in the time series.

Ongoing targeted programmes continue, for instance the South Wales FRA Bernie campaign which specifically targets primary school children to engage with and educate them on the potential consequences of deliberately setting grass and mountain fires. The Fire Service in North Wales, in conjunction with North Wales Police and the British Transport Police, launched a deliberate fires awareness campaign in March 2016. The theme of the campaign is to encourage fire and potential fire starters to think about the consequences of deliberately starting grass and mountain fires.

More intensive programmes such as 'Crimes and Consequences' and 'Phoenix' operate throughout the year and across Wales.

Over 115,000 children and young people received Fire Safety talks¹⁴ at school in 2016-17.

Work has also been done to inhibit the spread of fires; Natural Resources Wales has examined how changes in land and forestry management methods can be used to make grasslands less conducive to fires or be better structured to control the spread of fires and firefighters have also been involved in developing firebreaks on some of our valleys' hillsides, using the latest techniques learned internationally.

¹¹ [Wales Arson Reduction Strategy - Report of the Joint Arson Group August 2007](#)

¹² [Wales Arson Reduction Strategy](#)

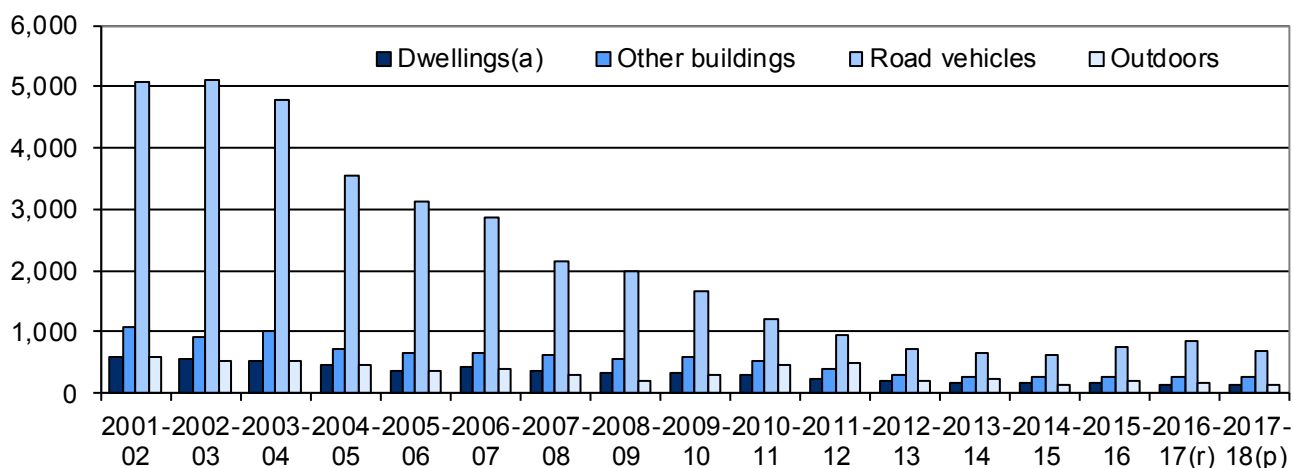
¹³ [ONS Crime Statistics 2017-18](#)

¹⁴ StatsWales table - [Children and Young People Interventions by Participant and Interventions](#)

There were 1,199 deliberate primary fires in 2017-18, 14 per cent fewer than in 2016-17 and 84 per cent fewer than in 2001-02. Deliberate primary fires accounted for 28 per cent of all primary fires in 2017-18.

Grassland, woodland and crop fires continue to be a focus of many of these programmes. In 2017-18 there were 1,634 deliberately set grassland fires. Of these 97 per cent were secondary fires. Whilst just over half (56 per cent) of all deliberate primary fires in 2017-18 occurred in road vehicles, the numbers of such fires have reduced substantially since 2001-02 (by 87 per cent).

Chart 13: Number of deliberate primary fires by location



(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

In 2017-18, around 4 in 5 secondary fires were deliberate, similar to the proportion seen in the previous 4 years. In this year the number of these fires rose to 5,172 (an increase of 14 per cent compared with 2016-17), although this follows a 21 per cent decrease in the previous year.

Table 7: Number of deliberate secondary fires by location(a)

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Derelict building	91	60	56	95	100
Derelict road vehicle	24	28	26	66	43
Outdoor(b)	6,109	5,132	5,675	4,379	5,029
Grassland, woodland and crops	2,912	1,910	2,518	1,270	1,586
Outdoor structures	760	682	653	650	654
Outdoor equipment and machinery	15	6	8	9	10
Other outdoors (including land) (c)	2,419	2,534	2,496	2,450	2,779
All deliberate secondary fires	6,224	5,220	5,757	4,540	5,172

(a) Fires in non-derelict buildings, non-derelict road vehicles and non-derelict transport vehicles are primary fires.

(b) Outdoor fires include 3 secondary fires in 2010-11, 1 secondary fire in 2011-12, 1 secondary fire in 2012-13 and 3 in 2013-14, in derelict 'other transport vehicles'.

(c) Other outdoors includes the following locations: loose refuse, river/canal, lake/pond/reservoir, sea, road surface/pavement, railway, airfield/runway, cycle path/public footpath/bridleway, cemetery, park, beach, landfill site, wasteland, mines and quarries (excluding buildings above ground), golf course, playground (excluding equipment)/recreational area.

(r) Revised data.

(p) Provisional data.

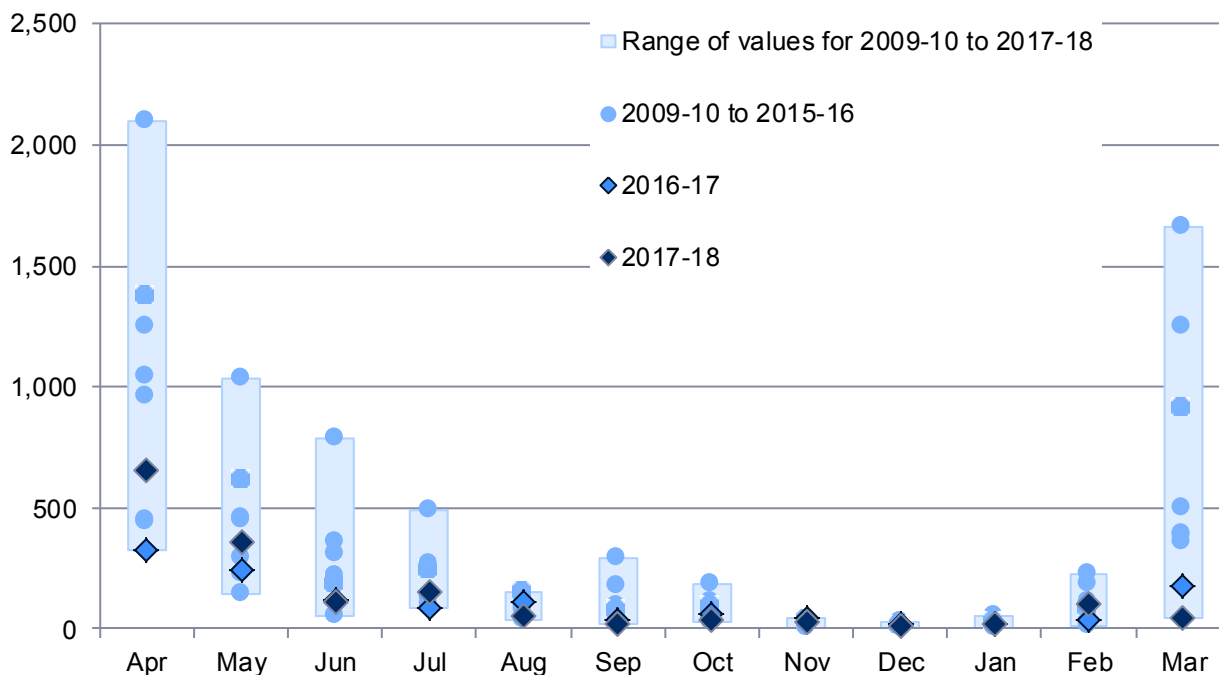
Over half of all deliberate secondary fires were classed as ‘Other outdoors (including land)’ in 2017-18 and numbers rose by 13 per cent compared with the previous year. The majority of these fires (94 per cent) occurred on loose refuse.

Fires on grassland, woodland or crops accounted for 31 per cent of deliberate secondary fires in 2017-18 and numbers of these fires rose by 25 per cent compared with the previous year. The chart below shows the usual peaks for these fires tend to occur in March, April and May, and since 2009-10 these 3 months have accounted for 69 per cent of the deliberate secondary fires on grassland, woodland and crops. Chart 14 shows the numbers for these months can be very variable and this may be due to a number of factors, including weather and the date on which Easter falls.

Chart 14 shows March 2018 saw relatively few fires in this category, and were in fact outnumbered by those in February 2018 which saw almost 3 times as many of these fires compared with February 2017. The weather in February 2018 is likely to have had an influence on the number of fires, with around a third less rainfall fall and over double the number of hours of sunshine compared with February 2017. Looking at the March data in closer detail, we can see in previous years there have been spikes throughout the month of 30+ deliberate grassland, woodland and crop secondary fires recorded in a day; in 2018 the most attended in one day was 9 on the 25th March 2018, whereas in 2017 there were 127 such fires between 24th and 27th March, more than double the number for the whole of March 2018.

In April 2017 there were more than double the number fires in April 2016, this continues a period of alternate increases and decreases, April 2016 saw a fall of 74 per cent compared with April 2015.

Chart 14: Number of deliberate secondary grassland, woodland and crop fires by month

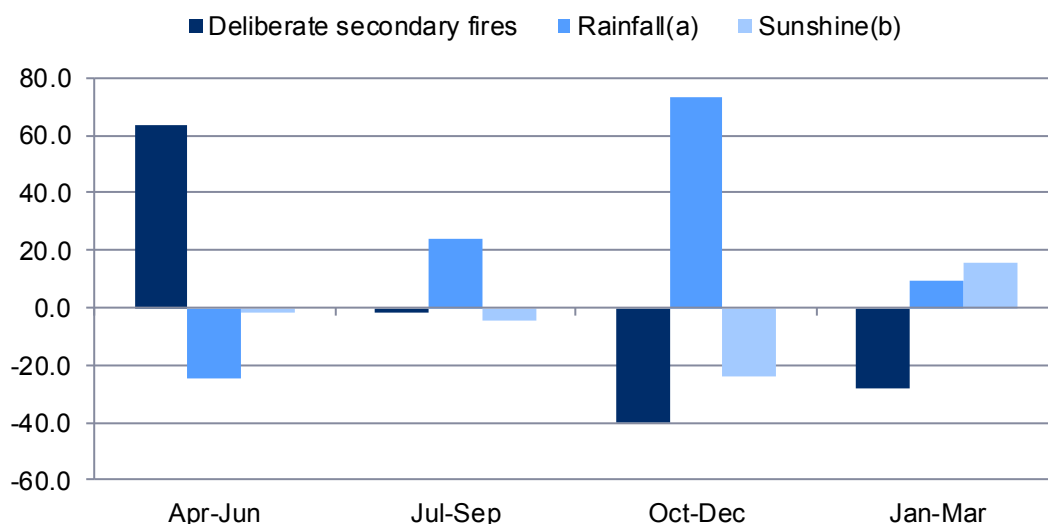


(r) Revised data.

(p) Provisional data.

Eight months in 2017-18 saw a decrease in numbers of deliberate grassland, woodland and crop fires; all months in the period August 2017 to January 2018 (with falls of between 51 and 22 per cent) along with March 2018 (72 per cent) and June 2017 (7 per cent). All of these months except June saw a decrease in hours of sunshine compared with the same month in the previous year, and all except March saw increases in rainfall.

Chart 15: Percentage change (2016-17 to 2017-18) in deliberate secondary grassland, woodland and crop fires, rainfall and hours of sunshine by quarter



- (a) Percentage change in rainfall (measured in mm).
- (b) Percentage change in sunshine (measured in hours).

Chart 15 illustrates that in 2017-18 where a quarter saw more rainfall than the amount seen in the same quarter in the previous year, it also saw fewer fires, and the converse is also true. The amount of sunshine appears to have less influence but to further understand this relationship it would be necessary to look at daily or regional data which are not currently available.

Met Office summary data are only available at an all Wales level for each month. Therefore the data may not reflect regional variations in weather conditions.

Further data on this topic is available on [StatsWales](#).

[Met Office data are available here.](#)

Casualties and rescues

Fatal casualties from fires

A fatal casualty is defined as a person whose death is attributed to a fire, even if the death occurred weeks or months later.

Provisional figures show there were 15 fatal casualties during 2017-18 (see table 8). This is the lowest number in the time series and the overall trend since 2001-02 has been downward, however numbers are small and prone to fluctuation (see chart 16). In 2017-18 the fatality rates per million population (pmp) for South Wales and North Wales are the lowest in the time series, whereas Mid and West Wales saw their highest rate since 2009-10.

Table 8: Number and rate of fatal casualties from fires by Fire and Rescue Authority

	North Wales		Mid and West Wales		South Wales		Wales	
	Number(a)	pmp(b)	Number(a)	pmp(b)	Number(a)	pmp(b)	Number(a)	pmp(b)
2008-09	3	4.4	5	5.6	9	6.2	17	5.6
2009-10	8	11.7	11	12.4	4	2.7	23	7.6
2010-11	10	14.6	7	7.9	4	2.7	21	6.9
2011-12	8	11.6	8	9.0	7	4.7	23	7.5
2012-13	8	11.6	3	3.3	6	4.0	17	5.5
2013-14	3	4.3	8	8.9	6	4.0	17	5.5
2014-15	5	7.2	8	8.9	7	4.7	20	6.5
2015-16	6	8.7	4	4.4	9	6.0	19	6.1
2016-17(r)	5	7.2	7	7.8	7	4.6	19	6.1
2017-18(p)	2	2.9	11	12.2	2	1.3	15	4.8

(a) Numbers of fatalities from 2001-02 onwards are available on [StatsWales](#) and in the accompanying Excel tables.

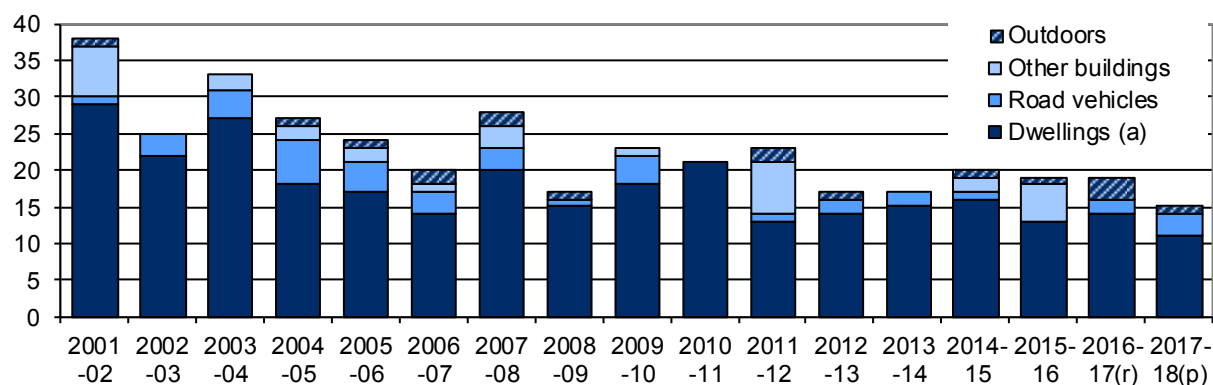
(b) Per million population. Population data are taken from ONS Mid Year Estimates and are revised periodically and so rates are subject to change between publications.

(r) Revised data.

(p) Provisional data.

In the 17 years since 2001-02, 77 per cent of fatal casualties occurred in dwelling fires, equating to a total of 297 out of 386 fatalities. Almost three quarters of fatalities occurring in 2017-18 were the result of dwelling fires, a similar proportion to that seen in the previous year.

Chart 16: Number of fatal casualties from fires by location



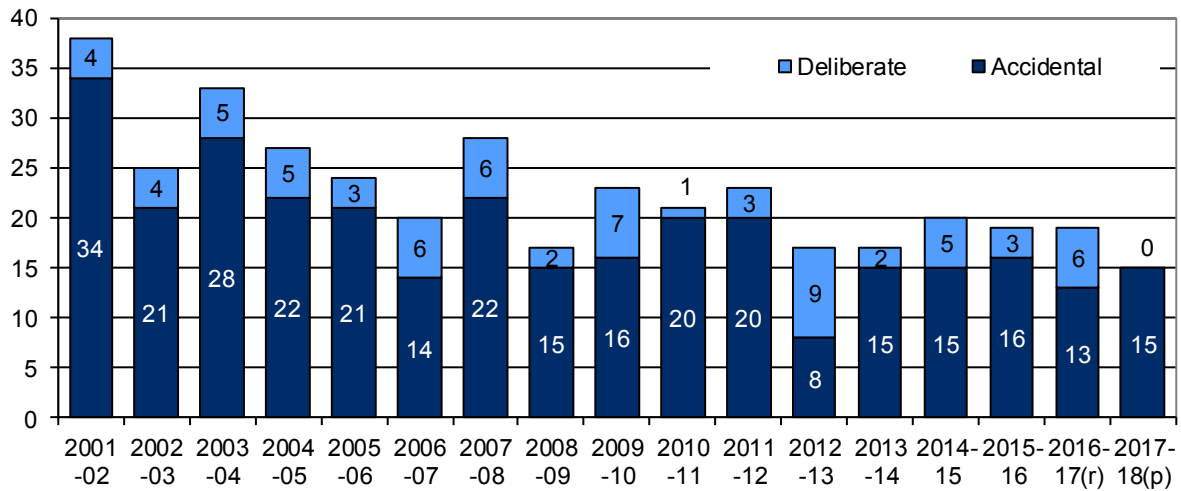
(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

All the fatalities in 2017-18 were the result of accidental fires, 11 of which occurred in dwellings.

Chart 17: Number of fatal casualties from fires by motive

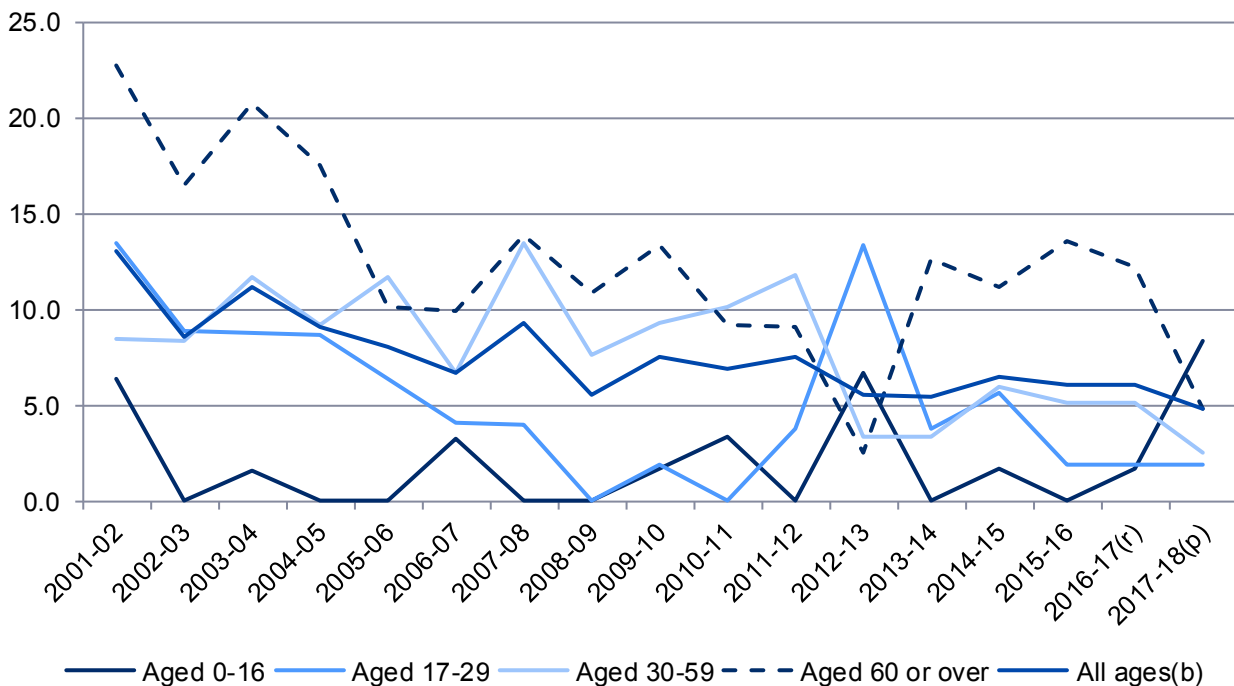


(r) Revised data.

(p) Provisional data.

For most of the available time series the age group '60 or over' had the highest fatality rate, however in 2017-18 the rate fell to 4.8 (from 12.2 per million population in 2016-17), the 2017-18 figure is the second lowest in the time series. Casualties aged 0-16 had the highest rate (8.4 per million population) in 2017-18, this is the highest rate seen for this age group in the time series.

Chart 18: Fatalities per million population(a), by age group

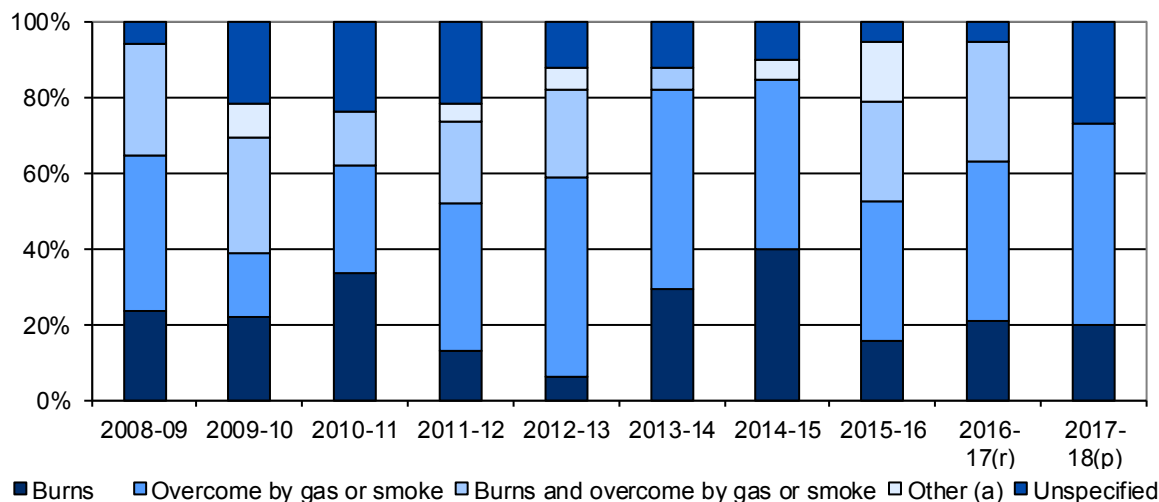


- (a) Population data are taken from ONS Mid Year Estimates revised periodically and so rates are subject to change between publications. Rates are calculated per age group.
- (b) Includes fatalities of unknown age.
- (r) Revised data.
- (p) Provisional data.

During 2017-18 only two causes of death from fires in Wales were recorded, those being 'overcome with smoke or gas' and burns, accounting for 8 and 3 deaths respectively. There were a further 4 fatalities who did not have their cause of death recorded by time of publication.

Since 2001-02 'being overcome by smoke or gas' has accounted for 46 per cent of fatalities, 'burns' accounted for 22 per cent of fatalities and a combination of the two caused 19 per cent of fatalities.

Chart 19: Percentage of fatal casualties by cause of death



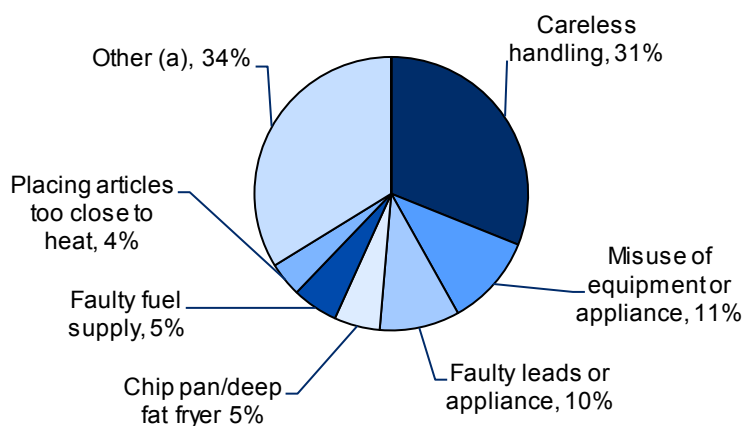
(a) Other includes cardiac arrests and other physical injuries.

(r) Revised data.

(p) Provisional data.

Of the 315 fatalities occurring in accidental fires from 2001-02 to 2017-18, 37 per cent died in fires where the cause of the fire was recorded as 'careless handling'. Looking at the last 5 years only, this proportion has decreased to 31 per cent, although the proportion with causes listed as 'other' has increased, in many cases the fire is still being investigated.

Chart 20: Percentage of fatal accidental fires by cause in the last 5 years (2013-14 to 2017-18)



(a) Other includes playing with fire and causes listed as 'other'.

Non-fatal casualties from fires

From April 2009 non-fatal casualties are recorded as being in one of four classes of severity as follows:

- (i) Victim went to hospital, injuries appear to be serious
- (ii) Victim went to hospital, injuries appear to be slight
- (iii) First aid given at scene
- (iv) Precautionary check recommended – this is when an individual is sent to hospital or advised to see a doctor as a precaution, having no obvious injury or distress.

Due to these changes and the introduction of a ‘fire-related injury’ marker there is a possible discontinuity in the number of non-fatal casualties, further information on this is available in the Quality Information section.

In 2017-18 there were 526 non-fatal casualties, the lowest number (and rate) in the time series. The overall trend over the last ten years has been downward, although in recent years the numbers and associated rates have fluctuated. All FRAs saw reductions in the number (and rate) of non-fatal casualties and South Wales had the lowest rate per million population.

Table 9: Number and rate of non-fatal casualties from fires by Fire and Rescue Authority

	North Wales		Mid and West Wales		South Wales		Wales	
	Number(a)	pmp(b)	Number(a)	pmp(b)	Number(a)	pmp(b)	Number(a)	pmp(b)
2008-09	208	304.7	149	168.3	300	205.7	657	217.1
2009-10	234	341.8	158	178.1	183	124.7	575	189.2
2010-11	281	409.7	132	148.3	194	131.6	607	199.0
2011-12	228	331.2	184	205.9	180	121.5	592	193.2
2012-13	213	308.7	151	168.5	177	118.9	541	176.0
2013-14	276	399.3	167	186.3	183	122.4	626	203.1
2014-15	194	279.9	194	216.0	155	103.3	543	175.6
2015-16	213	307.2	177	196.9	202	134.1	592	191.0
2016-17(r)	194	279.2	153	169.6	274	180.7	621	199.5
2017-18(p)	156	224.5	144	159.6	226	149.1	526	169.0

(a) Numbers of non-fatal casualties from 2001-02 onwards are available on StatsWales and in the accompanying Excel tables.

(b) Per million population. Population data are taken from ONS Mid Year Estimates revised periodically and so rates are subject to change between publications.

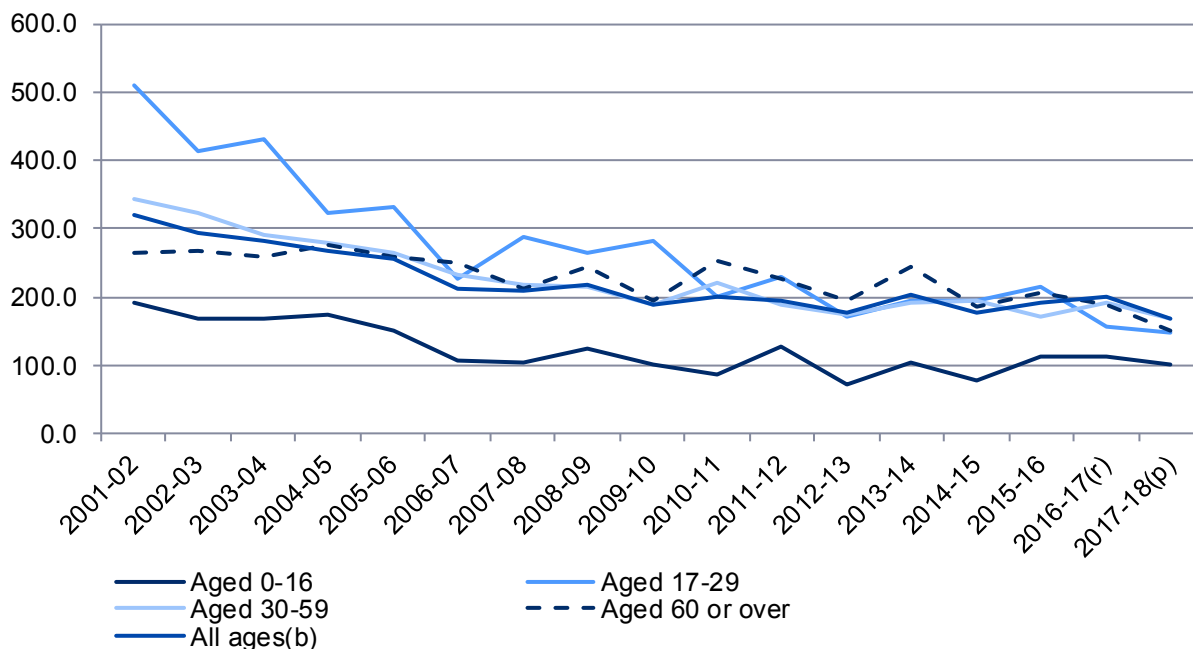
(r) Revised data

(p) Provisional data.

The number of non-fatal casualties recorded in 2017-18 fell 15 per cent compared with the previous year. This decrease was driven by a fall in the numbers of those receiving first aid or advised to have a precautionary check, down by almost a quarter compared with 2016-17, although this follows a 29 per cent increase in the previous year. Over the same time period numbers of those sent to hospital rose by 2 per cent. In 2017-18, 6 in 10 non-fatal casualties received first aid or were advised to have a precautionary check-up. A third of non-fatal casualties were taken to hospital with slight injuries and the remaining 7 per cent were taken to hospital with severe injuries.

Those aged 16 and under have consistently had the lowest non-fatal casualty rate per million population, with 101.1 in 2017-18. At the beginning of the time series the highest rate of casualties per million population occurred in the 17-29 age group, but over recent years the rate has dropped to be more in line with the other age groups shown; in 2017-18 this age group had the second lowest rate of the age groups at 147.1 per million population.

Chart 21: Non-fatal casualties per million population(a), by age group



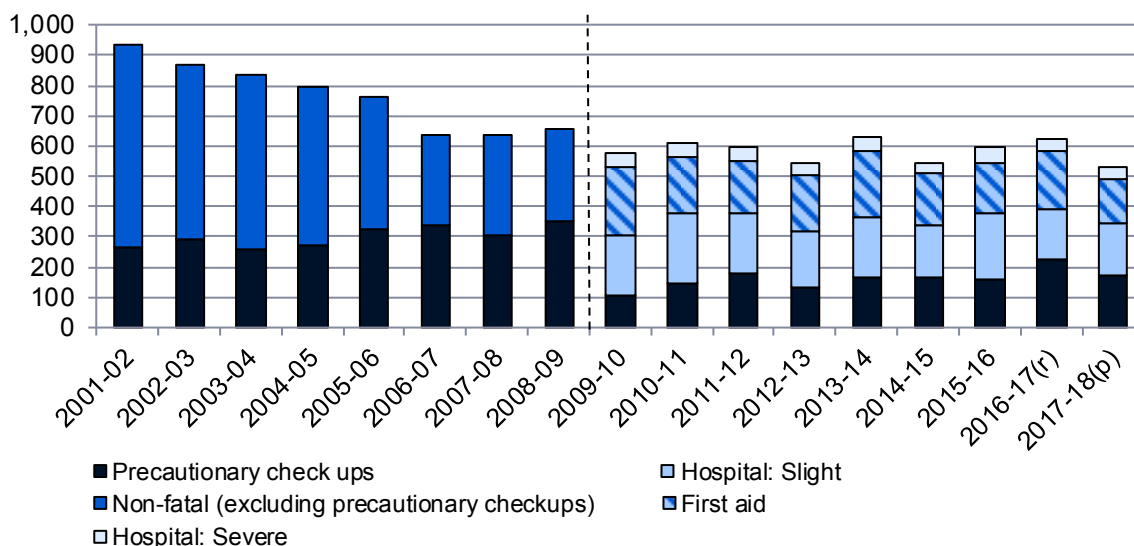
(a) Population data are taken from ONS Mid Year Estimates revised periodically and so rates are subject to change between publications. Rates are calculated per age group.

(b) Includes casualties of unknown age.

(r) Revised data.

(p) Provisional Data

Chart 22: Number of non-fatal casualties from fires by severity of injury(a)



(a) The introduction of IRS in 2009-10 led to a change in the way non-fatal casualties were recorded and a possible discontinuity, notably in the number of those receiving precautionary checks. See the 'Comparability' section in Key quality information for further clarification.

(r) Revised data.

(p) Provisional data.

Of the 526 non-fatal casualties in 2017-18, 407 (77 per cent) were the result of in dwelling fires, 65 (12 per cent) in other buildings, 32 (6 per cent) from road vehicle fires and 22 (4 per cent) in outdoor fires.

Most non-fatal casualties (91 per cent) were from accidental fires and 71 per cent were the result of accidental dwelling fires.

Cooking (excluding chip pans) was responsible for 83 non-fatal casualties in accidental fires in 2017-18, this was the largest single cause of non-fatal casualties in accidental fires in 2017-18 (17 per cent). Chip pan related casualties accounted for a further 11 per cent of those in accidental fires.

Non-fatal casualties (excluding precautionary check-ups) from fires

In 2017-18, 208 non-fatal casualties were sent to hospital, an increase of 2 per cent compared with the previous year. Of these 208 non-fatal casualties, 9 in 10 were from accidental fires and two thirds occurred in accidental fires in dwellings.

171 (82 per cent) casualties who were sent to hospital had slight injuries.

The most common injury of non-fatal casualties who were sent to hospital was 'being overcome with smoke or gas' relating to 84 non-fatal casualties and two fifths of those sent to hospital. This has been the most common injury for casualties sent to hospital since 2009-10, accounting for 44 per cent of all non-fatal casualties sent to hospital since this time. There were 60 casualties in 2017-18 with burns, accounting for 29 per cent of those sent to hospital.

Rescues from fires

In 2017-18, 215 people were rescued from fires, 101 (47 per cent) of whom were not injured, 6 were fatalities (rescued but later died from fire-related injuries) and 108 were non-fatal casualties. In total this is a 8 per cent decrease in the number of rescues compared with the previous year.

In 2017-18, the majority (87 per cent) of rescues (including those injured) from fires were from dwelling fires, a further 8 per cent were rescued from other buildings, 4 per cent from road vehicles and 1 per cent from outdoor locations.

Table 10: Number of casualties and rescues by location

	Dwelling	Other building	Road vehicle	Outdoors	All
2015-16					
Fatalities	13	5	0	1	19
<i>of which were rescued</i>	5	0	0	0	5
Non-fatal casualties (a)	457	65	43	27	592
<i>of which were rescued</i>	118	11	6	0	135
Rescued (non-injured)	81	19	5	1	106
Total rescued	204	30	11	1	246
2016-17(r)					
Fatalities	14	0	2	3	19
<i>of which were rescued</i>	4	0	0	0	4
Non-fatal casualties (a)	512	47	38	24	621
<i>of which were rescued</i>	117	11	3	0	131
Rescued (non-injured)	82	11	4	1	98
Total rescued	203	22	7	1	233
2017-18(p)					
Fatalities	11	0	3	1	15
<i>of which were rescued</i>	4	0	2	0	6
Non-fatal casualties (a)	407	65	32	22	526
<i>of which were rescued</i>	92	10	4	2	108
Rescued (non-injured)	90	8	3	0	101
Total rescued	186	18	9	2	215

(a) Includes casualties where it is unknown whether they were rescued.

(r) Revised data.

(p) Provisional data.

In 2017-18, 58 per cent of those rescued were male and 42 per cent were female. A third of those rescued were aged between 30 and 59, and a third were aged 60 or over.

For those rescued from fires but not injured, males accounted for 62 per cent (females accounted for 38 per cent). People aged 60 or over made up a third of those who were rescued but non-injured, and a further 27 per cent were aged between 30 and 59.

Table 11: Number of casualties and rescues by gender and age

	Male	Female	0-16	17-29	30-59	60 or over	All (a)
2015-16							
Fatalities	13	6	0	1	6	11	19
<i>of which were rescued</i>	4	1	0	0	2	3	5
Non-fatal casualties (b)	343	247	66	112	202	166	592
<i>of which were rescued</i>	85	50	3	24	49	46	135
Rescued (not injured)	50	56	13	20	30	25	106
Total rescued	139	107	16	44	81	74	246
2016-17(r)							
Fatalities	9	10	1	1	6	10	19
<i>of which were rescued</i>	3	1	1	0	2	1	4
Non-fatal casualties (b)	341	258	66	82	225	154	621
<i>of which were rescued</i>	81	50	8	14	51	46	131
Rescued (not injured)	64	34	7	24	32	28	98
Total rescued	148	85	16	38	85	75	233
2017-18(p)							
Fatalities	11	4	5	1	3	4	15
<i>of which were rescued</i>	4	2	0	1	3	2	6
Non-fatal casualties (b)	282	239	60	77	197	124	526
<i>of which were rescued</i>	58	50	8	10	41	35	108
Rescued (not injured)	63	38	10	11	27	34	101
Total rescued	125	90	18	22	71	71	215

(a) Includes those whose gender and/or age was unknown or not specified.

(b) Includes casualties where it is unknown whether they were rescued.

(r) Revised data.

(p) Provisional data

Further data on this topic is available on [StatsWales](https://stats.wales.gov.uk/).

Fire false alarms

The data in this section refer to false alarms related to fires, data on SSI false alarms appear in the SSI section.

A fire false alarm is defined as an event in which the FRA was called to a reported fire which turned out not to exist. Fire false alarms are categorised as follows:

Malicious - where the call is deliberately for a non-existent fire-related event

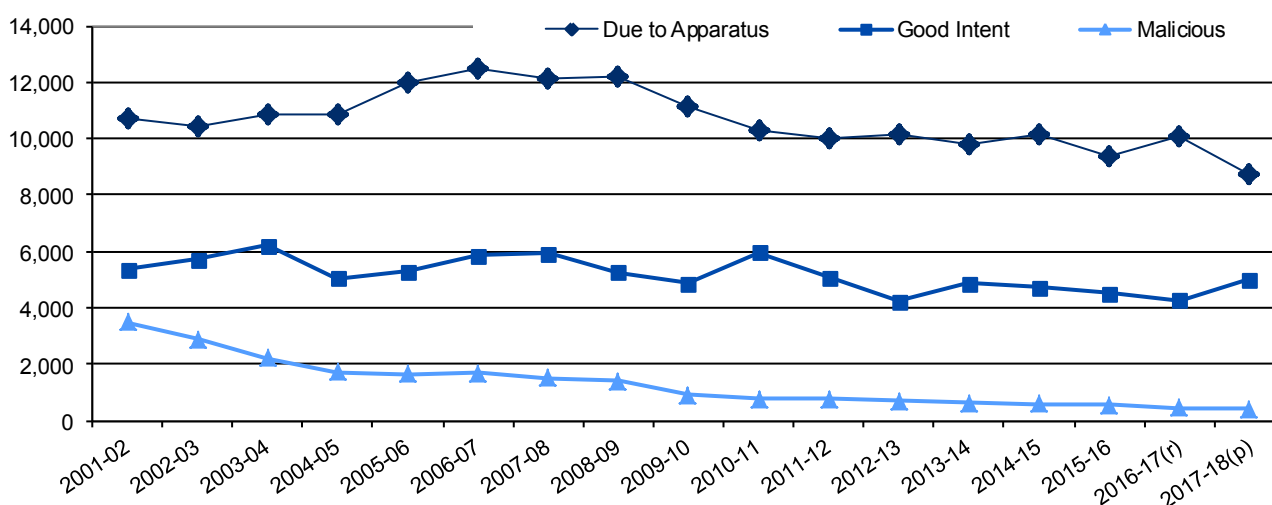
Good intent - in which the call was made in good faith in the belief that there was a fire to attend

Due to apparatus - in which the call was initiated by the operation of fire alarm and fire-fighting equipment

In 2017-18 there were 14,161 fire false alarms in Wales, down from 14,790 in 2016-17, a decrease of 4 per cent. This is the lowest number in the time series. Since 2001-02 the number of fire false alarms attended has fallen by 28 per cent. FRAs suggest successful call challenging is a factor in this long-term fall (information taken from internal call logging systems).

Only good intent fire false alarms saw an increase in 2017-18 compared with the previous year (17 per cent). Fire false alarms due to apparatus fell by 13 per cent whilst malicious fire false alarms fell by 5 per cent.

Chart 23: Number of fire false alarms by reason



(r) Revised data.

(p) Provisional data.

Overall there has been a downward trend in the number of malicious fire false alarms, falling by 88 per cent since 2001-02. In 2017-18, North Wales and South Wales saw falls in the number of malicious fire false alarms compared with 2016-17 (down 19 per cent in North Wales and 17 per cent in South Wales). However in Mid and West Wales there was an increase of 34 per cent (equating to 35 incidents).

Table 12: Number of malicious fire false alarms by Fire and Rescue Authority(a)

	North Wales	Mid and West Wales	South Wales	Wales
2008-09	169	466	762	1,397
2009-10	137	211	550	898
2010-11	114	172	483	769
2011-12	129	168	478	775
2012-13	105	178	406	689
2013-14	77	161	408	646
2014-15	77	120	408	605
2015-16	51	127	380	558
2016-17(r)	48	103	290	441
2017-18(p)	39	138	242	419
Percentage change 2016-17 to 2017-18	-19	34	-17	-5

(a) Data from 2001-02 onwards are available on StatsWales and in the accompanying Excel tables.

(r) Revised data.

(p) Provisional data.

Table 13: Number of fire false alarms by location and reason

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Dwellings (a)	5,192	5,409	5,331	5,605	5,623
Fire alarm due to apparatus	3,352	3,499	3,661	3,955	3,445
Good intent false alarm	1,590	1,660	1,456	1,466	1,991
Malicious	250	250	214	184	187
Other buildings	7,218	7,332	6,375	6,705	6,008
Fire alarm due to apparatus	6,457	6,640	5,744	6,109	5,299
Good intent false alarm	489	443	386	412	542
Malicious	272	249	245	184	167
Road vehicles	409	406	391	408	367
Fire alarm due to apparatus	0	0	1	0	0
Good intent false alarm	400	401	380	400	358
Malicious	9	5	10	8	9
Outdoors	2,493	2,338	2,396	2,072	2,163
Fire alarm due to apparatus	3	6	4	2	1
Good intent false alarm	2,375	2,231	2,303	2,005	2,106
Malicious	115	101	89	65	56

(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data.

Fire false alarms in buildings other than dwellings fell by 10 per cent and accounted for 42 per cent of fire false alarms in 2017-18, the majority of which (88 per cent) were due to apparatus. A breakdown of more detailed reasons is given in table 14. In dwellings, 61 per cent of fire false alarms were due to apparatus and 35 per cent were raised with good intent. Most (97 per cent) 'other outdoors' fire false alarms were due to good intent, and these were mainly (63 per cent) as a result of controlled burning. In April 2015 North Wales FRA introduced a new strategy which meant they didn't automatically attend Automatic Fire Alarm Systems (AFA) ¹⁵ in non-domestic properties. This led to a 78 per cent drop in false alarms due to apparatus in 'other buildings' (non-dwellings) being attended in North Wales FRA in 2015-16 (when compared to the previous year). Since this

¹⁵ [North Wales Fire and Rescue Service – Automatic Fire Alarms](#)

time (2015-16) the number of these fire false alarms has risen by 15 per cent (although there were 20 fewer incidents compared with last year).

In 2017-18, 35 per cent of fire false alarms due to apparatus (in buildings) were the result of human causes, with cooking causing over 1,600 of these fire false alarms (almost a fifth of fire false alarms due to apparatus). Human factors triggered a greater proportion of fire false alarms in dwellings than in other buildings (45 per cent and 28 per cent respectively).

Of those fire false alarms in buildings which were due to apparatus, 38 per cent were the result of problems with safety systems (faulty, damaged, poorly maintained and poorly sited). A further 17 per cent were caused by of contaminants getting into the system. Contaminants (for example insects, dust and steam) were a bigger problem in other buildings than in dwellings, causing a more than a fifth of fire false alarms due to apparatus, but just over a tenth of those in dwellings.

Table 14: Number of fire false alarms due to apparatus in buildings by detailed reason

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Dwellings(a)					
Contaminants	366	390	411	399	364
External factors	56	35	45	42	38
Human	1,573	1,651	1,665	1,748	1,563
<i>Accidentally/</i>					
<i>carelessly set off</i>	171	173	166	159	168
<i>Cooking/burnt toast</i>	1,233	1,260	1,267	1,304	1,102
<i>Smoking</i>	74	102	112	146	184
<i>Testing</i>	61	68	95	92	86
<i>Other</i>	34	48	25	47	23
System: smoke alarm	887	888	1,059	1,229	961
System: other(b)	350	413	309	345	358
Animal(c)	4	1	5	6	1
Unknown	116	121	167	186	160
All	3,352	3,499	3,661	3,955	3,445
Other buildings					
Contaminants	1,521	1,485	1,224	1,363	1,136
External factors	147	182	110	117	92
Human	2,151	2,130	1,869	1,845	1,493
<i>Accidentally/</i>					
<i>carelessly set off</i>	718	689	639	632	497
<i>Cooking/burnt toast</i>	835	882	739	711	575
<i>Smoking</i>	95	118	116	138	103
<i>Testing</i>	429	388	338	314	304
<i>Other</i>	74	53	37	50	14
System: smoke alarm	1,389	1,502	1,388	1,574	1,300
System: other (b)	906	948	678	650	713
Animal(c)	21	20	21	28	15
Unknown	322	373	454	532	550
All	6,457	6,640	5,744	6,109	5,299

(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) Includes heat, sprinkler, flame and other unspecified systems.

(c) Category introduced in 2012-13.

(r) Revised data.

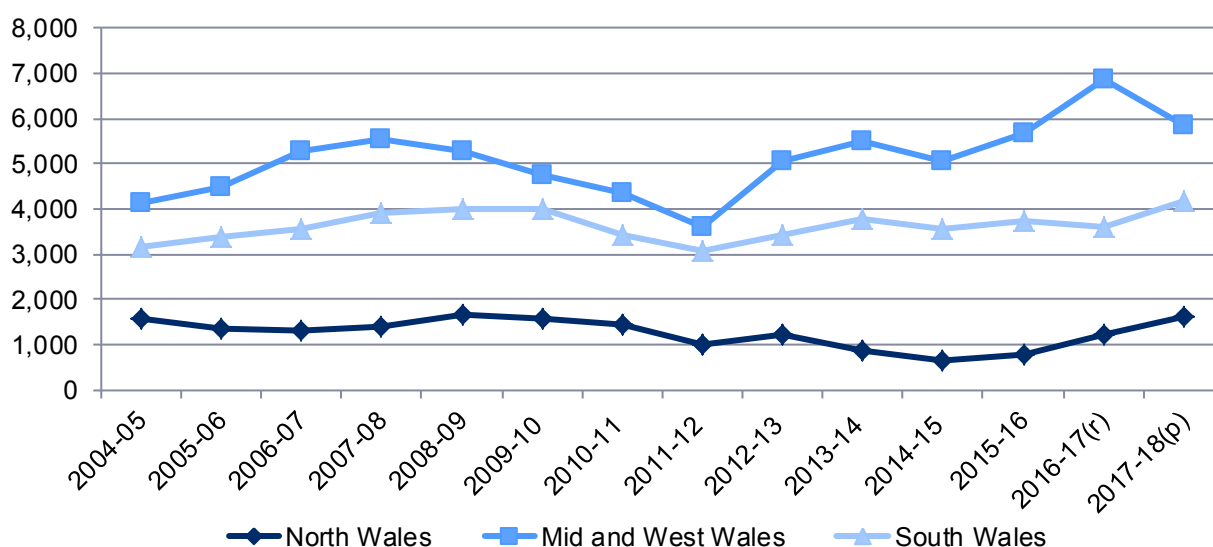
(p) Provisional data.

Further data on this topic is available on [StatsWales](http://StatsWales.gov.uk).

Special service incidents

In 2017-18, 32 per cent of all incidents attended by FRAs in Wales were SSIs. These incidents include road traffic collisions (RTCs), flooding incidents, medical incidents etc. Unlike other incident types overall numbers of SSIs haven't seen a consistent downward trend. Overall attendance at SSIs decreased by 2 per cent in 2017-18, driven by a 16 per cent decrease in Mid and West Wales (over 1,000 fewer attendances), whereas both North Wales and South Wales saw increases (33 per cent and 13 per cent respectively). Mid and West Wales have seen the greatest variation in numbers, and recent increases have been due to numbers of attendances at medical incidents. North Wales attend the fewest SSIs, due in part to a different system of working so that attendance at medical incidents (as first responder) is not required.

Chart 24: Number of SSIs attended by Fire and Rescue Authority(a)



(a) SSIs by FRA are not available prior to 2004-05. From 2004-05 until 2008-09 data were collected in the operational fire data collection. From 2009-10 onwards data has been available from IRS.

(r) Revised data.

(p) Provisional data.

The largest category of SSI attended is medical incidents (27 per cent of SSIs), followed by RTCs (21 per cent) and assist other agencies (15 per cent). In 2017-18 numbers of medical incidents fell by 28 per cent compared with the previous year; but this is still the second highest number in the available time series (from 2009-10). It is thought greater collaboration with the ambulance services in recent years has contributed to these higher numbers. Also notably, numbers of attendances categorised as 'assisting other agencies' increased by 69 per cent compared with 2016-17.

Table 15: Number of SSIs by type

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Road traffic collision	2,787	2,564	2,611	2,394	2,330
Flooding	765	385	650	546	586
Rescue or evacuation from water	108	80	141	123	117
Other rescue/release of people	217	228	296	281	376
Animal assistance incidents	427	351	314	328	317
Making Safe	729	258	332	233	265
Lift release	361	346	372	399	401
Effecting entry	507	556	540	581	671
Medical incident - Co-responder/First responder	2,058	2,382	2,724	4,174	3,023
Assist other agencies	380	451	468	988	1,672
Other(a)	1,422	1,288	1,280	1,202	1,250
All Special Service Incidents	9,761	8,889	9,728	11,249	11,008
All Special Service False Alarms	357	400	423	427	575

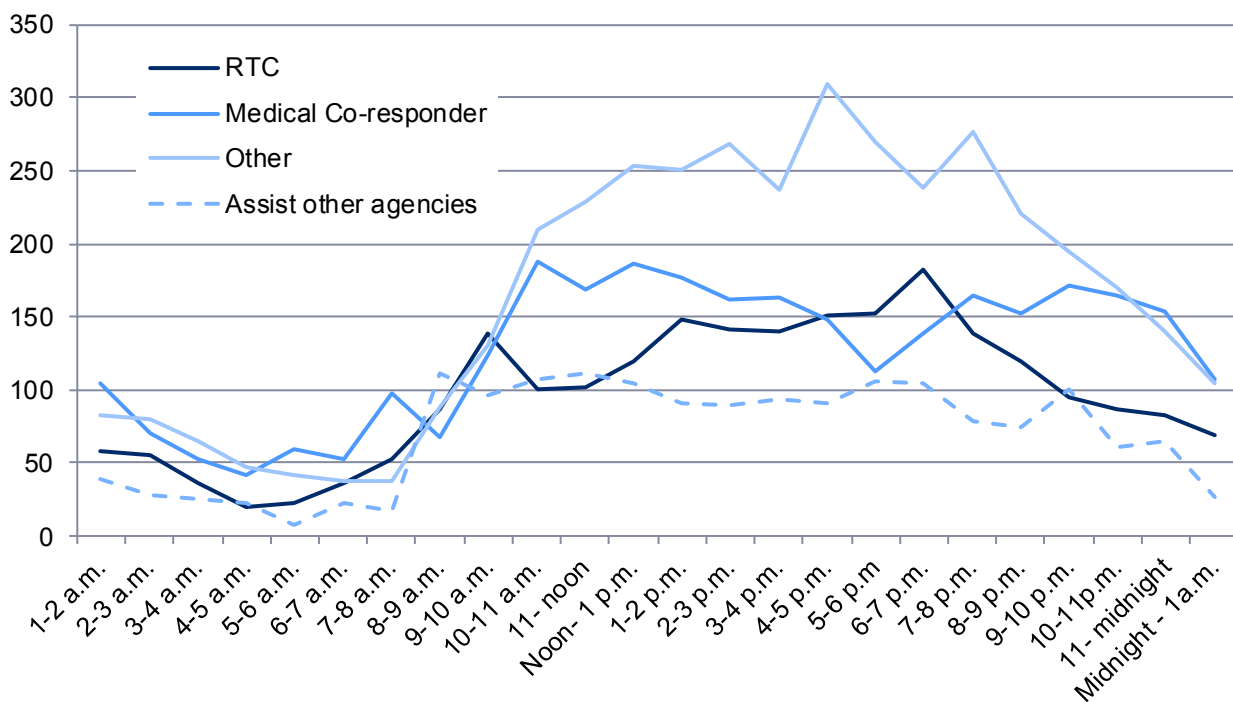
(a) Other includes 'other transport incident', 'hazardous materials incidents', 'spills and leaks', 'removal of objects from people', 'suicide/attempted suicide', 'evacuation', 'water provision', 'advice only', 'standby' and 'services not required'.

(r) Revised data.

(p) Provisional data

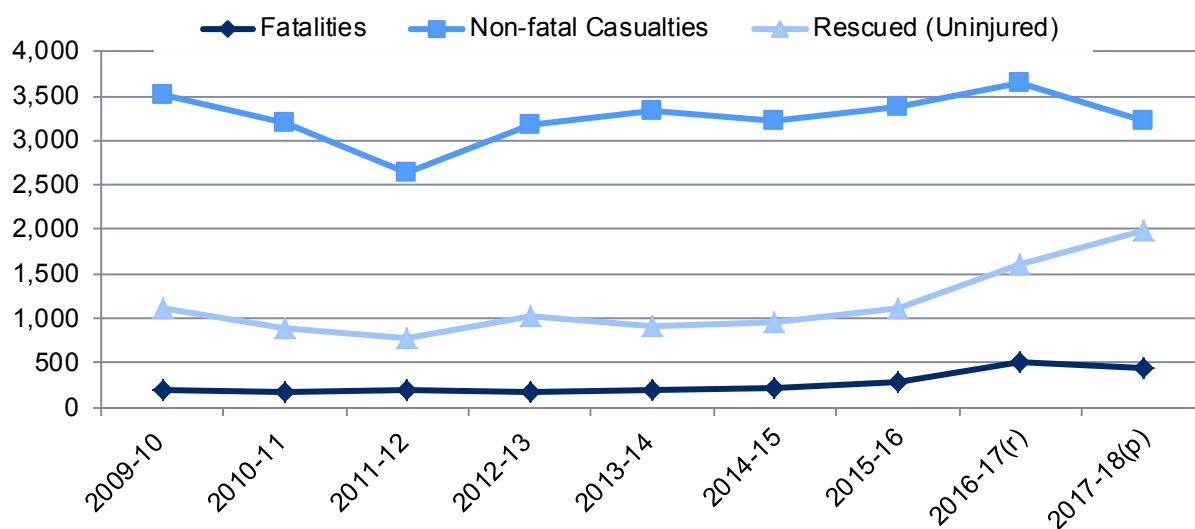
The chart below shows the majority of SSIs are attended in the day, between 9am and 10pm, with almost three quarters occurring between these times. Numbers of RTCs show an initial peak around 9 a.m., with a further peak around 6p.m. perhaps to be expected coinciding with rush hours.

Chart 25: Numbers of RTCs, Medical responder incidents and others attended by time of day, 2017-18



There are consistently more casualties and rescues from SSIs than from fires, though numbers of casualties in SSIs include where the fires service are assisting the ambulance services. In 2017-18 there were 444 fatalities from SSIs, a 14 per cent decrease compared with the previous year, but more than double the number in 2009-10. The majority (two thirds) of SSI fatalities occurred in medical incidents whilst RTCs account for 14 per cent of fatalities. There were 3,226 non-fatal casualties from SSIs in 2017-18, a fall of 11 per cent compared with 2016-17. RTCs accounted for the greatest number of non-fatal casualties (43 per cent), whilst medical incidents accounted for 39 per cent.

Chart 26: Numbers of SSI related fatalities, non-fatal casualties and rescues



(r) Revised data
(p) Provisional data

Table 16: Numbers of SSI related fatalities, non-fatal casualties and rescues

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Fatalities	194	208	272	515	444
<i>of which were rescued</i>	44	47	47	45	45
Non-fatal Casualties	3,334	3,224	3,382	3,639	3,226
<i>of which were rescued</i>	944	923	991	1,033	1,010
Rescued (Uninjured)	918	960	1,120	1,610	1,988

(r) Revised data
(p) Provisional data.

In 2017-18 around a third of non-fatal casualties in SSIs were rescued, similar to the proportion seen earlier in the time series. Over two fifths of those rescued (but uninjured) occurred in incidents where the FRA was assisting another agency.

More data on SSIs can be found on [StatsWales](https://www.stats.gov.wales/).

Smoke alarms

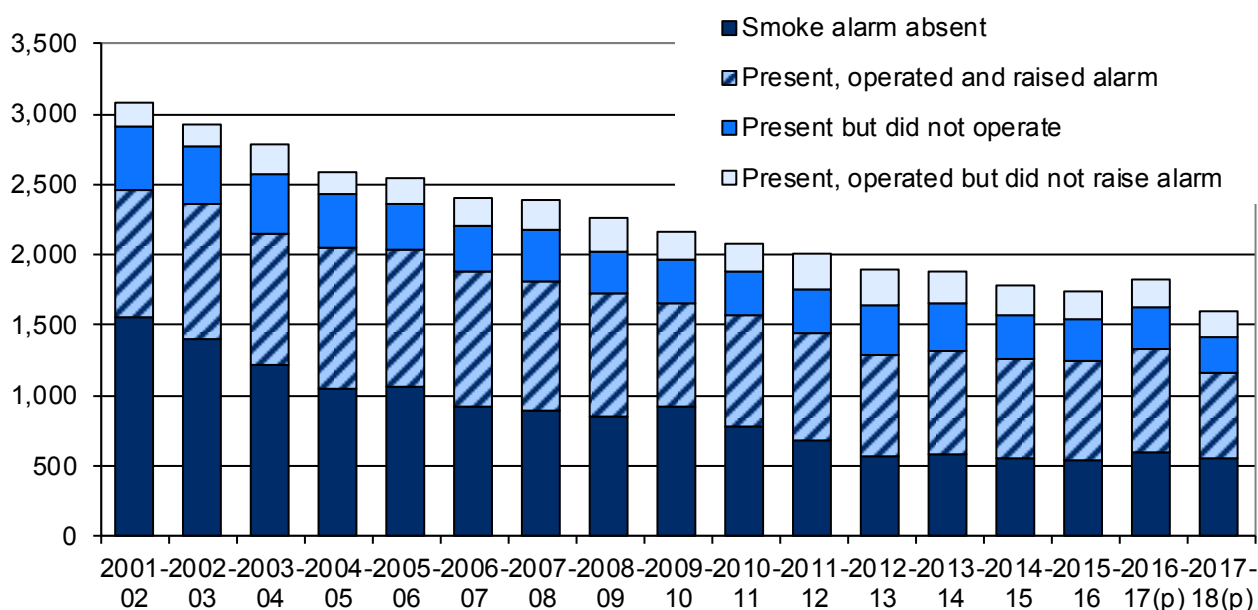
This section looks at fires in dwellings attended by the FRA and the effectiveness of smoke alarms. Any fires involving alarms where no emergency call was made to the FRA will not be recorded, and therefore the figures reported should understate the effectiveness of smoke alarms.

Some buildings have multiple smoke alarms and so in this section some tables and charts refer to numbers of fires whilst others refer to numbers of smoke alarms. Chart 27, table 17, chart 28 and chart 29 refer to numbers of fires. In these charts and tables, the following hierarchy has been applied to the smoke alarm operation:

1. Present, operated and raised the alarm
2. Present, operated but didn't raise alarm
3. Present but didn't operate

Therefore an alarm which operated and raised the alarm 'outranks' one which operated but didn't raise the alarm and so on. In many cases the reason a smoke alarm that operates does not raise the alarm is that the alarm has already been raised prior to the operation of this smoke alarm.

Chart 27: Number of fires in dwellings by presence and operation of smoke detectors(a)



(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data

A smoke alarm was present and operated correctly in half of the fires in dwellings occurring in 2017-18 (similar to previous years). In a further 15 per cent of cases a smoke alarm was present but failed to operate, whilst in 33 per cent of dwelling fires a smoke alarm was absent. In 2 per cent

of dwelling fires it was unknown whether there was a smoke alarm. Reasons for the smoke detector not operating or raising the alarm are explored in tables 18 and 19.

Since 2001-02 the number of dwelling fires where there was no smoke alarm has fallen by almost two thirds; the proportion with no smoke alarm has fallen by 17 percentage points. In only 14 per cent of dwelling fires in North Wales a smoke alarm was absent; respective percentages are higher for Mid and West Wales and South Wales (40 per cent in each).

Table 17 shows that the number of dwellings fires where a smoke alarm was absent decreased by 8 per cent to 539 in 2017-18 compared with 588 in 2016-17.

In 2017-18, all three FRAs saw decreases in the number of dwelling fires where smoke alarms were absent (compared with the previous year).

Table 17: Number of fires in dwellings where smoke alarm was absent, by Fire and Rescue Authority (a)(b)

	North Wales	Mid and West Wales	South Wales	Wales
2008-09	143	234	458	836
2009-10	121	279	509	909
2010-11	76	278	412	766
2011-12	73	234	361	668
2012-13	67	181	313	561
2013-14	75	225	273	573
2014-15	49	205	288	542
2015-16	51	208	275	534
2016-17(r)	62	227	299	588
2017-18(p)	61	224	254	539
Percentage change 2016-17 to 2017-18	-2	-1	-15	-8

(a) Data from 2001-02 onwards are available on [StatsWales](http://StatsWales.gov.wales) and in the accompanying Excel tables.

(b) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data

For context, approximately 5 per cent of all households in Wales had no smoke alarms (National Survey for Wales 2017-18¹⁶).

Since 2009-10, 32 of the 117 accidental dwelling fire fatalities occurred in fires where a smoke alarm was known to be absent. 31 fatalities have occurred in accidental dwelling fires where a smoke alarm was present and raised the alarm.

Table 18 shows the number of smoke alarms which were present and operated at building fires but did not raise the alarm and the reasons for this. It includes multiple alarms in buildings which behaved in this way and so does not equate to numbers of dwellings and other building fires.

¹⁶ National Survey for Wales – [Results Viewer](http://ResultsViewer.gov.wales)

Table 18: Number of smoke alarms, which were present at building fires but did not raise alarm, by reason

	<u>2013-14</u>	<u>2014-15</u>	<u>2015-16</u>	<u>2016-17(r)</u>	<u>2017-18(p)</u>
Dwellings (a)					
Alarm was raised before system operated	148	140	132	129	109
No person in earshot	36	40	27	36	34
Occupants did not respond	28	31	31	31	26
No other person responded	2	2	1	4	6
Other	10	5	9	8	12
Unknown	3	2	2	3	4
All dwellings	227	220	202	211	191
Other buildings					
Alarm was raised before system operated	53	57	50	40	46
No person in earshot	6	8	5	7	10
Occupants did not respond	0	0	0	1	2
No other person responded	0	1	0	0	1
Other	1	4	6	1	0
Unknown	2	1	2	3	1
All other buildings	62	71	63	52	60

(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(r) Revised data.

(p) Provisional data

In 2017-18 there were over 150 smoke alarms which activated but did not raise the alarm due to the alarm having already been raised. This equates to 62 per cent of the smoke alarms which did not raise the alarm. This has consistently been the most common reason for a smoke alarm failing to raise the alarm in spite of being activated (for the available time series which dates from 2009-10).

In 2017-18, of the smoke alarms which did not raise the alarm 18 per cent were due to no one being in earshot, and a further 11 per cent were due to occupants not responding.

Table 19 includes multiple smoke alarms at building fires which did not activate and so does not equate to the number of dwelling and other building fires.

In 2017-18 the main reason for smoke alarm failures, in both dwellings and other buildings, was that the fire was not close enough to the detector (52 per cent of the smoke alarms which failed to activate in building fires). Defective or missing batteries accounted for 6 per cent of alarm failures in building fires in 2017-18, most of these incidents occurring in dwellings.

Table 19: Number of smoke alarms present in fires in buildings, which did not activate by reason

	2013-14	2014-15	2015-16	2016-17(r)	2017-18(p)
Dwellings (a)					
Fire not close enough to detector	170	153	165	149	138
Fire in area not covered by system	40	30	30	35	21
Alarm battery missing/defective	41	44	40	36	21
Fault in system	8	12	11	8	7
Detector removed	12	7	10	5	5
Alerted by other means	19	22	12	15	22
Other (b)	38	30	28	28	24
Unknown	14	9	5	11	13
All	342	307	301	287	251
Other buildings					
Fire not close enough to detector	56	64	46	47	46
Fire in area not covered by system	9	20	19	14	19
Alarm battery missing/defective	0	4	3	1	1
Fault in system	2	3	4	2	4
Detector removed	1	0	0		1
Alerted by other means	18	22	17	13	14
Other (b)	18	18	17	17	11
Unknown	5	2	14	11	5
All	109	133	120	105	101

(a) Includes caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) Includes where system has not set up correctly, system has been damaged by fire and system was turned off.

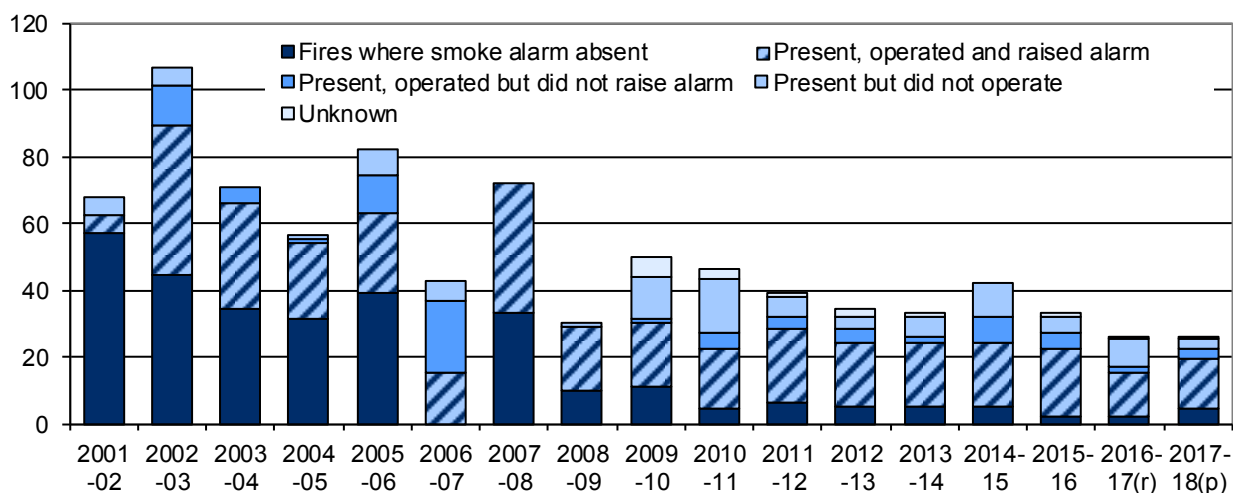
(r) Revised data.

(p) Provisional data.

Smoke alarms in fires at schools

Of the 26 fires occurring in schools in 2017-18 a smoke alarm was present and operated correctly in 69 per cent of incidents, whilst in a further 12 per cent of cases a smoke alarm was present but failed to operate. There were 4 school fires where it was recorded a smoke alarm was not present.

Chart 28: Number of fires in schools by presence and operation of smoke detectors



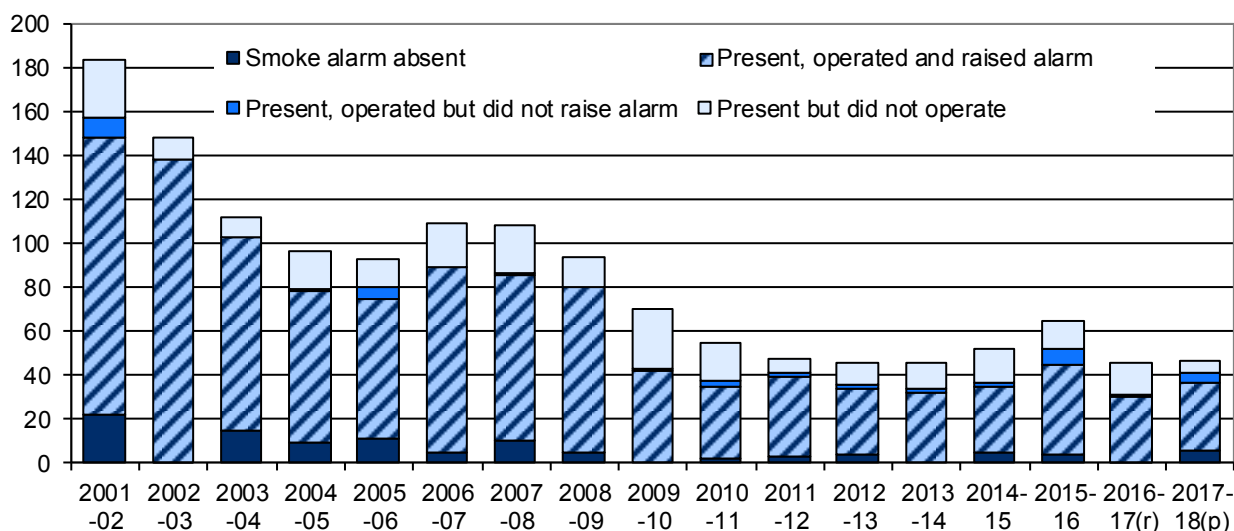
(r) Revised data.

(p) Provisional data.

Smoke alarms in fires at hospitals and medical care facilities

In 2017-18 there were 48 fires in hospitals and medical facilities¹⁷, 1 more than in the previous year but a fall of 74 per cent compared with the number in 2001-02. A smoke alarm was present and operated correctly in 73 per cent of fires in hospitals in 2017-18. In 13 per cent of hospital fires a smoke alarm was present but failed to operate and in a further 13 per cent it was recorded a smoke alarm was absent.

Chart 29: Number of fires in hospitals by presence and operation of smoke detectors(a)



(a) Includes fires at hospitals and other medical care (e.g. veterinary surgeries, dentists, day centres, GP surgeries etc.)

(r) Revised data.

(p) Provisional data.

32 of the 48 hospital fires occurring in 2017-18 were accidental.

Since 2009-10 there have been no fatalities and 8 non-fatal casualties in hospital fires.

Further data is available on this topic on [StatsWales](https://stats.wales.gov.uk/).

¹⁷ Includes GP surgeries, day centres, dentists and vets.

Cause of fires

The **cause of fire** is the defect, act or omission leading to ignition of the fire.

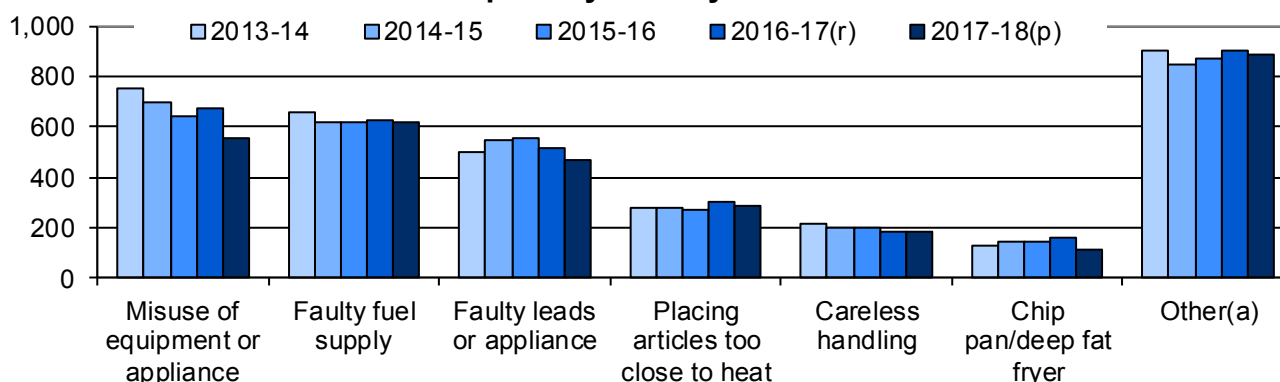
The **source of ignition** is the source of the flame, spark or heat that started the fire.

This information is collected for primary fires, but not secondary or chimney fires.

Cause of accidental primary fires

In 2017-18 the largest single cause of accidental fires was faulty fuel supply, accounting for 20 per cent. This is the first time numbers of fires caused by the misuse of equipment or appliances (18 per cent) has been outnumbered. Faulty leads or appliances were responsible for 15 per cent and 'other accidental' accounted for 28 per cent of accidental fires.

Chart 30: Number of accidental primary fires by cause



(a) 'Other' includes 'Accumulation of flammable material', 'Bonfire going out of control', 'Chimney fire', 'Natural occurrence', 'Other', 'Other intentional burning, going out of control', 'Overheating, unknown cause', 'Person too close to heat source (or fire)', 'Playing with fire (or heat source)', 'Vehicle crash or collision'.

(r) Revised data.

(p) Provisional data

Table 20: Number of accidental primary fires by cause

	Misuse of equipment or appliance	Faulty fuel supply	Faulty leads or appliance	Placing articles too close to heat	Careless handling	Chip pan /deep fat fryer	Other(a)	Unspecified
2008-09	910	839	766	299	228	208	553	90
2009-10	838	741	636	310	215	235	921	18
2010-11	801	726	565	324	273	177	1,051	13
2011-12	828	629	551	300	201	169	942	16
2012-13	729	603	613	271	178	164	782	0
2013-14	755	660	499	281	217	130	903	0
2014-15	699	622	546	281	202	145	852	0
2015-16	640	617	558	271	204	142	876	0
2016-17(r)	678	630	514	301	181	157	902	0
2017-18(p)	554	618	469	286	186	117	886	0

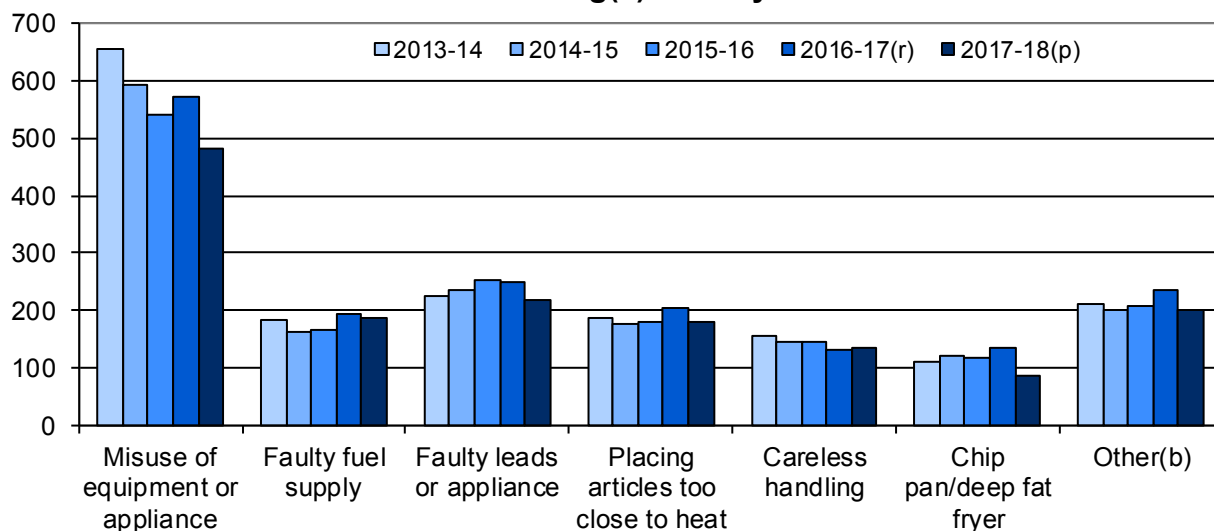
(a) See footnote (a) of chart 29.

(r) Revised data.

(p) Provisional data

The misuse of equipment or appliances was the main cause of accidental fires in dwellings, with 481 cases recorded in 2017-18. This equates to almost one third of accidental dwelling fires in 2017-18 but a decrease of 16 per cent compared with 2016-17. Most causes saw decreases in 2017-18 with accidental dwelling fires caused by chip pans falling by 35 per cent in 2017-18. Only careless handling saw a rise (2 per cent).

Chart 31: Numbers of accidental dwelling(a) fires by cause



(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) 'Other' includes 'Accumulation of flammable material', 'Bonfire going out of control', 'Chimney fire', 'Natural occurrence', 'Other', 'Other intentional burning, going out of control', 'Overheating, unknown cause', 'Person too close to heat source (or fire)', 'Playing with fire (or heat source)', 'Vehicle crash or collision'.

(r) Revised data.

(p) Provisional data.

Table 21: Number of accidental dwelling(a) fires by cause

	Misuse of equipment or appliance	Faulty fuel supply	Faulty leads or appliance	Placing articles too close to heat	Careless handling	Chip pan /deep fat fryer	Other(b)	Unspecified
2008-09	733	98	299	196	146	192	243	12
2009-10	679	165	261	187	149	209	212	2
2010-11	653	188	227	185	177	156	239	1
2011-12	704	159	227	190	139	147	220	3
2012-13	623	170	285	181	133	140	193	0
2013-14	657	184	226	188	155	110	212	0
2014-15	593	163	237	175	145	121	201	0
2015-16	540	165	253	179	145	118	209	0
2016-17(r)	572	193	248	205	131	133	237	0
2017-18(p)	481	186	219	179	133	86	201	0

(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) 'Other' includes 'Accumulation of flammable material', 'Bonfire going out of control', 'Chimney fire', 'Natural occurrence', 'Other', 'Other intentional burning, going out of control', 'Overheating, unknown cause', 'Person too close to heat source (or fire)', 'Playing with fire (or heat source)', 'Vehicle crash or collision'.

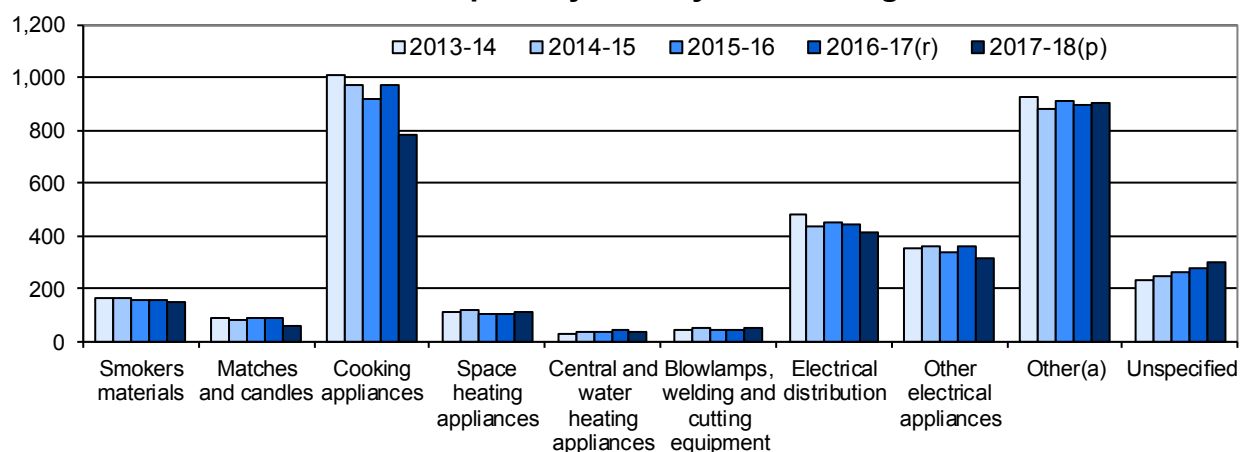
(r) Revised data.

(p) Provisional data.

Source of ignition in accidental primary fires

Cooking appliances have consistently been recorded as the main cause of accidental fires. In 2017-18 there were 783 cases equating to 25 per cent of accidental fires, 19 per cent fewer than in the previous year. Most categories saw decreases, the largest of these related to accidental fires started by matches and candles (a fall of 34 per cent).

Chart 32: Number of accidental primary fires by source of ignition



(a) 'Other' includes 'Bombs and explosives', 'Chimney', 'Fireworks', 'Fuel/Chemical', 'Heating equipment', 'Industrial equipment', 'Naked flame', 'Natural occurrence', 'Oil and Incense burners', 'Other', 'Gardening equipment', 'Spread from secondary fire', 'Wet hay', 'Vehicle related' and other electrical appliances where the power source is not recorded as electrical.

(r) Revised data.

(p) Provisional data.

In 2017-18 there were 52 non-fatal casualties in an accidental fire which were attributable to smokers' materials, a similar number to the previous year. There was one fatality due to smoking materials, fewer than in the previous year when there was 6; the number of smoking related fires continued to decrease. Since 2009-10 over a third of all fatalities were the result of accidental fires caused by smokers' materials.

Table 22: Number of accidental primary fires by source of ignition

	Smokers materials	Matches and candles	Cooking appliances	Space heating appliances	Central and water heating appliances	Blow lamps, welding and cutting equipment	Electrical distribution	Other electrical appliances	Other (a)	Unspecified
2008-09	208	104	1,250	143	65	77	331	470	1,132	112
2009-10	188	80	1,194	156	37	44	499	453	1,038	225
2010-11	242	121	1,096	146	38	55	462	466	1,068	236
2011-12	157	102	1,129	114	24	39	461	366	1,022	222
2012-13	134	71	1,009	120	32	49	493	369	861	202
2013-14	164	87	1,012	114	28	44	483	354	926	233
2014-15	163	80	969	117	38	50	437	361	884	248
2015-16	158	91	917	104	35	40	448	339	912	264
2016-17(r)	155	86	972	105	40	39	439	358	895	274
2017-18(p)	152	57	783	113	32	48	416	315	901	299

(a) 'Other' includes 'Bombs and explosives', 'Chimney', 'Electric lighting', 'Fireworks', 'Fuel/Chemical', 'Heating equipment', 'Industrial equipment', 'Naked flame', 'Natural occurrence', 'Oil and Incense burners', 'Other', 'Gardening equipment', 'Spread from secondary fire', 'Wet hay', 'Vehicle related' and other electrical appliances where the power source is not recorded as electrical.

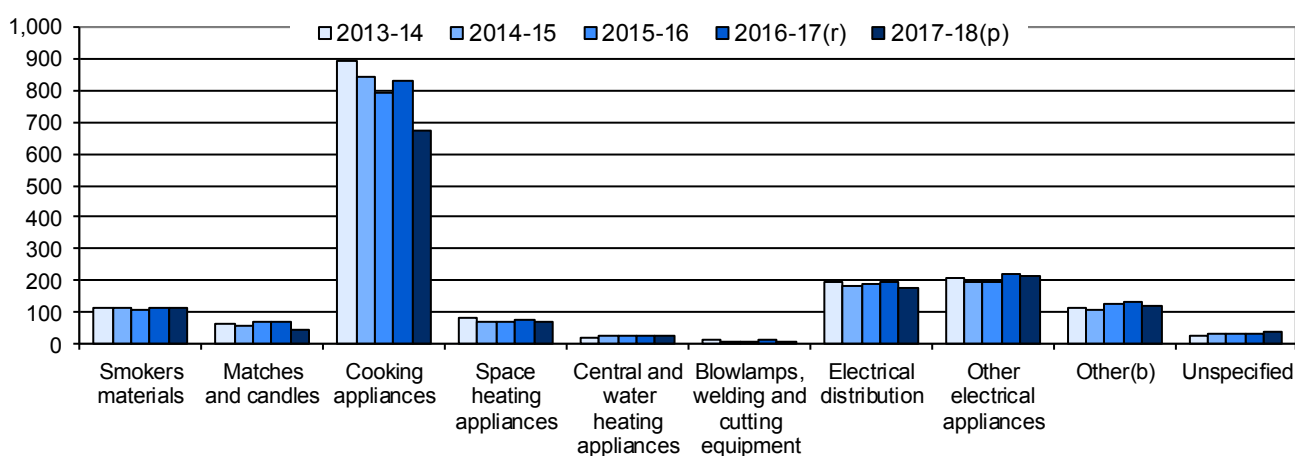
(r) Revised data.

(p) Provisional data.

In November 2011, a new EU directive required cigarettes to meet a reduced ignition propensity (RIP) requirement, they are now manufactured to be self-extinguishable, reducing the chance that they should set fire to combustible materials. However we are not able to determine how many of the fires ignited by “smokers’ materials” are related to cigarettes.

Cooking appliances were the main source of ignition in accidental dwelling fires accounting for 45 per cent of accidental dwelling fires in 2017-18. The number of these fires has fallen by 55 per cent since 2001-02 and fell by 19 per cent compared with the previous year. Fires ignited by cooking appliances have also been responsible for 54 per cent of non-fatal casualties in accidental dwelling fires since 2009-10. Over the same period ‘Other electrical appliances’ accounted for 11 per cent of non-fatal casualties in accidental dwelling fires.

Chart 33: Number of accidental dwelling(a) fires by source of ignition



(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) ‘Other’ includes ‘Bombs and explosives’, ‘Chimney’, ‘Electric lighting’, ‘Fireworks’, ‘Fuel/Chemical’, ‘Industrial equipment’, ‘Oil and Incense burners’, ‘Naked flame’, ‘Natural occurrence’, ‘Office equipment’, ‘Other’, ‘Other appliance or equipment’, ‘Spread from secondary fire’, ‘Vehicle related’, ‘Wet hay’ and other electrical appliances where the power source is not recorded as electrical.

(r) Revised data.

(p) Provisional data.

Table 23: Number of accidental dwelling(a) fires by source of ignition

	Smokers materials	Matches and candles	Cooking appliances	Space heating appliances	Central and water heating appliances	Blow lamps, welding and cutting equipment	Electrical distribution	Other electrical appliances	Other (b)	Unspecified
2008-09	129	88	1,068	96	54	7	191	186	86	15
2009-10	126	47	1,000	105	25	12	147	255	118	29
2010-11	147	64	928	89	23	5	154	278	115	23
2011-12	103	63	975	81	18	8	181	204	127	29
2012-13	100	53	872	88	27	11	194	230	118	32
2013-14	117	63	892	80	22	14	195	207	117	25
2014-15	116	55	840	73	24	5	182	197	110	33
2015-16	109	69	789	68	28	5	191	196	124	30
2016-17(r)	114	69	830	77	29	11	196	222	136	35
2017-18(p)	113	44	673	72	24	9	180	212	119	39

(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(b) See footnote (b) of Chart 32.

(r) Revised data.

(p) Provisional data.

In 2017-18 around 16 per cent of accidental fires were caused by the misuse of equipment or appliances resulting in cooking appliances igniting. Chip pans were responsible for 15 per cent of accidental fires where cooking appliances ignited.

Table 24: Number of accidental primary fires by cause and source of ignition 2017-18(p)

	Misuse of equipment or appliance	Faulty fuel supply	Faulty appliances or leads	Placing articles too close to heat	Careless handling	Chip pan/ deep fat fryer	Other	Total
Smokers materials	3	1	0	11	116	0	21	152
Matches and candles	4	0	0	25	14	0	14	57
Cooking appliances	486	13	37	84	15	117	31	783
Space heating appliances	8	7	21	51	7	0	19	113
Central and water heating appliances	1	11	12	3	0	0	5	32
Blowlamps, welding and cutting	10	1	3	19	1	0	14	48
Electrical distribution	5	258	92	1	1	0	59	416
Other electrical appliances	9	53	167	18	1	0	67	315
Other	23	251	122	72	26	0	407	901
Unspecified	5	23	15	2	5	0	249	299
Total	554	618	469	286	186	117	886	3,116

(p) Provisional data.

In 2017-18, around 3 in 10 accidental dwelling fires were caused by the misuse of equipment or appliances resulting in cooking appliances igniting. In 2017-18, faulty leads accounted for almost 6 in 10 accidental other electrical appliance fires in dwellings.

Table 25: Number of accidental dwelling(a) fires by cause and source of ignition 2017-18(p)

	Misuse of equipment or appliance	Faulty fuel supply	Faulty appliances or leads	Placing articles too close to heat	Careless handling	Chip pan/ deep fat fryer	Other	Total
Smokers materials	3	0	0	9	85	0	16	113
Matches and candles	2	0	0	19	12	0	11	44
Cooking appliances	443	7	29	76	12	86	20	673
Space heating appliances	5	4	12	30	5	0	16	72
Central and water heating appliances	0	8	9	3	0	0	4	24
Blowlamps, welding and cutting	2	0	0	3	1	0	3	9
Electrical distribution	5	125	33	1	1	0	15	180
Other electrical appliances	8	29	122	15	1	0	37	212
Other	9	8	12	23	13	0	54	119
Unspecified	4	5	2	0	3	0	25	39
Total	481	186	219	179	133	86	201	1,485

(a) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling.

(p) Provisional data.

Further data is available on this topic on [StatsWales](https://stats.wales.gov.uk/).

Response times

The Response times presented here are based on comparisons between the time that the first vehicle was mobilised and the first vehicle arrived at the scene. This may not be the same vehicle.

Response time data only reflect part of the process of fighting a fire, not the outcome of doing so, and so may not be a reliable measure of the performance of an FRA or the effectiveness of a firefighting response.

The urban geography of the area covered by South Wales FRA is likely to be the cause of the apparent faster response times to fires. Both North Wales and Mid and West Wales FRAs cover large areas of rural and agricultural land. The nature of the road network in these rural areas is likely to be another factor affecting the response times.

Further information about the geography, number of fires stations and population of each FRA are provided in the Quality Information Section.

In 2017-18 50 per cent of primary fires attended in North Wales had a response time of between 1 and 10 minutes. 60 per cent of primary fires in Mid and West Wales and 72 per cent in South Wales were attended within 10 minutes.

Table 26: Percentage of primary fires attended within specified time brackets (a)

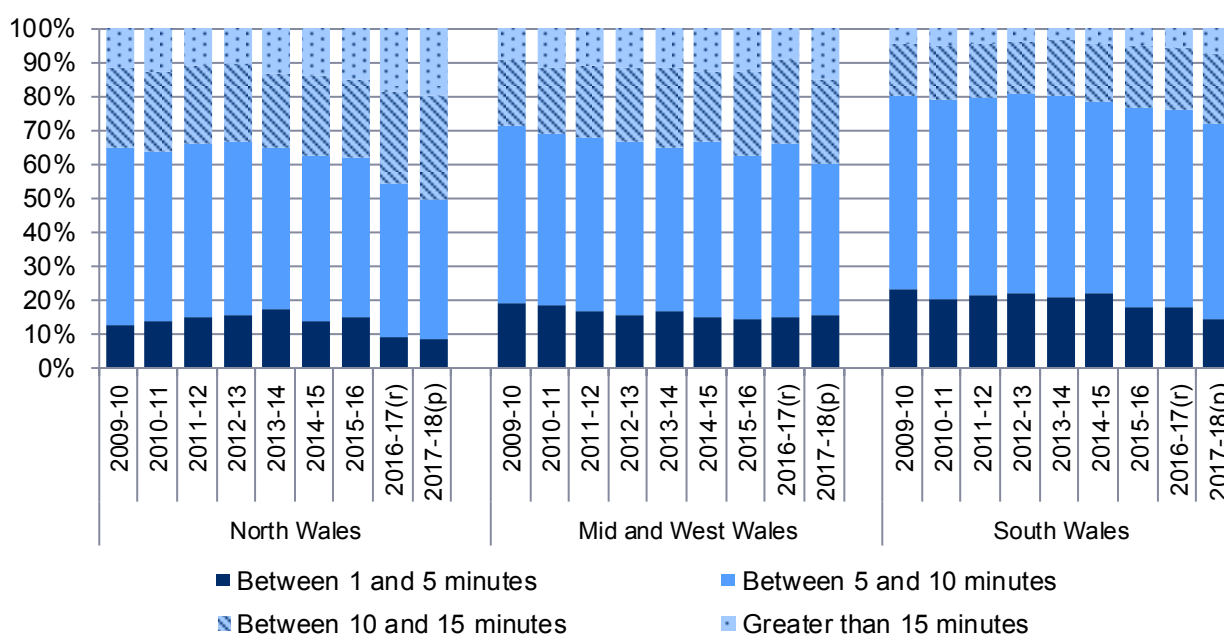
	Between 1 and 5 minutes	Between 5 and 10 minutes	Between 10 and 15 minutes	Greater than 15 minutes
2015-16				
North Wales	15	47	22	16
Mid and West Wales	14	48	25	13
South Wales	18	59	18	5
Wales	16	53	21	10
2016-17(r)				
North Wales	9	45	27	19
Mid and West Wales	15	51	25	9
South Wales	18	58	18	6
Wales	15	53	22	10
2017-18(p)				
North Wales	8	41	30	20
Mid and West Wales	15	45	24	16
South Wales	14	58	21	7
Wales	13	50	24	13

(a) This analysis is based on comparisons between the first vehicle was mobilised and the time the first vehicle arrived at the scene. Excluded are late calls, incidents with only heat and smoke damage and response times less than 1 minute or over one hour. In the years shown above 1 per cent of primary fires in were excluded in each year due to the response time being less than 1 minute or over 1 hour.

(r) Revised data.

(p) Provisional data.

Chart 34: Percentage of primary fires attended within specified time brackets



(p) Provisional data.

In 2017-18, 64 per cent of primary dwelling fires attended in North Wales had a response time of between 1 and 10 minutes; in Mid and West Wales 66 per cent were attended in this time, whilst in South Wales the respective proportion was 79 per cent.

Table 27: Percentage of primary dwelling fires attended within specified time brackets (a)

	Between 1 and 5 minutes	Between 5 and 10 minutes	Between 10 and 15 minutes	Greater than 15 minutes
Dwelling fires(b)				
2015-16				
North Wales	20	50	20	10
Mid and West Wales	18	56	20	7
South Wales	23	63	12	2
Wales	21	58	17	5
2016-17(r)				
North Wales	13	49	22	17
Mid and West Wales	16	56	23	6
South Wales	22	62	14	2
Wales	18	57	19	6
2017-18(p)				
North Wales	9	55	21	15
Mid and West Wales	19	47	23	10
South Wales	16	63	18	4
Wales	16	55	20	9

(a) This analysis is based on comparisons between the time the first vehicle was mobilised and the time the first vehicle arrived at the scene. Excluded are late calls, incidents with only heat and smoke damage and response times less than 1 minute or over one hour. Less than 1 per cent of primary dwelling fires in each year were excluded due to the response time being less than 1 minute or over 1 hour.

(b) Dwellings include caravans, houseboats and other non-building structures used solely as a permanent dwelling

(p) Provisional data.

(r) Revised data.

Great Britain comparisons

At the time of publication 2017-18 data were not available for Scotland.

In 2017-18 the total number of fires attended rose by 3 per cent in both England and Wales. However numbers of primary fires fell both in England and Wales in 2017-18 with decreases of 1 per cent and 9 per cent respectively (compared with 2016-17). Secondary fires increased in England by 7 per cent and by 13 per cent in Wales.

Table 28: Number of fires by type and country

	England(a)			Scotland(b)			Wales		
	Total(c)	Primary	Secondary	Total(c)	Primary	Secondary	Total(c)	Primary	Secondary
2008-09	249.2	104.3	136.7	40.6	13.2	25.7	19.5	7.0	11.7
2009-10	241.5	101.2	132.9	38.7	14.0	23.0	19.2	6.8	11.6
2010-11	228.4	92.2	128.5	39.0	13.2	24.2	20.7	6.4	13.5
2011-12	223.9	87.0	131.1	32.3	12.4	18.7	16.5	5.7	10.2
2012-13	154.5	74.7	72.5	26.7	11.1	14.3	11.4	4.7	5.9
2013-14	171.3	73.2	92.1	28.0	10.5	16.4	13.2	4.8	7.8
2014-15	155.0	71.1	78.7	25.0	10.6	13.4	11.7	4.6	6.5
2015-16 (r)	162.2	73.5	84.6	26.6	11.0	14.7	12.1	4.7	7.0
2016-17 (p)(r)	162.0	74.9	82.8	27.2	10.9	15.6	10.8	4.8	5.6
2017-18 (p)	167.2	74.1	89.0	~	~	~	11.0	4.3	6.3

Thousands

(a) English data are taken from [Fire statistics data tables](#)

(b) Scottish data for 2016-17 are provisional. Scottish data are taken from ['Fire and Rescue Statistics in Scotland'](#)

(c) Includes chimney fires.

(r) Revised data.

(p) Provisional data.

~ Data not available yet.

The fatality rate in Wales was lower than in England in 2017-18, the rate in England being the highest since 2010-11 whilst the rate in Wales is the lowest in the available time series. Non-fatal casualty rates continued to be lower in England than in Wales in 2017-18. Although 2017-18 data are not yet published for Scotland, for the years available Scotland has had the highest casualty and fatality rates.

Table 29: Number and rate of fatalities and casualties by country

	England(a)				Scotland(a)				Wales			
	Fatal		Non-Fatal		Fatal		Non-Fatal		Fatal		Non-Fatal	
	number	pmp(b)	number	pmp(b)	number	pmp(b)	number	pmp(b)	number	pmp(b)	number	pmp(b)
2008-09	323	6.2	9,227	178	64	12.3	1,648	317	17	5.6	657	217
2009-10	340	6.5	8,864	170	62	11.9	1,214	232	23	7.6	575	189
2010-11	335	6.4	9,397	179	52	9.9	1,328	252	21	6.9	607	199
2011-12	315	5.9	9,375	177	59	11.1	1,416	267	23	7.5	592	193
2012-13	286	5.3	8,429	158	46	8.7	1,319	248	17	5.5	541	176
2013-14	276	5.1	7,816	145	31	5.8	1,311	246	17	5.5	626	203
2014-15	263	4.8	7,588	140	41	7.7	1,101	206	20	6.5	543	176
2015-16(r)	303	5.5	7,664	140	45	8.4	1,276	237	19	6.1	592	191
2016-17(p)(r)	263	4.8	7,092	128	44	8.1	1,189	220	19	6.1	621	199
2017-18(p)	334	6.0	7,290	131	~	~	~	~	15	4.8	526	169

(a) For data sources see table 28.

(b) Per million population. Population data are taken from ONS Mid Year Estimates revised periodically and so rates are subject to change between publications.

(r) Revised data.

(p) Provisional data.

~ Data not available yet.

Glossary

Accidental fires include those where the fire was ignited by accident or the cause was not known or unspecified.

Buildings are defined as all buildings including those under construction, but excluding derelict buildings, or those under demolition. Prior to 1994 'buildings' were referred to as 'occupied buildings'.

The **cause of fire** is the defect, act or omission leading to ignition of the fire.

Chimney fires are reportable fires in occupied buildings where the fire was confined within the chimney structure and did not involve casualties or rescues or are attended by 5 or more appliances.

Deliberate fires include those where deliberate ignition is merely suspected.

Dwellings are defined as 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 was widened to include any non-permanent structures used solely as a dwelling, such as houseboats. All analyses from 1994 to 1998 relating to dwellings were retrospectively revised to include the new categories of dwellings.

False Alarms are events in which the Fire and Rescue Authority was called to a reported fire which turned out not to exist. False alarms are categorised as follows:

Malicious False Alarms are calls made with the intention of getting the fire and rescue service to attend a non-existent fire-related event, including deliberate and suspected malicious intentions.

Good Intent False Alarms are calls made in good faith in the belief that the fire and rescue service really would attend a fire.

False Alarms Due to Apparatus are calls initiated by fire alarm and fire-fighting equipment operating (including accidental initiation of alarm apparatus by persons).

Fatal casualty (fire related) is a person whose death is attributed to a fire even if the death occurred weeks or months later. There are also occasional cases where it becomes apparent subsequently that fire was not the cause of death. The figures for fatalities are thus subject to revision.

Fire Data Reports (FDR1 and FDR3) were the method of data collection via paper forms prior to the Incident Recording System (introduced in April 2009). FDR1 was used to record primary fires, FDR3 for secondary fires, chimney fires and false alarms.

Fire and Rescue Authorities (FRAs) are the statutory bodies which oversee the policy and service delivery of a fire and rescue service. The three authorities in Wales are North Wales, Mid and West Wales and South Wales.

Heat or smoke damage only incidents are reportable fires where there is no flame damage. The damage reported may be due to any combination of heat, smoke and other which will include any water damage.

Incident Recording System (IRS) is the electronic based system for recording fires, false alarms and Special Service Incidents. IRS replaced the FDR1 and FDR3 paper forms in April 2009.

Late fire call is 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 Authority) and which the Fire and Rescue Authority attended.

Location is 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.

Non-fatal casualties are recorded as being in one of four classes of severity as follows:

- (i) Victim went to hospital, injuries appear to be serious
- (ii) Victim went to hospital, injuries appear to be slight
- (iii) First aid given at scene
- (iv) Precautionary check recommended – this is when an individual is sent to hospital or advised to see a doctor as a precaution, having no obvious injury or distress.

Non-fatal casualties marked as 'not fire-related' have not been excluded due to widespread inappropriate use of this field.

Primary fires include all reportable fires in non-derelict buildings, vehicles and outdoor structures or any fire involving casualties, rescues, or fires attended by five or more appliances.

Reportable fire is an event of uncontrolled burning involving flames, heat or smoke and which the fire and rescue authority attended.

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. They are reported in less detail than other fires and consequently less information concerning them is available.

The **source of ignition** is the source of the flame, spark or heat that started the fire.

Special Service Incidents - Non-fire incidents which require the attendance of an appliance or officer and include:

- (a) Local emergencies e.g. road traffic incidents, rescue of persons, 'making safe' etc;
- (b) Major disasters;
- (c) Domestic incidents e.g. water leaks, persons locked in or out etc;
- (d) Prior arrangements to attend incidents, which may include some provision of advice and inspections.

Where more than one activity is carried out, the incident is recorded under the most resource intensive part or what was the most appropriate e.g. a railway incident with persons trapped is likely to be recorded under 'railway accident' even though the FRA may be involved in 'first aid', 'other rescue' and possibly 'making safe'.

Key quality information

On 10 November 2004 the Fire and Rescue Services Act 2004, which devolved fire and rescue services to the National Assembly for Wales (now the responsibility of the Welsh Government), was brought into effect. In Wales, these services are provided by three Fire and Rescue Authorities (FRAs). The three FRAs cover varied geographical areas with a wide variety of risks including: fires in homes; outdoor fires; fires in business premises; road traffic collisions; rail or air crashes; chemical spills; building collapses; and trapped people or animals.

North Wales Fire and Rescue Authority provides cover for a population of almost 700,000 across a geographical area of 2,400 square miles. It employs over 800 operational and non-operational support staff from its headquarters and its 44 fire stations.

Mid and West Wales Fire and Rescue Authority covers over half the area of Wales and a population of over 900,000. There are 58 fire stations and over 1,300 employees.

South Wales Fire and Rescue Authority serves a population of over 1.5 million people covering 1,085 square miles. It employs over 1,700 staff including nearly 1,400 fire-fighters who operate from 47 fire stations throughout South Wales.

Relevance

The Welsh Government uses the information in this bulletin to monitor the trends in fires occurring in Wales and provides information on FRAs' performance and activities to citizens and communities in Wales. This helps to monitor the effectiveness of current policy, and for future policy development. The data are also used as evidence for national fire safety initiatives and campaigns.

The data are used by the fire and rescue services for comparisons and benchmarking. The data aids the allocation of resources and the provision of community safety projects.

Accuracy

Since April 2009 incident data (relating to fires, false alarms and Special Service Incidents) have been submitted by the Fire and Rescue Authorities via the Incident Recording System (IRS). On 5 January 2016 responsibility for fire and rescue policy in England transferred from the Department for Communities and Local Government (CLG) to the Home Office, this resulted in IRS also being held by the Home Office (although there has been no change to the data collected). IRS does not currently collect data from FRAs in Northern Ireland.

Prior to IRS data were collected via the paper based forms FDR1 and FDR3. The change in collection method has allowed a greater volume of data to be captured:

- Data on Special Service Incidents are now recorded
- All fires are recorded; pre-IRS statistics were based on a sampled dataset.
- Some detail on secondary fires and chimney fires are now recorded; pre-IRS, only aggregates were available.

For further details of the information collected and held on IRS please see 'Further details' on page 54.

The incident data are extracted from IRS annually (usually around June/July) and marked provisional at first publication. All bulletins and StatsWales tables excluding the quarterly data published in January/February are based on this dataset. Due to the nature of the live system, whilst accurate at the time of extraction, totals may change and therefore be revised due to updated information. 2017-18 data are currently marked as provisional and may be revised in future publications.

The table below compares the provisional 2016-17 data (extracted from IRS in July 2017) which was published in August 2017 with the revised data (extracted in July 2018) detailed in this bulletin.

Comparison of provisional data with revised data (2016-17)

	Provisional 2016-17 (published Aug 2017)	Revised 2016-17 (published Aug 2018)	Percentage change
All Fires and fire false alarms	25,542	25,540	0.0
All fires	10,751	10,750	0.0
Primary Fires	4,756	4,757	0.0
Secondary	5,578	5,576	0.0
Fire false Alarms	14,791	14,790	0.0
Fatalities	19	19	0.0
Non Fatal Casualties	621	621	0.0

Percentage changes for revised data

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
All Fires and fire false alarms	1.2	0.2	0.1	0.1	0.0	0.0	0.0
All fires	1.7	0.3	0.2	0.1	0.0	0.0	0.0
Primary Fires	2.1	0.6	0.3	0.1	0.0	-0.1	0.0
Secondary	1.6	0.1	0.0	0.1	0.0	0.0	0.0
Fire false Alarms	0.5	0.0	0.0	0.1	0.0	0.0	0.0
Fatalities	5.0	21.1	0.0	0.0	-4.8	0.0	0.0
Non Fatal Casualties	4.7	1.9	0.7	0.2	0.0	-0.2	0.0

A key piece of information that the IRS collects for all incidents is the accurate incident location. For all incidents it is mandatory to have the grid location (easting and northing co-ordinates), in addition for addressable locations the address details can be recorded.

Within the IRS forms system, for addressable locations the user locates the address using a gazetteer and this determines the co-ordinates. For non-addressable locations the user will either select the location on a map or use a mobile data terminal to determine the location.

Rounding and symbols

Data collected via the FDR1 and FDR3 paper forms (i.e. data prior to 2009-10) are based on sampled datasets. Items and totals have been rounded separately to the nearest final digit, and therefore totals shown may differ slightly from the sum of the items. No rounding has been applied to data from 2009-10 onwards.

The following symbols may have been used in this release:

- negligible (less than half the final digit shown)
- . not applicable
- .. not available
- ~ not available yet
- * disclosive or not sufficiently robust for publication
- p provisional
- r revised

Timeliness and punctuality

All outputs adhere to the Code of Practice by pre-announcing the date of publication through the Due Out Soon part of the UK Government Statistics and research web pages and the Publication Hub. Furthermore, should the need arise to postpone an output this would follow the Welsh Government's Revisions, Errors and Postponements arrangements.

This bulletin is usually published in the August around 5 months after the year end.

Accessibility and clarity

Welsh fire statistics are published in an accessible, orderly, pre-announced manner on the Welsh Government website at 9:30am on the day of publication. An RSS feed alerts registered users to this publication. All releases are available to download for free.

In our outputs, we aim to provide a balance of commentary, summary tables, charts and maps. The aim is to 'tell the story' in the output, without the output becoming overly long and complicated. We provide additional, detailed data on [StatsWales](#).

Comparability and coherence

Since 2009-10 the three Fire and Rescue Authorities have recorded all their fire incidents using the IRS. This may affect some of the incident categories especially when data are compared with years prior to 2009-10. Following a quality assurance exercise carried out by CLG on the 2009-10 and 2010-11 two possible discontinuities (due to the change in data collection method) were discovered. One relates to types of incident, notably outdoor primary fires and the second to non-fatal casualties. More information is given on this subject in the Comparability section of [Fire Statistics](#) publication.

Numbers of non-fatal casualties presented in this bulletin include those recorded as 'not fire related'. This is the result of an exercise CLG undertook which found that the 'not fire related' casualty marker had been widely misused. Data published by the Home Office for England and the Scottish Fire and Rescue Service for Scotland also include these casualties. However the second performance indicator (FRS/RRC/S/002) listed in Fire and Rescue Authority performance 2015-16 exclude those casualties and so the data are not directly comparable.

The Fire Statistics Quality Report covers the general principles and processes leading up to the production of our fire statistics. The report covers various topics including definitions, coverage, timeliness, relevance and comparability. You can see a copy of the report on the [Welsh Government website](#).

General Data Protection Regulation (GDPR)

In order to comply with the new data protection regulations, we have published a privacy notice in relation to personal information collected by the Fire and Rescue Services when attending incidents. The notice can be accessed [here](#).

UK comparisons

Whilst England and Scotland do not publish specific grassland fires bulletins, data by location are available in their annual publications.

Data for England (published by the Home Office since April 2016):

- [Fire statistics England](#)
- [Fire statistics monitor](#)

Data for Scotland (published by Scottish Fire and Rescue Service since 2015) – not currently badged as national or official statistics.

- [2015-16 data](#)
- [Pre 2014-15 data](#) (published by the Scottish Government)

Limited Northern Ireland data are available from [Northern Ireland Fire and Rescue Service](#).

National Statistics status

The [United Kingdom Statistics Authority](#) has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the [Code of Practice for Statistics](#).

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.

All official statistics should comply with all aspects of the Code of Practice for Statistics. They are awarded National Statistics status following an assessment by the UK Statistics Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is Welsh Government's responsibility to maintain compliance with the standards expected of National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language. Under section (10)(1) of the Act, the Welsh Ministers must (a) publish indicators ("national indicators") that must be applied for the purpose of measuring progress towards the achievement of the Well-being goals, and (b) lay a copy of the national indicators before the National Assembly. The 46 national indicators were laid in March 2016.

Information on the indicators, along with narratives for each of the well-being goals and associated technical information is available in the [Well-being of Wales report](#).

Further information on the [Well-being of Future Generations \(Wales\) Act 2015](#).

The statistics included in this release could also provide supporting narrative to the national indicators and be used by public services boards in relation to their local well-being assessments and local well-being plans.

Further details

The document is available at: <http://gov.wales/statistics-and-research/fire-statistics/?lang=en>

[Fire Statistics Data Quality Report](#)

[Incident Recording System Questions and Lists](#)

More information is available in the form of [StatsWales tables](#) that accompany this release.

More detailed analysis will be published in the forthcoming outputs Grassland fires 2017-18 and Deliberate fires 2017-18.

Next update

Fire Statistics 2018-19 due to be published in August 2019

We want your feedback

We welcome any feedback on any aspect of these statistics which can be provided by email to stats.inclusion@gov.wales.

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