

# Statistical Bulletin





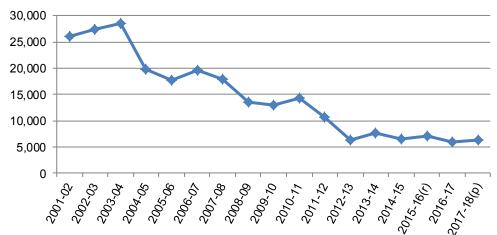
# Deliberate fires 2017-18

15 Nov 2018 SB 71/2018

Deliberate fires are those ignited deliberately, or where deliberate ignition is suspected, or those recorded as 'doubtful' by the Fire and Rescue Authority (FRA). In 2017-18, almost 6 in 10 fires attended by the Welsh Fire and Rescue Authorities were deliberate.

The 2017-18 data are currently provisional, extracted from the Incident Recording System (IRS) in July 2018 and may be revised in subsequent publications.

#### Chart 1 Deliberate fires attended in Wales



The Welsh Fire and Rescue Authorities attended a total of 6,372 deliberate fires in 2017-18. This is an increase of 7 per cent compared with the previous year but follows a 17 per cent decrease in the previous year, and is only around a quarter of the number of fires in 2001-02.

Mid and West Wales FRA attended 1,520 deliberate fires in 2017-18.



18 per cent increase compared with 2016-17

North Wales FRA attended 650 deliberate fires in 2017-18.



9 per cent increase compared with 2016-17

South Wales FRA attended 4,202 deliberate fires in 2017-18.



4 per cent increase compared with 2016-17

# About this bulletin

This biennial bulletin is complementary to data on fire incidents published in August 2018. It examines the impact and patterns in deliberate fires in Wales. The Welsh Government compiles these statistics from reports on all fires attended submitted by all Fire and Rescue Authorities (FRAs) in Wales to the Home Office.

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# All deliberate fires

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.

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

**Deliberate fires** include those where deliberate ignition is merely suspected.

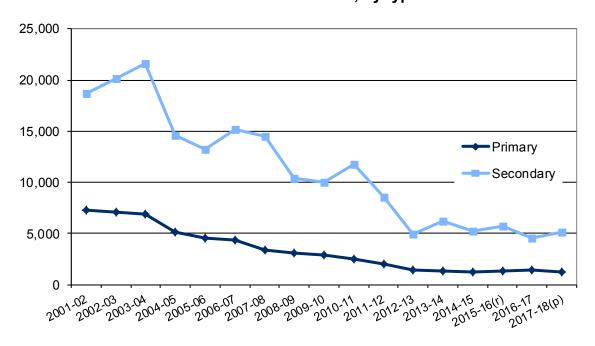
More detailed definitions are in the Glossary.

This section looks at the total number of deliberate fires attended by the Fire and Rescue Authority as recorded via the Incident Recording System (IRS).

Welsh Fire and Rescue Services attended 11,020 fires in 2017-18 of these 6,372 (58 per cent) were started deliberately. This is an increase of 7 per cent from the 5,935 deliberate fires attended in 2016-17. However this follows a 17 per cent decrease in 2016-17 and since 2001-02 the number of deliberate fires in Wales has fallen by 76 per cent. The peak in the time series occurred in 2003-04 when there were 28,464 deliberate fires.

In 2017-18 28 per cent of primary fires and 82 per cent of secondary fires were started deliberately.

Chart 2: Number of deliberate fires attended, by type



- (r) Revised data.
- (p) Provisional data.

In 2017-18, there were 1,199 deliberate primary fires, a fall of 14 per cent compared with 2016-17; this decrease follows two consecutive increases, and resumes the previously observed downward trend (chart 2). Overall the number of deliberate primary fires has decreased by 84 per cent since 2001-02.

Numbers of secondary fires are more prone to fluctuation, as can be seen from chart 2. The majority of these fires occur outdoors and as such may be affected by weather conditions among other factors. There were 5,172 deliberate secondary fires in 2017-18, an increase of 14 per cent compared with 2017-18, and accounting for 47 per cent of all (accidental and deliberate, primary and secondary) fires attended by the Fire and Rescue Authorities. Since 2001-02 there has been an overall reduction of 72 per cent in deliberate secondary fires.

In 2017-18, 17 per cent of all attendances (fires, fire false alarms and Special Service Incidents (SSIs)) were for deliberate fires a similar proportion to that seen in 2016-17.

Table 1: Number of deliberate fires, by location

	2012-13	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)
Primary fires	1,405	1,345	1,214	1,370	1,394	1,199
Dwellings	186	178	173	166	139	132
Other buildings	304	274	263	262	266	256
Road vehicles	718	666	633	756	837	677
Other	197	227	145	186	152	134
Secondary fires	4,993	6,224	5,220	5,757	4,540	5,172
Derelict buildings	131	91	60	56	95	100
Derelict road vehicles	26	24	28	26	66	43
Other	4,836	6,109	5,132	5,675	4,379	5,029
All deliberate fires (a)	6,399	7,569	6,434	7,127	5,935	6,372

<sup>(</sup>a) Includes a small number of deliberate chimney fires.

In 2017-18, 28 per cent of primary fires were deliberate, with similar proportions seen in the last 6 years. Whilst only 8 per cent of primary dwelling fires were deliberate, around half of outdoor primary fires, 45 per cent of road vehicle fires and 28 per cent of fires in 'other buildings' were deliberate in 2017-18.

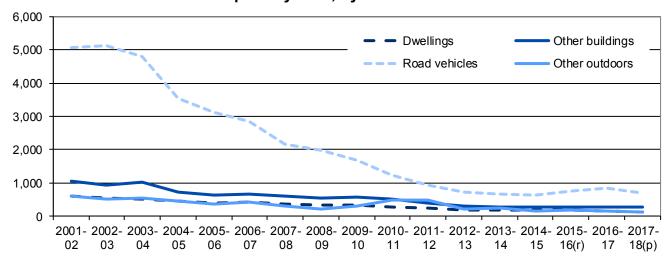
As in other years, in 2017-18, road vehicles accounted for the largest proportion of deliberate primary fires in Wales (56 per cent). In 2017-18 the number of road vehicle fires decreased by 19 per cent (compared with the previous year) to 677. This decrease follows two consecutive annual increases but the number is much reduced from that in 2001-02, when there were over 5,000 such fires; the number of deliberate primary road vehicles in 2017-18 is around 13 per cent of the figure in 2001-02.

In 2017-18 the number of deliberate primary fires in dwellings fell by 5 per cent compared with the previous year, although since numbers are small this equates to 7 fewer fires. The number of deliberate primary fires in other buildings fell by 4 per cent (10 fewer fires). Numbers of deliberate fires in other locations (which include those occurring outdoors, in outdoor structures and in other transport vehicles) fell by 12 per cent.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

Chart 3: Number of deliberate primary fires, by location



- (r) Revised data.
- (p) Provisional data.

Table 2: Percentage of primary fires started deliberately, by location

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Building	17	16	15	16	15	15
Dwelling	10	9	10	9	7	8
Other residential	11	14	11	16	17	12
Non residential	34	30	27	29	31	30
Road vehicle	47	45	44	48	50	45
Other(a)	60	56	51	51	51	49
Outdoor	61	56	51	51	52	51
All primary fires	30	28	27	29	29	28

<sup>(</sup>a) Includes 'other transport vehicles'.

Over the years there have been a number of national programmes for dealing with deliberate fires, for instance the Wales Arson Reduction Strategy in 2007 (it was reviewed in 2009 with an <u>update strategy</u> for 2012-15 published in 2012). A delivery plan from WARS III resulted in a multi-agency taskforce 'Operation Dawns Glaw' being established in 2015 and aims to reduce the number of deliberate grassland fires. Analysis of grassland fire data can be found in <u>Grassland Fires 2017-18</u> which was published in October 2018.

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.

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.

In 2017-18, 37 per cent of primary fires in South Wales, 22 per cent in North Wales and 19 per cent in Mid and West Wales were started deliberately. For secondary fires the proportion started deliberately was higher, 92 per cent in South Wales, 77 per cent in Mid and West Wales and 49 per cent of in North Wales.

South Wales FRA continues to attend the bulk of deliberate fires in Wales (around two-thirds of all deliberate) fires; Mid and West Wales attend around a quarter of the deliberate fires in Wales, whilst North Wales attend a tenth. Similar proportions are seen throughout the time series.

In 2017-18 all FRAs in Wales saw increases in deliberate fires compared with 2016-17; the largest increase being in Mid and West Wales (18 per cent), whilst North Wales saw a 9 per cent rise and in South Wales numbers rose by 4 per cent. Since the bulk of these fires were secondary fires, all FRAs saw increases in the number of deliberate secondary fires (26 per cent in Mid and West Wales, 25 per cent in North Wales and 9 per cent in South Wales). However all FRAs saw decreases in the number of deliberate primary fires (16 per cent in South Wales, 13 per cent in North Wales and 9 per cent in Mid and West Wales)

Table 3: Number and percentage of deliberate fires, by fire and rescue authority

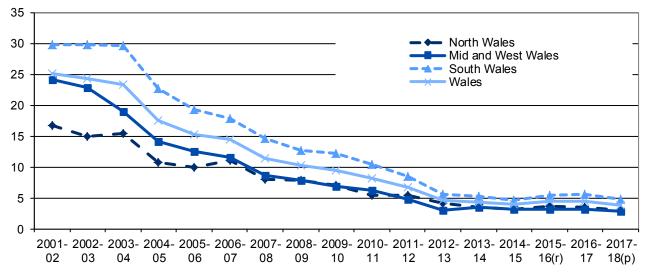
		Primar	y fires			Secondary fires				All fires			
		Mid and				Mid and				Mid and		<del>,</del>	
	North	West	South		North	West	South		North	West	South		
	Wales	Wales	Wales	Wales	Wales	Wales	Wales	Wales	Wales	Wales	Wales	Wales	
Number													
2013-14	243	320	782	1,345	549	1,478	4,197	6,224	792	1,798	4,979	7,569	
2014-15	222	291	701	1,214	503	1,260	3,457	5,220	725	1,551	4,158	6,434	
2015-16(r)	253	285	832	1,370	450	1,327	3,980	5,757	703	1,612	4,812	7,127	
2016-17	246	288	860	1,394	348	998	3,194	4,540	594	1,287	4,054	5,935	
2017-18(p)	215	262	722	1,199	435	1,257	3,480	5,172	650	1,520	4,202	6,372	
Percentage													
by region													
2013-14	18	24	58	100	9	24	67	100	10	24	66	100	
2014-15	18	24	58	100	10	24	66	100	11	24	65	100	
2015-16	18	21	61	100	8	23	69	100	10	23	68	100	
2016-17	18	21	62	100	8	22	70	100	10	22	68	100	
2017-18	18	22	60	100	8	24	67	100	10	24	66	100	
Percentage in	region												
which are deli	-												
2013-14	22	21	36	28	51	69	92	80	33	46	73	57	
2014-15	21	20	34	27	52	69	92	80	32	44	70	55	
2015-16	24	20	37	29	49	74	93	82	33	48	73	59	
2016-17	23	20	38	29	45	75	92	81	29	44	70	55	
2017-18	22	19	37	28	49	77	92	82	32	48	73	58	

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

Charts 4 and 5 show rates of primary and secondary deliberate fires per 10,000 population. As with absolute numbers of fires, the highest rates are consistently in South Wales, although the gap has narrowed greatly since 2001-02. The difference between the highest and the lowest regional rates of primary fires has fallen from around 13 per 10,000 population in 2001-02, to approximately 2 per 10,000 population in 2017-18.

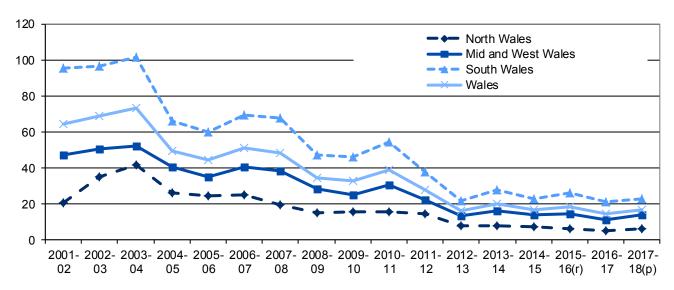
Chart 4: Rate of deliberate primary fires per 10,000 population (a)



- (a) 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.

Similarly in 2001-02 the difference between the highest rate of secondary fires and the lowest rate was around 75 fires per 10,000 population, in 2017-18 this figure has fallen to approximately 17 fires per 10,000 per population.

Chart 5: Rate of deliberate secondary fires per 10,000 population (a)

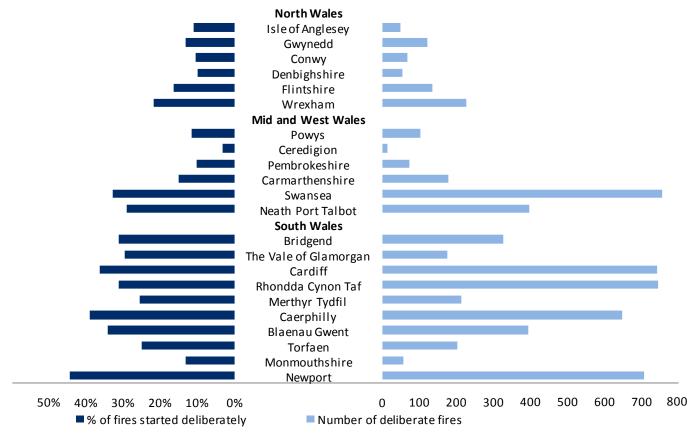


- (a) Population data are taken from ONS Mid Year Estimates and are revised periodically and so rates are subject to change between publications.
- (b) Revised data.
- (p) Provisional data.

Chart 6 below shows the number of deliberate fires occurring in each local authority (LA) in 2017-18. It also shows the proportion of fires within each LA which were started deliberately.

From the chart we can see 4 LAs (Swansea, Cardiff, Rhondda Cynon Taf and Newport) each had over 700 deliberate fires, accounting for, in total, 46 per cent of all deliberate fires in Wales in 2017-18. Newport also had the highest proportion (44 per cent) of fires which were deliberately started; Caerphilly had the second highest proportion (39 per cent started deliberately). In North Wales, Wrexham had both the highest number and the highest proportion of deliberate fires (226 deliberate fires and 22 per cent of fires started deliberately). Overall Ceredigion has both the fewest deliberate fires (only 14 deliberate fires) and the lowest proportion of fires started deliberately (3 per cent).

Chart 6: Percentage and number of deliberate fires by local authority, 2017-18(a)(p)



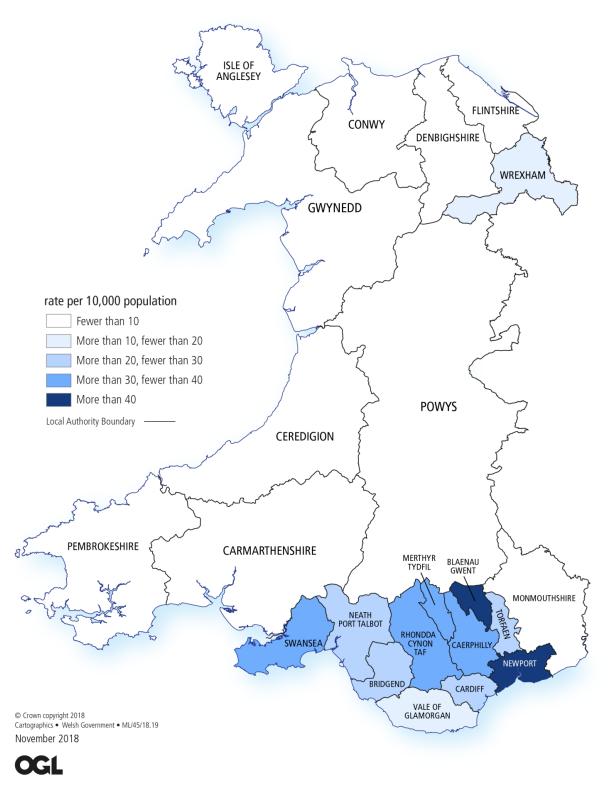
<sup>(</sup>a) Local authorities have been assigned to incidents based on the grid reference recorded by the Fire and Rescue Authority. See the Key Quality Information for further information.

Denbighshire had the highest proportion of all the LAs of deliberate fires occurring in buildings, 34 per cent of deliberate fires in the LA. Merthyr Tydfil and Cardiff had the lowest proportions, each with only 4 per cent of deliberate fires occurring in buildings.

<sup>(</sup>p) Provisional data

The map below shows the rates (per 10,000 population) of deliberate fires in each Local Authority in Wales in 2017-18.

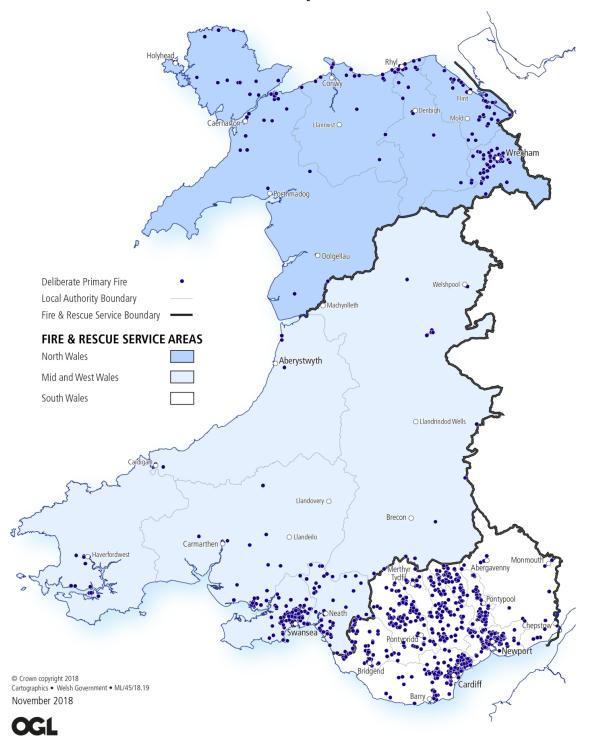
# Deliberate fires per 10,000 population by Local Authority 2017-18





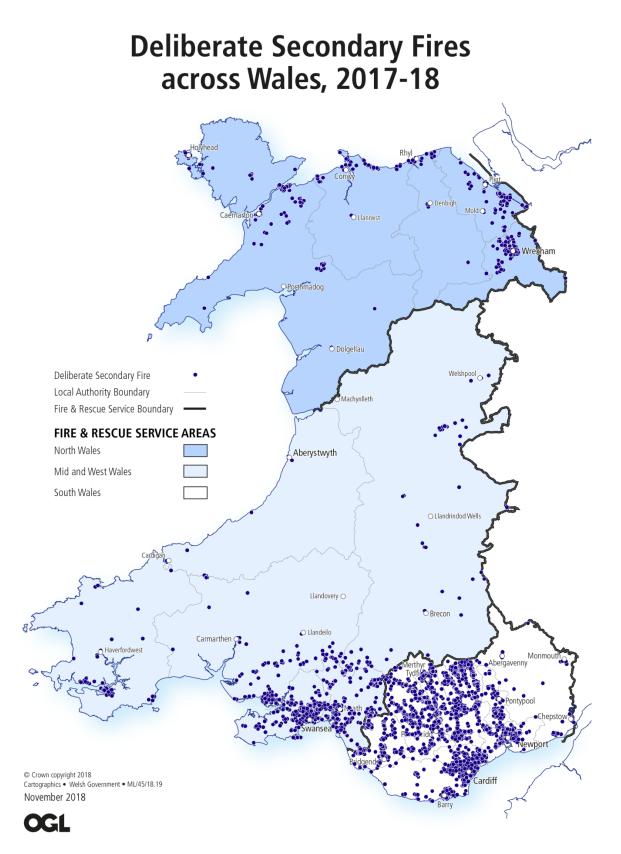


# **Deliberate Primary Fires** across Wales, 2017-18



Data mapped above are based on grid references; see the Key quality information for further details

The map below shows the locations of deliberate secondary fires in Wales. As with primary fires, the map shows the large number of clusters of these fires in the South Wales area.



Data mapped above are based on grid references; see the Key quality information for further details

# Fires by month and time of day

Since 2010-11 April has been the month with the most deliberate fires each year, the majority occurring outdoors (between 84 and 95 per cent each year since this time). In 2017-18, April had 20 per cent of the annual total and numbers rose by 79 per cent compared with 2016-17 (although numbers have varied greatly throughout the time series, falling by 62 per cent in 2016-17 and more than doubling in 2015-16). May saw the second highest number in 2017-18 with 878 deliberate fires and numbers in this month have risen steadily in each of the last three years. Conversely numbers in March have seen an overall downward trend, falling by 50 per cent compared with 2016-17 and by 90 per cent compared with 2009-10. The months April to July, November and February all saw an increase in the number of deliberate fires in 2017-18.

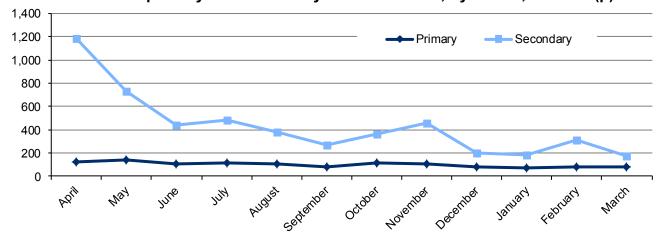
Table 4: Total deliberate fires, by month (a)

			Number		Percentage						
	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)	2013-14	2014-15	2015-16	2016-17	2017-18	
April	1,436	881	1,894	729	1,305	19	14	27	12	20	
May	942	536	638	660	878	12	8	9	11	14	
June	756	701	656	542	549	10	11	9	9	9	
July	1,180	795	470	499	594	16	12	7	8	9	
August	578	454	455	582	487	8	7	6	10	8	
September	461	715	461	414	350	6	11	6	7	5	
October	323	353	561	563	476	4	5	8	9	7	
November	479	400	362	508	559	6	6	5	9	9	
December	294	264	208	354	278	4	4	3	6	4	
January	184	209	232	299	257	2	3	3	5	4	
February	182	380	370	280	387	2	6	5	5	6	
March	754	746	820	505	252	10	12	12	9	4	
Total	7,569	6,434	7,127	5,935	6,372	100	100	100	100	100	

<sup>(</sup>a) Includes deliberate chimney fires.

Chart 7 shows how the number of deliberate primary fires stays relatively static throughout the year, whereas the number of secondary fires varies, with the peak being in the spring months. Similar patterns are seen in earlier years.

Chart 7: Number of primary and secondary deliberate fires, by month, 2017-18 (p)

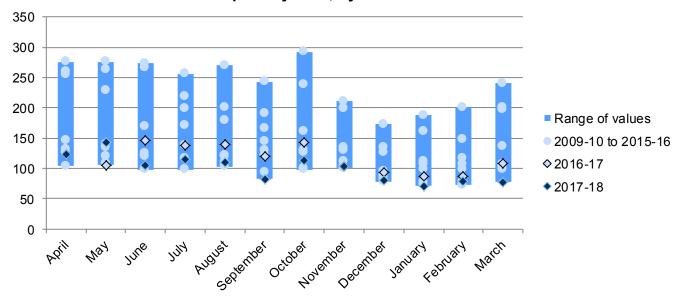


(p) Provisional data.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

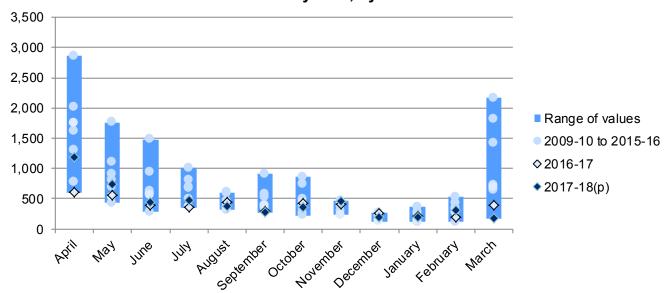
Chart 8: Number of deliberate primary fires, by month



#### (p) Provisional data.

Chart 8 shows 2017-18 and 2016-17 deliberate primary fires by month along with the range of values for each month for the years 2009-10 to 2017-18 inclusive. The chart indicates that in the most recent years numbers of deliberate primary fires have been comparatively low, and that throughout the year there's not a great deal of fluctuation, monthly numbers across the entire time series vary from 71 up to 292. The most noticeable change being in the colder winter months when numbers tend to drop.

Chart 9: Number of deliberate secondary fires, by month



# (p) Provisional data.

Chart 9 shows the respective picture for deliberate secondary fires, and illustrates when the peaks are likely to occur within the year, but within these months the number of fires seen each year cover a far wider range. As with primary fires, numbers of deliberate secondary fires for 2016-17 and 2017-18 are at the lower end of the range, with the exception of November; November 2017 had the second highest number of deliberate secondary fires in the time series, only November 2010 had more.

From table 5 we can see that deliberate secondary fires fluctuate a great deal throughout the year and in 2017-18 occurred mainly in April and May whilst numbers of deliberate primary fires stay relatively stable. For instance in 2017-18, percentages of deliberate primary fires for each month ranged from 6 per cent to 12 per cent, whereas for deliberate secondary fires, percentages for individual months ranged from 3 per cent to 23 per cent. Since the majority of secondary fires occur outdoors, they can be greatly influenced by the seasons and weather conditions.

In 2017-18 at least 69 per cent of fires seen in any month were outdoors, the lowest proportion being in March, whereas 91 per cent of deliberate fires in April occurred outdoors. However, March saw the highest proportion of deliberate road vehicle fires (22 per cent of deliberate fires in that month).

Most months saw a decrease in the number of deliberate primary fires in 2017-18, only May saw an increase (36 per cent). 6 months in 2017-18 saw an increase in deliberate secondary fires, the largest being in April (almost double the number in 2016-17). The largest decrease in secondary deliberate fires occurred in March (56 per cent). Looking at the daily numbers of deliberate secondary fires shows that in previous years there have regularly been periods where 50 or more fires occurred in one day; in 2017-18 the highest number of secondary deliberate fires occurred on 25<sup>th</sup> March, when 18 were attended.

Table 5: Number and percentage of deliberate primary and secondary fires, by month

			Number			Percentage				
	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)	2013-14	2014-15	2015-16	2016-17	2017-18
Primary										
April	131	104	146	123	123	10	9	11	9	10
May	135	108	119	105	143	10	9	9	8	12
June	125	119	98	146	105	9	10	7	10	9
July	171	98	117	138	114	13	8	9	10	10
August	121	103	110	140	110	9	8	8	10	9
September	122	145	93	120	82	9	12	7	9	7
October	100	98	129	142	113	7	8	9	10	9
November	111	100	129	104	103	8	8	9	7	9
December	84	78	88	94	80	6	6	6	7	7
January	74	77	107	87	71	6	6	8	6	6
February	72	77	98	87	78	5	6	7	6	7
March	99	107	136	108	77	7	9	10	8	6
All	1,345	1,214	1,370	1,394	1,199	100	100	100	100	100
Secondary										
April	1,305	777	1,748	606	1,182	21	15	30	13	23
May	807	428	519	555	735	13	8	9	12	14
June	631	582	558	396	444	10	11	10	9	9
July	1,009	697	353	361	480	16	13	6	8	9
August	457	351	345	442	377	7	7	6	10	7
September	339	570	368	294	268	5	11	6	6	5
October	223	255	432	421	363	4	5	8	9	7
November	368	300	233	404	456	6	6	4	9	9
December	210	186	120	260	198	3	4	2	6	4
January	110	132	125	211	186	2	3	2	5	4
February	110	303	272	193		2	6	5		6
March	655	639	684			11	12	12		3
All	6,224	5,220	5,757	4,540	5,172	100	100	100	100	100

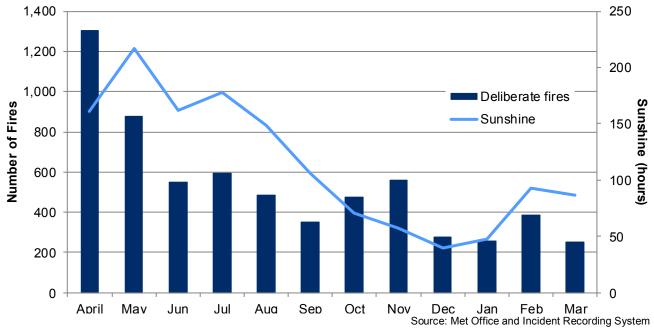
<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

As seen in charts 10 and 11 data from the Met Office shows that the months December and January saw the least hours of sunshine, relatively high levels of rainfall and the fewest fires. Levels of sunshine were high in April and May, along with low levels of rainfall and saw the most deliberate fires. However weather data cannot explain all fluctuations, for instance numbers of fires increased in November compared with the October but the total hours of sunshine fell and levels of rainfall increased.

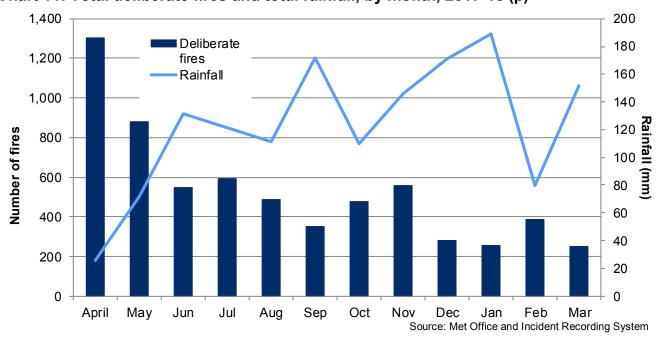
Weather data are available from the Met Office

Chart 10: Total deliberate fires and total hours of sunshine, by month, 2017-18 (p)



(p) Provisional data.

Chart 11: Total deliberate fires and total rainfall, by month, 2017-18 (p)



(p) Provisional data.

In 2017-18 (and as in previous years) the largest proportion of deliberate primary and secondary fires occurred between 6pm and midnight, with 42 per cent of primary fires and 56 per cent of secondary fires. Around 3 in 10 primary fires took place between midnight and 5.59 a.m., whilst a similar proportion of secondary fires took place between midday and 5.59 p.m. The proportions each year since 2009-10 remained relatively unchanged.

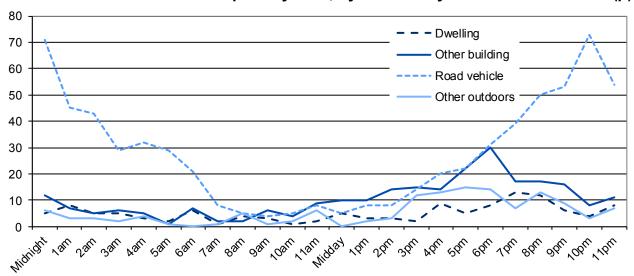
Table 6: Number and percentage of deliberate primary and secondary fires, by time of day

			Number			Percentage					
	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)	2013-14	2014-15	2015-16	2016-17	2017-18	
Primary											
Midnight - 5.59 a.m.	430	366	421	424	332	32	30	31	30	28	
6.00 a.m 11.59 a.m.	116	112	125	109	113	9	9	9	8	9	
Midday - 5.59 p.m.	223	223	235	229	234	17	18	17	16	20	
6.00 p.m 11.59 p.m.	541	486	565	609	503	40	40	41	44	42	
Late call (a)	35	27	24	23	17	3	2	2	2	1	
Secondary											
Midnight - 5.59 a.m.	619	567	505	475	507	10	11	9	10	10	
6.00 a.m 11.59 a.m.	. 371	332	365	318	301	6	6	6	7	6	
Midday - 5.59 p.m.	1,976	1,492	1,750	1,267	1,460	32	29	30	28	28	
6.00 p.m 11.59 p.m.	3,250	2,822	3,125	2,470	2,891	52	54	54	54	56	
Late call (a)	8	7	12	10	13	0	0	0	0	0	

<sup>(</sup>a) A fire known to be extinguished when the call was made (or to which no call was made, e.g. a fire which comes to the attention of the fire and rescue service as a result of a press report or inquest) and the fire and rescue service attended.

Chart 12 shows that deliberate fires in dwellings, other buildings and other outdoor deliberate fires follow a similar pattern in terms of the time of day, with most occurring between midday and midnight. However for road vehicles, distinct peaks can be seen in the timing of these fires, with 63 per cent occurring between 7 p.m. and 2.59 a.m. during 2017-18.

Chart 12: Number of deliberate primary fires, by time of day and location 2017-18 (p)



(p) Provisional data.

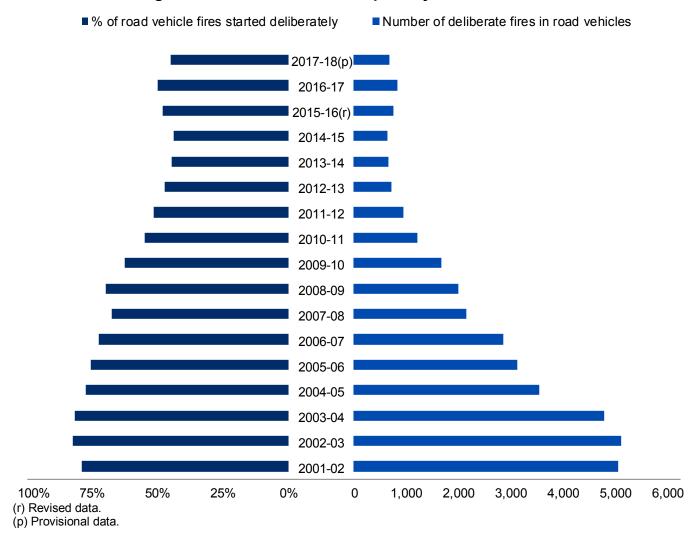
<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

### Road vehicle fires

In 2017-18, fires in road vehicles made up 56 per cent of deliberate primary fires in Wales. However the number of primary road vehicle fires fell by 19 per cent compared with the previous year and overall by 87 per cent since 2001-02, the start of the time series. The chart below also shows the proportion of primary road vehicle fires which were started deliberately; since 2012-13 half or fewer of all road vehicle fires were started deliberately; in 2017-18 45 per cent of primary fires in road vehicles were deliberate.

Chart 13: Percentage and number of deliberate primary fires in road vehicles



In 2017-18, there were 677 fires started deliberately in vehicles, and a further 43 in derelict vehicles; this is 183 fewer than in the previous year. Most vehicles set on fire were cars, over two thirds of all deliberate primary road vehicle fires. In 2017-18, of the 962 (accidental and deliberate) fires in cars, 47 per cent were started deliberately, 5 percentage points fewer than in 2016-17, and resuming the downward trend witnessed prior to 2015-16.

Motorcycle (89 per cent) and caravan (75 per cent) fires saw the largest proportions of deliberate fires in 2017-18 although numbers of such fires are not high. 46 per cent of deliberate primary vehicle fires involved stolen or abandoned vehicles, compared with just 3 per cent of accidental primary vehicle fires.

Table 7: Number and percentage of deliberate road vehicle fires, by vehicle type

			Number			Perce	entage wh	nich are d	deliberate	9
	2013-14 2	2014-15 20	)15-16(r) 2	016-17 20	)17-18(p)	2013-14 20	14-15 20	15-16 20	16-17 20	)17-18
Agricultural	2	3	2	2	2	3	6	3	3	2
Bus/coach	2	0	3	0	0	8	0	14	0	0
Car	446	445	547	593	452	46	45	51	52	47
Caravan (a)	25	27	36	35	27	78	75	69	76	75
Lorry/HGV	12	4	5	6	4	18	8	10	11	8
Minibus	3	6	1	4	2	43	67	13	57	50
Motor home	4	6	7	4	3	18	33	41	21	20
Motorcycle	91	59	70	101	85	88	83	83	84	89
Multiple vehicles	9	6	9	10	18	53	32	64	63	62
Van	50	56	64	68	66	38	46	44	45	42
Other (b)	22	21	12	14	18	45	46	27	47	43
All deliberate prima	ry									
road vehicle fires	666	633	756	837	677	45	44	48	50	45
of which										
stolen vehicles	44	58	44	53	45	98	97	90	98	88
abandoned vehicles	236	230	291	364	302	95	93	93	92	93
All deliberate seconda	ry									
road vehicle fires (c)	24	28	26	66	43	65	72	81	84	84
All deliberate road										
vehicle fires	690	661	782	903	720	45	45	50	54	48

<sup>(</sup>a) Includes caravans on tow.

The number of abandoned and stolen vehicles which are deliberately set alight have generally been on a downward trend since 2009-10, although numbers since 2014-15 had been rising, in 2017-18 they once again fell, by 18 per cent compared with 2016-17.

The majority (almost two-thirds in 2017-18) of deliberate primary fires in road vehicles occurred in South Wales in 2017-18. Throughout the time series the proportion occurring in South Wales has been highest, varying between 57 and 65 per cent.

Numbers of road vehicle fires in all three Welsh FRSs saw decreases in 2017-18 compared with the previous year, a fall of 28 per cent in North Wales, 20 per cent in Mid and West Wales and 16 per cent in South Wales. On the whole numbers have steadily decreased, seeing large falls in the early part of the time series. In more recent years there has been some fluctuation and all FRSs have seen small year on year rises from time to time. Compared with 2001-02 Mid and West Wales has seen a fall of 91 per cent, South Wales of 85 per cent and North Wales 84 per cent.

The Wales Arson Reduction Strategy highlighted two key factors contributing to arson, the need to promptly remove unwanted and abandoned vehicles and to reduce vehicle crime. The removal of abandoned vehicles on open land or any land forming part of the highway is the responsibility of the respective Local Authority.

<sup>(</sup>b) Includes bicycles, tankers and trailers.

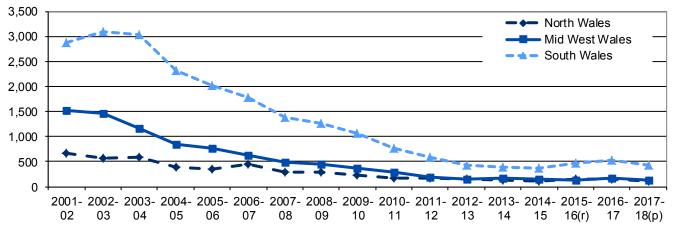
<sup>(</sup>c) Derelict vehicles.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

The Wales Arson Reduction Strategy noted that vehicle crime continues to fall, reflecting that vehicles are designed and built more securely. According to police recorded crime data published by the Office for National Statistics, 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.

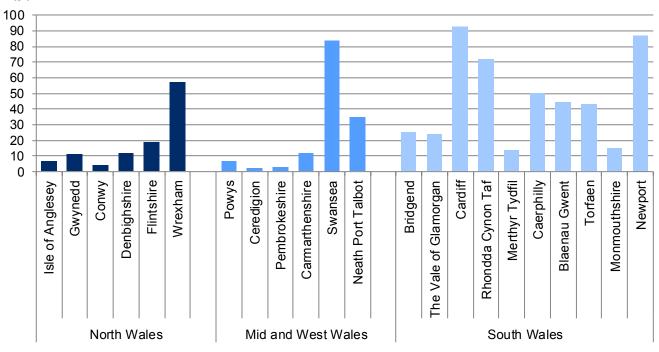
Chart 14: Number of deliberate primary fires in road vehicles, by fire and rescue authority



- (r) Revised data.
- (p) Provisional data.

Cardiff has the highest number of deliberate road vehicle fires (93) equating to 13 per cent of the number in Wales in 2017-18, closely followed by Swansea and Newport (each with 12 per cent of those in Wales). Monmouthshire was the local authority with the largest proportion of deliberate fires which occurred in road vehicles (27 per cent), followed by Wrexham (25 per cent) and Denbighshire (23 per cent).

Chart 15: Number of deliberate primary fires in road vehicles, by local authority 2017-18(p)



(p) Provisional data

#### **School fires**

In 2017-18 there were 8 deliberate primary fires in schools, 1 more than in the previous year and equating to 31 per cent of all fires in schools. The peak figure in the time series (as seen below in chart16) was 79 deliberate fires in schools in 2002-03.

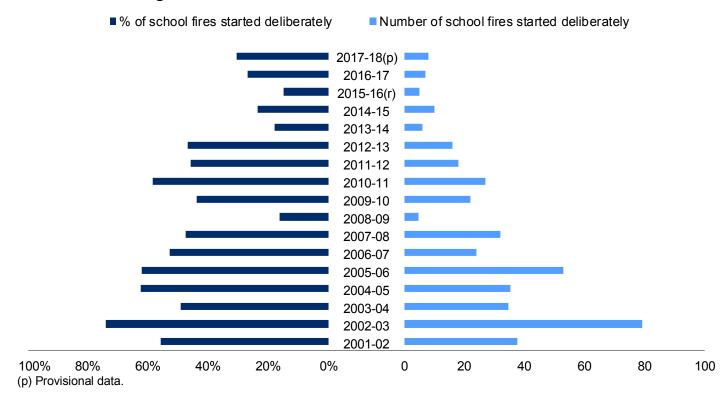
Table 8: Number of school fires, by motive and fire and rescue authority

	North Wales		Mid and We	est Wales	South '	Wales	Wa	Wales		
	Accidental D	Deliberate	Accidental	Deliberate	Accidental	Accidental Deliberate		Deliberate		
2008-09	0	0	5	5	20	0	25	5		
2009-10	7	2	6	6	15	14	28	22		
2010-11	2	5	6	5	11	17	19	27		
2011-12	0	5	11	5	10	8	21	18		
2012-13	7	1	5	3	6	12	18	16		
2013-14	4	1	12	3	11	2	27	6		
2014-15	4	0	13	2	15	8	32	10		
2015-16(r)	7	2	8	0	13	3	28	5		
2016-17	2	1	5	1	12	5	19	7		
2017-18(p)	5	3	4	3	9	2	18	8		

<sup>(</sup>r) Revised data

The chart below shows the number of deliberate fires in schools occurring each year, along with the associated percentage of fires in schools which were started deliberately. Since 2013-14, under a third of fires in schools each year were started deliberately.

Chart 16: Percentage and number of deliberate fires in schools



<sup>(</sup>p) Provisional data.

Of the 119 deliberate fires in schools since 2009-10, 42 per cent were started with matches or candles, 28 per cent with a naked flame and 12 per cent were smoker related. A further 11 per cent have unspecified sources. In 2017-18, 3 were started with matches or candles, 3 with a naked flame and 2 are unspecified.

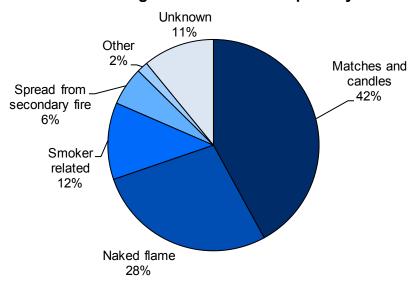


Chart 17: Source of ignition of deliberate primary fires in schools, 2009-10 to 2017-18(a)

(a) Since numbers of deliberate fires in schools are small, chart 17 is based on all the available data on IRS (2009-10 to 2017-

Of the 119 deliberate fires in schools between 2009-10 and 2017-18, 47 (39 per cent) occurred in school hours. Deliberate fires in schools occurred most frequently in bathrooms or toilets; of the fires starting here, over four-fifths occurred during school hours.

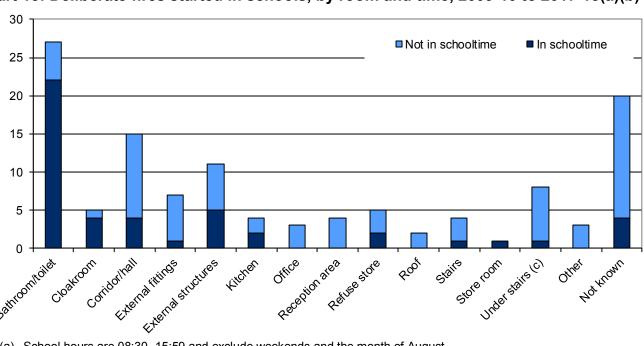


Chart 18: Deliberate fires started in schools, by room and time, 2009-10 to 2017-18(a)(b)

- (a) School hours are 08:30- 15:59 and exclude weekends and the month of August.
- Since numbers of deliberate fires in schools are small, chart 18 is based on all the available data on IRS (2009-10 to 2017-18)
- (c) Enclosed, storage area.

# Source and hazardous materials

Detailed information is only available for the source of primary fires. In the 5 years 2013-14 to 2017-18 there has been a total of 6,522 deliberate primary fires. During this period, the source of ignition in 36 per cent of deliberate primary fires was a naked flame, and in 25 per cent matches and/or candles. In each year these two categories have been the largest however in 2009-10 almost half were due to matches and candles and a fifth were due to naked flame; in 2012-13 the categories switched order, and in 2017-18 a third were due to naked flame and around a fifth due to matches and candles.

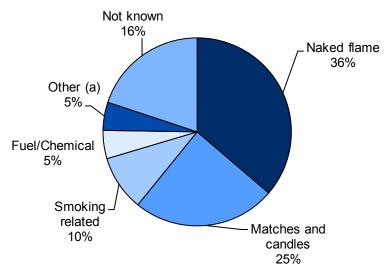
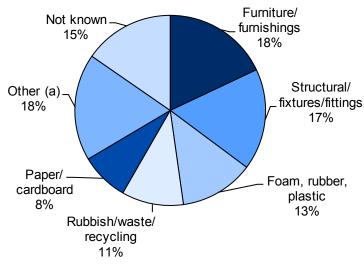


Chart 19: Source of ignition of deliberate primary fires, 2013-14 to 2017-18

In the 6,522 deliberate primary fires for the combined years 2013-14 to 2017-18, furniture and furnishings was the material first ignited in 18 per cent of incidents. In this period over 60 per cent of primary fires, where the first ignited item was furniture or furnishings, were started deliberately. More than half the number of fires, where the first ignited items were rubbish/waste/recycling or paper/cardboard, were started deliberately.





<sup>(</sup>a) 'Other' includes 'vegetation', 'clothing/textiles', 'explosives, gas, chemicals', 'wood', 'none', 'decoration/celebration', 'food' and 'animal'.

<sup>(</sup>a) 'Other' includes 'spread from secondary fire', 'fireworks', 'cooking appliance', 'electricity supply', 'bombs and explosives', 'heating equipment', 'industrial equipment', 'other domestic style appliance' and 'wet hay'.

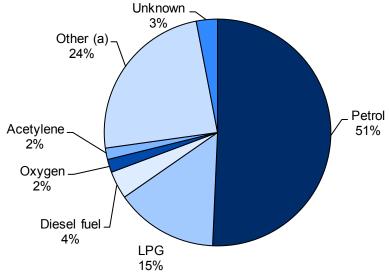
Of the 6,522 deliberate primary fires in the last 5 years, in 5,551 the cause of spread of the fire was identified; almost a fifth of all deliberate primary fires in this period spread due to furniture and furnishings and a similar proportion spread due to structural fixtures and fittings (external and internal); a further 14 per cent spread due to foam, rubber and plastic. In almost a tenth of deliberate primary fires the cause of the spread was unknown.

In 12 per cent of deliberate primary fires, rapid growth was recorded; petrol and oil products were found to be the cause in the majority of these cases, over two thirds in the last 5 years.

Deliberate primary fires tend to be single-seated, only 4 per cent over the last 5 years have been multiseated.

In the combined years 2013-14 to 2017-18, there were a total of 400 deliberate primary fires involving hazardous materials (6 per cent of all deliberate primary fires), of which, 23 involved multiple hazardous materials. In total there were 430 instances of hazardous materials being involved in deliberate primary fires. The largest proportions of instances involved petrol (51 per cent) and liquefied petroleum gas LPG (15 per cent).

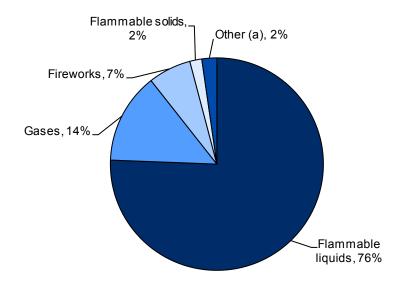
Chart 21: Hazardous materials involved in deliberate primary fires, 2013-14 to 2017-18



(a) 'Other' includes 'Oxygen, refrigerated liquid', 'Kerosene', 'Hydrochloric acid' and 'Sodium hydroxide solution', 'Butane', 'Methane' and 'White Asbestos'.

There were 1,740 instances of dangerous substances being involved in primary fires over the last 5 years, of these 660 (38 per cent) were involved in deliberate primary fires. The majority of these involved 'flammable liquids' (76 per cent), the next largest proportion was 'gases' (14 per cent). These were also the largest categories in accidental primary fires although the percentages were closer (61 per cent and 29 per cent respectively).

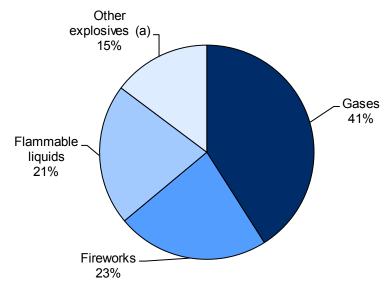
Chart 22: Dangerous substances in deliberate primary fires, 2013-14 to 2017-18



(a) 'Other' Includes 'Other Explosives', 'Acetylene' and 'Ammunition'

There were 245 explosions involved in primary fires in the years 2013-14 to 2017-18. These may have occurred before the fire, during the fire, both before and during, or the sequence of events maybe unknown. Of these, 61 explosions (a quarter) were recorded in relation to deliberate fires. Gases caused the largest number of explosions (41 per cent) in deliberate fires and fireworks caused 23 per cent. Gases were also the largest cause of explosions in accidental primary fires, equating to 53 per cent during the same period. For most materials causing explosions, between 19 and 25 per cent of fires were deliberate. However for fires where an explosion was due to fireworks, 82 per cent were started deliberately.

Chart 23: Materials causing explosions in deliberate primary fires, 2013-14 to 2017-18



(a) 'Other explosives' includes acetylene, ammunition, flammable solids and 'other'.

# **Casualties**

There were 47 non-fatal casualties due to deliberate fires in 2017-18. There were no fatalities. Two thirds of non-fatal casualties from deliberate fires in 2017-18 occurred in dwellings. Cumulatively, over the last 5 years around 1 in 6 fatalities and 1 in 10 non-fatal casualties in fires occurred in deliberate fires.

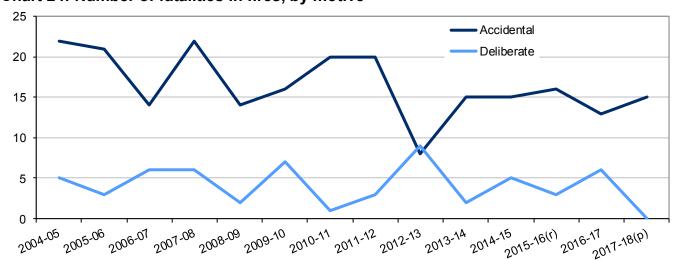
Table 9: Number of casualties in deliberate fires, by location

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)
Dwellings										
Fatal	2	3	1	0	8	1	4	1	1	0
Non-fatal	98	65	31	49	30	51	32	40	48	31
Other buildings										
Fatal	0	0	0	1	0	0	0	2	0	0
Non-fatal	15	21	13	6	1	18	4	14	18	10
Road vehicles										
Fatal	0	4	0	0	0	1	1	0	2	0
Non-fatal	4	6	5	4	4	3	2	3	4	0
Other										
Fatal	0	0	0	2	1	0	0	0	3	0
Non-fatal	9	15	5	10	5	1	3	5	5	6
All										
Fatal	2	7	1	3	9	2	5	3	6	0
Non-fatal	126	107	54	69	40	73	41	62	75	47

<sup>(</sup>r) Revised data.

For most of the years shown in the chart below, deliberate fires accounted for fewer than half the number of fatalities compared with those from accidental fires. The exception was 2012-13 when fatalities from deliberate fires outnumbered those from accidental fires (due to a combination of a relatively high number of fatalities from deliberate fires and a low number from accidental fires).

Chart 24: Number of fatalities in fires, by motive



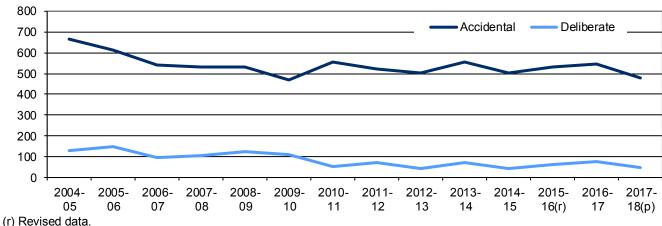
<sup>(</sup>r) Revised data

<sup>(</sup>p) Provisional data.

<sup>(</sup>p) Provisional data.

In the years 2004-05 to 2009-10 there were on average 117 non-fatal casualties resulting from deliberate fires each year. In the 8 years since then, the average has fallen to 58 a year. This equates to a tenth of all non-fatal casualties from fires. In 2017-18 there were 47 casualties, 28 fewer than in 2016-17.

Chart 25: Number of non-fatal casualties in fires, by motive



(p) Provisional data.

In 2017-18, 20 non-fatal casualties (43 per cent) from deliberate fires went to hospital. Of the 17 who were judged to have slight injuries, 9 were overcome by gas or smoke.

Table 10: Number and percentage of non-fatal casualties by nature of injury sustained in deliberate fires

_	Number						Percentage				
	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)	2013-14	2014-15	2015-16	2016-17	2017-18	
First aid (a)	14	7	20	23	17	19	17	32	31	36	
Precautionary check recommended	k 14	7	8	30	10	19	17	13	40	21	
Slight injuries (b)	33	21	31	15	17	45	51	50	20	36	
Burns	2	3	4	1	2	3	7	6	1	4	
Burns and overcome											
by gas or smoke	1	0	0	0	0	1	0	0	0	0	
Overcome by gas											
or smoke	23	10	22	12	9	32	24	35	16	19	
Physical injury	5	0	0	1	0	7	0	0	1	0	
Shock	0	0	0	0	1	0	0	0	0	2	
Other medical	2	6	3	1	5	3	15	5	1	11	
Other/not known	0	2	2	0	0	0	5	3	0	0	
Serious injuries (c)	12	6	3	7	3	16	15	5	9	6	
Burns	5	3	1	4	2	7	7	2	5	4	
Burns and overcome											
by gas or smoke	0	0	1	0	0	0	0	2	0	0	
Overcome by gas											
or smoke	3	2	0	2	0	4	5	0	3	0	
Physical injury	2	1	1	0	1	3	2	2	0	2	
Shock	0	0	0	0	0	0	0	0	0	0	
Other	2	0	0	1	0	3	0	0	1	0	
All casualties sent								_		_	
to hospital	45	27	34	22	20	62	66	55	29	43	
All non-fatal											
casualties	73	41	62	75	47	100	100	100	100	100	

(a) First aid given at scene.

<sup>(</sup>b) Casualty went to hospital, injuries appear to be slight.

<sup>(</sup>c) Casualty went to hospital, injuries appear to be serious.

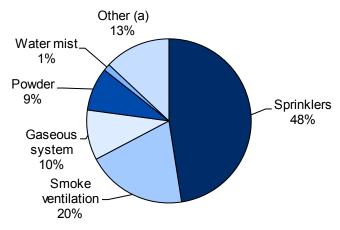
<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

# **Prevention**

The data in this section looks at safety systems present in accidental and deliberate fires, since numbers in deliberate fires alone are small (since 2009-10 there have been 56 safety systems recorded present in deliberate fires). In the aggregated figures for the last 5 years, fire safety systems were present at 215 accidental and deliberate primary building fires. However, some buildings have more than one system and there were a total of 223 safety systems present at primary fires. Sprinklers made up 48 per cent of these safety systems. 16 per cent of these primary fires where safety systems were present were deliberate. Throughout the time series sprinklers have been to most common safety system in use.

Chart 26: Safety systems present at primary fires in buildings, by system type, 2013-14 to 2017-18



(a) 'Other System' includes 'Drencher', 'Pressurisation', and 'Foam'.

For the aggregated years 2013-14 to 2017-18, where safety systems were present, over half operated correctly (although not all of these raised the alarm). Where systems failed to operate, over two fifths of cases were due to the fire occurring in an area not covered by the safety system.

Table 11: Number of safety systems in building fires, by operation and failure reason(a)

	2013-14	2014-15	2015-16(r)	2016-17	2017-18(p)
Operated and raised alarm	20	14	17	15	23
Operated, but did not raise alarm	12	3	6	5	4
Did not operate	21	24	17	20	22
Fire in area not covered by system	11	6	6	12	8
Fault in system	0	0	0	1	0
System damaged by fire	0	0	0	0	1
System turned off	0	1	0	1	0
System not set up correctly	0	1	0	0	0
Other	8	13	9	6	9
of which insufficient heat to activate system (b)	6	11	5	4	5
Not known	2	3	2	0	4
Not applicable	0	0	0	0	0

<sup>(</sup>a) The table refers to the number of safety systems not the number of accidental and deliberate fires in buildings. Data includes some instances where more than one safety system was present at a fire.

<sup>(</sup>b) Includes fires which were too small to be detected. Derived from a 'free text' field which defines 'other" reasons for system failure.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

Looking specifically at deliberate fires (not shown in the table), there were 34 deliberate fires in buildings in the years 2013-14 to 2017-18 where safety systems were present; due to buildings with multiple safety systems in place, the operation (or inaction) of 37 safety systems were recorded and 12 safety systems in deliberate fires were recorded as not operating.

In 2017-18 there were smoke alarms present in 67 per cent of accidental primary dwelling fires, and 58 per cent of deliberate dwelling fires. For other buildings in 2017-18, smoke alarms were present in 61 per cent of primary accidental fires, falling to 42 per cent of deliberate fires.

Table 12: Number of primary fires in buildings, by presence of smoke alarms and motive

		A	Accidental			Deliberate					
	2013-14 2	2014-15 2	015-16(r) 2	2016-17 2	017-18(p)	2013-14 2	014-15 20	15-16(r) 2	016-17 20	)17-18(p)	
Dwelling											
No alarm	502	456	462	529	483	71	86	72	59	56	
Alarm present(a)	1,230	1,179	1,147	1,190	1,002	107	87	94	80	76	
All primary											
fires (a)	1,732	1,635	1,609	1,719	1,485	178	173	166	139	132	
Other building											
No alarm	270	296	254	229	259	212	193	167	185	148	
Alarm present(a)	451	475	447	436	407	62	70	95	81	108	
All primary											
fires (a)	721	771	701	665	666	274	263	262	266	256	

<sup>(</sup>a) Includes where it was not known whether the building had a smoke alarm.

At deliberate dwelling fires in 2017-18 where smoke alarms were present, 73 per cent of smoke alarms successfully operated. In accidental dwelling fires 77 per cent of smoke alarms operated correctly. In deliberate other building fires 86 per cent of smoke alarms operated correctly, whilst for accidental fires in other buildings the proportion was 77 per cent.

Table 13: Number of smoke alarms present at primary fires in buildings, by operation (a)

		A	Accidental			Deliberate					
	2013-14 2	2014-15 2	015-16(r) 2	2016-17 2	017-18(p)	2013-14 20	014-15 20	15-16(r) 20	16-17 20	17-18(p)	
Dwelling											
Alarm present											
but did not operate operated:	305	284	271	269	232	37	23	30	18	19	
and raised alarm but did not	699	677	661	700	582	45	40	47	42	34	
raise alarm	211	198	189	197	174	16	22	13	14	17	
Total (a)	1,215	1,159	1,121	1,166	988	98	85	90	74	70	
Other building Alarm present											
but did not operate operated:	100	117	103	94	88	9	16	17	11	13	
and raised alarm but did not	270	281	259	263	249	36	30	62	48	71	
raise alarm	55	62	54	43	50	7	9	9	9	10	
Total (a)	425	460	416	400	387	52	55	88	68	94	

<sup>(</sup>a) The table refers to the number of smoke alarms, rather than the number of fires and so where buildings have multiple alarms, all have been included. For this reason figures may not match between tables 12 and 13. Table only refers to alarms which were known to be present.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data.

# **Great Britain comparisons**

The table below shows the number of deliberate primary and secondary fires in England, Scotland and Wales. Compared with 2001-02 Wales has seen the largest reduction in the number of deliberate fires, 76 per cent, whilst the figure in England fell by 72 per cent; in Scotland the number fell by 65 per cent. However between 2016-17 and 2017-18 the number of deliberate fires has risen in England and Wales (by 6 per cent and 7 per cent respectively), but fallen in Scotland by 7 per cent. Scotland was the only country to see a fall in deliberate secondary fires but both England and Wales saw falls in the number of deliberate primary fires.

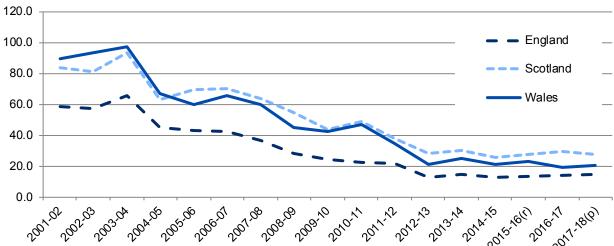
Table 14: Number of deliberate fires in England, Scotland and Wales

		England (a)			Scotland (b)			Wales			
	Primary	Secondary	All(c)	Primary	Secondary	All(c)	Primar	y Secondary	All(c)		
2008-09	41,860	103,564	145,424	4,572	2 23,820	28,392	3,09	1 10,433	13,524		
2009-10	34,714	90,653	125,398	4,614	18,276	22,891	2,88	6 10,022	12,913		
2010-11	29,467	87,320	116,808	4,088	3 21,601	25,693	2,48	4 11,812	14,297		
2011-12	26,728	88,795	115,539	3,780	16,197	19,979	2,05	1 8,596	10,648		
2012-13	19,431	49,309	68,759	2,833	3 12,252	15,085	1,40	5 4,993	6,399		
2013-14	17,934	59,698	77,670	2,58	1 13,446	16,029	1,34	5 6,224	7,569		
2014-15	17,365	51,133	68,520	2,414	11,167	13,583	1,21	4 5,220	6,434		
2015-16(r)	19,370	54,278	73,669	2,588	3 12,278	14,871	1,37	0 5,757	7,127		
2016-17	22,058	54,077	76,151	2,690	13,191	15,884	1,39	4 4,540	5,935		
2017-18(p)	21,465	59,262	80,758	2,72	5 12,103	14,830	1,19	9 5,172	6,372		

<sup>(</sup>a) Data for England are taken from The Home Office publication Fire Statistics: England

The chart below shows rates of deliberate fires in Wales and Scotland have consistently been higher than in England, although the gap has narrowed in recent years. All three countries have seen a general downward trend since 2001-02 although since 2012-13 figures have somewhat plateaued.

Chart 27: Rate of deliberate fires in England, Scotland and Wales per 10,000 population (a)



<sup>(</sup>a) Population data are taken from ONS Mid Year Estimates and are revised periodically and so rates are subject to change between publications.

<sup>(</sup>b) Data for Scotland are taken from Scottish Fire and Rescue Service

<sup>(</sup>c) Includes a small number of deliberate chimney fires, except in Scotland for 2008-09 for which year this data is unavailable.

<sup>(</sup>r) Revised data

<sup>(</sup>p) Provisional data.

<sup>(</sup>r) Revised data.

<sup>(</sup>p) Provisional data

# **Glossary**

Accidental fires include those where 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 any fires in occupied buildings where the fire was confined within the chimney structure (and did not involve casualties or rescues or attendance by five or more appliances).

**Dangerous substances** can spread fire, intensify fire, intensify smoke, render water unsuitable or produce toxic gases. Unlike with the hazardous materials dangerous substances may be grouped into one of the following categories: Fireworks, Acetylene, Ammunition, Other explosives, Gases, Flammable liquids or Flammable solids.

**Deliberate** fires include those where deliberate ignition is merely suspected.

**Dwellings** are defined as buildings occupied by households, excluding hotels, hostels and residential institutions (these fall under 'other residential'). 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 caravans, houseboats etc.

**Explosion** An explosion is a very rapid build up of pressure giving rise to a characteristic 'bang'. The pressure may be sufficient to cause injury to people and structural damage to buildings. Explosions may result from gas leaks, including unburnt fire gases, or from overheated cylinders or unstable solid materials.

**False alarms** are events in which the Fire and Rescue Service believes they are called to a reportable fire and then find there is no incident.

**Fatal casualty** 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 transpires 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 (FRA)** are the three regions (North Wales, Mid and West Wales and South Wales) into which Wales is divided in relation to the fire service.

**Hazardous Materials** are recorded as individual items (solids, liquids or gases) that can harm people, other living organisms, property, or the environment. Each material has a numeric UN 4 digit numeric code, which can be found in the <a href="Dangerous Goods Emergency Action Codes Listbook">Dangerous Goods Emergency Action Codes Listbook</a>.

**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 service as a result of a press report or inquest) and which the fire and rescue service 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 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 service 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.

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

# **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, 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 nearly 900 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.

# Wales Arson Reduction Strategy

The Joint Arson Group produced the Wales Arson Reduction Strategy in 2007 (it was reviewed in 2009 with an <u>update strategy for 2012-15</u> published in 2012). The strategy states the priorities of Welsh Arson Reduction Teams (ARTs) are to reduce the numbers of wildfire incidents, deliberate fires in schools, car arson, deliberate fires associated with anti-social behaviour and the number of void and derelict buildings subject to arson. The Wales Arson Reduction Strategy in 2007 proposed measures to reduce the number of deliberate grassland and forest fires.

#### These include:

- National Curriculum to include "care of the environment", educating children on the issue outside of the classroom
- several initiatives seek to address this issue i.e. the All Wales School Liaison Core Programme,
   Crucial Crew, Forest Schools Safety Zone
- implement initiatives which bestow ownership and a sense of pride in communities regarding their immediate environment
- key partnerships should work together to provide a consistent message on grass and forest fires
- youth groups must be supported to deliver diversionary activities for young people during school holidays and to deliver a message on the responsible use of fire.

#### Relevance

The tables and charts in this bulletin attempt to show the breadth of data available and some of the possible analyses.

The Welsh Government uses the information in this bulletin to monitor the trends in deliberate fires occurring in Wales, for example those occurring in dwellings and on grassland. 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 providing 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. 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 previously available.

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

The incident data are extracted from IRS annually (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.

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 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.

Data for this bulletin are taken from the same dataset as the annual Fire Statistics and the Grassland fires bulletin which is extracted in June or July each year. This bulletin is published biennially, previously in the February (around 11 months after the year end) but has been brought forward this year.

#### 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 <a href="Fire">Fire</a> 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 <u>Fire Statistics Quality Report</u> 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.

#### **UK Comparisons**

Whilst England and Scotland do not publish specific deliberate fires bulletins, data by motive 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)

Scottish Fire and Rescue Incident Statistics

Pre 2014-15 data

Limited Northern Ireland data is available (published by Northern Ireland Fire and Rescue Service)

#### Other data sources

Deliberate fires include those where the motive for the fire was 'thought to be' or 'suspected to be' deliberate. This includes fires to an individual's own property, others' property or property of an unknown owner. Deliberate fires are not the same as arson. Arson is defined under the Criminal Damage Act of 1971 as 'an act of attempting to destroy or damage property, and/or in doing so, to endanger life'. Table 15 shows a comparison between the numbers of arson incidents as recorded by the police and the number of deliberate primary and secondary fires. It is expected that the majority of deliberate secondary fires would not be counted as arson.

Table 15: Comparison of police recorded crime and fire and rescue service fire incident data in Wales

	2008-09(a)	2009-10(b)	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Police Recorded Crim	e (c)									
Arson	2,149	2,040	1,734	1,514	1,244	1,163	1,243	1,499	1,626	2,031
Fire and Rescue										
Deliberate Primary	3,091	2,886	2,484	2,051	1,405	1,345	1,214	1,370	1,394	1,199
Deliberate Secondary	10,433	10,022	11,812	8,596	4,993	6,224	5,220	5,757	4,540	5,172
Total	13,524	12,913	14,297	10,648	6,399	7,569	6,434	7,127	5,935	6,372

Source: Arson data from the Home Office, fire data from FDR1 and FDR3 fire and Rescue Forms, Incident Reporting System (from 2009-10)

<sup>(</sup>a) From 2008-09 arson figures are the sum of 'Arson endangering life' and 'Arson not endangering life', and so may not be comparable with earlier data.

<sup>(</sup>b) In April 2009 collection of fire data changed from the FDR1 and FDR3 paper forms to the Incident Recording System (IRS).

<sup>(</sup>c) Following an assessment of crime statistics by the UK Statistics Authority, published in January 2014, the statistics based on police recorded crime data were found not to meet the required standard for designation as National Statistics.

# **National Statistics status**

The <u>United Kingdom Statistics Authority</u> 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**

This document is available at: <a href="http://gov.wales/statistics-and-research/deliberate-fires/?lang=en">http://gov.wales/statistics-and-research/deliberate-fires/?lang=en</a>

Fire Statistics Data Quality Report

**Incident Recording System Questions and Lists** 

More information is available on StatsWales.

Analysis of annual Welsh fire incident data can be found in the bulletin 'Fires Statistics, 2017-18':

The bulletin includes charts and information on causes of fires and the presence of smoke alarms.

The report 'Evaluation of the Arson Prevention Programme' focuses on three of the main initiatives; Arson Reduction Teams (ARTs); the Arson Small Grants Programme; and the Grassland Fire Initiative.

# **Next update**

Deliberate Fires 2019-20 to be published in November 2020

# We want your feedback

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

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