



## Grassland fires, 2021-22

26 October 2022  
SB 29/2022

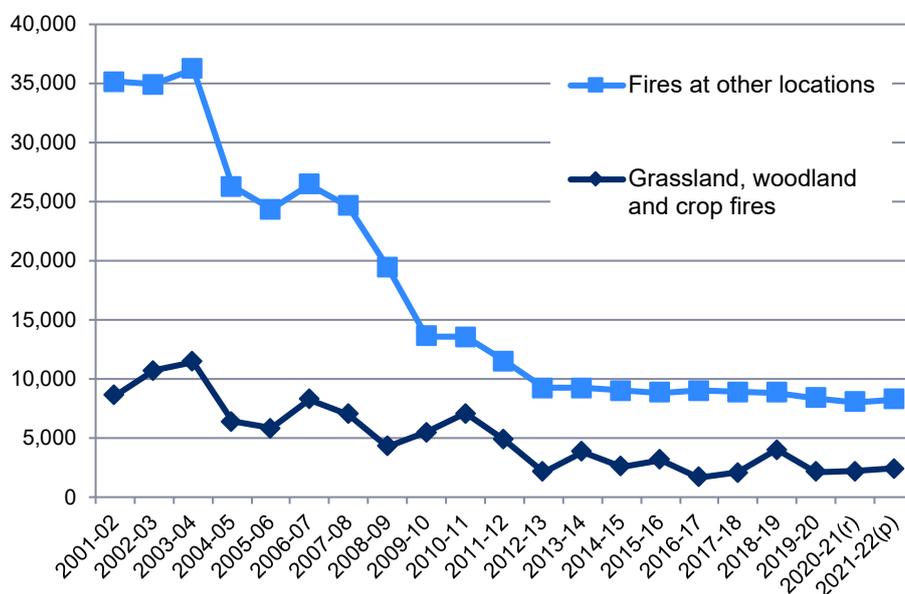
Around one in five attendances by a Fire and Rescue Authority (FRA) at fires in 2021-22 were grassland, woodland or crop related.



The Welsh FRAs attended 2,459 grassland, woodland and crop fires in 2021-22, an increase of 10% compared with 2020-21.

The number of these fires is prone to fluctuation and annual year on year percentage changes vary.

**Chart 1: Numbers of fires on grassland, woodland and crops and other locations**



(r) Revised data  
(p) Provisional data

- In 2021-22, almost three quarters of fires on grassland, woodland and crops were started deliberately. ([Table 6](#))
- More than 6 in 10 grassland, woodland and crop fires in 2021-22 occurred in the months April 2021 and March 2022. Met Office weather data shows that more than a quarter of the hours of sunshine and only 5% of rainfall occurred in these months in 2021-22. ([Table 7](#)).

### About this bulletin

This bulletin is complementary to data on [fire incidents](#) published in Sep 2022. It examines the impact and patterns in grassland, woodland and crop fires in the financial year from April 2021 to March 2022, and comparisons are made with April 2020 to March 2021 a period within the coronavirus (COVID-19) pandemic together with trends from 2001-02. Numbers of grassland fires during 2020-21 may have been affected by the COVID-19 restrictions in place at times throughout the year.

The Welsh Government compiles these statistics from reports submitted by all three Fire and Rescue Authorities (FRAs) in Wales to the Home Office.

### In this bulletin

<a href="#">Fires</a>	4
<a href="#">Fires by motive</a>	12
<a href="#">Fires by FRA</a>	17
<a href="#">Casualties</a>	22
<a href="#">Calendar year data</a>	26
<a href="#">Glossary</a>	29
<a href="#">Key quality information</a>	31

## Contents – Tables and charts

Chart 1: Numbers of fires on grassland, woodland and crops and other locations .....	1
<b>Section 1: Fires .....</b>	<b>4</b>
Table 1: Number of grassland, woodland and crop fires and fire false alarms, by incident type ..	4
Chart 2: Number of fires attended by Fire and Rescue Authorities in Wales, by location .....	5
Chart 3: Number of grassland, woodland and crop fires, by type.....	6
Table 2: Primary fires by Fire and Rescue Authority .....	6
Table 3: Number of primary grassland, woodland and crop fires, by location .....	8
Chart 4: Number of primary grassland, woodland and crop fires, by location .....	8
Table 4 Secondary fires by Fire and Rescue Authority .....	9
Table 5: Number of secondary grassland, woodland and crop fires, by location .....	11
Chart 5: Number of secondary grassland, woodland and crop fires, by location.....	11
Chart 6: Grassland, woodland and crop fires by motive.....	12
Table 6: Number and percentage of grassland, woodland and crop fires, by motive .....	13
Chart 7: Grassland, woodland and crop fires by fire type and motive, 2021-22 .....	13
Table 7: Number and percentage of grassland, woodland and crop fires, by month .....	14
Chart 8: Number of grassland, woodland and crop fires, by month .....	15
Chart 9: Number of grassland, woodland and crop fires and rainfall levels, by month, 2021-22	16
Chart 10: Numbers of grassland, woodland and crop fires and hours of sunshine, by month, 2021-22 .....	16
Table 8: Number and percentage of grassland, woodland and crop fires, by Fire and Rescue Authority .....	17
Chart 11: Number of grassland, woodland and crop fires, by Fire and Rescue Authority and Local Authority 2021-22.....	18
Chart 12: Numbers of grassland, woodland and crop fires by local authority and motive, 2021-22.....	19
Table 9: Number of grassland, woodland and crop fire false alarms, by Fire and Rescue Authority .....	21
Chart 13: Number of grassland, woodland and crop related fire false alarms, by Fire and Rescue Authority .....	21
<b>Section 2: Casualties from grassland, woodland and crop fires .....</b>	<b>22</b>
Table 10: Number of casualties and rescues from grassland, woodland and crop fires .....	22
<b>Section 3: Area of damage caused by grassland, woodland and crop fires .....</b>	<b>23</b>
Table 11: Number and percentage of grassland woodland and crop fires by area damaged ....	23
<b>Section 4: Source of ignition and cause of grassland, woodland and crop fires.....</b>	<b>24</b>
Chart 14: Percentage of primary grassland, woodland and crop fires, 2017-18 to 2021-22, by source of ignition.....	24

Chart 15: Percentage of accidental primary grassland, woodland and crop fires, 2017-18 to 2021-22, by main cause .....	25
<b>Section 5: Additional analysis - Calendar year data .....</b>	<b>26</b>
Table 12: Numbers of fires and fire false alarms and numbers which are grassland, woodland and crop related – calendar year .....	26
Chart 16: Numbers of grassland, woodland and crop fires by fire and rescue authority – calendar year .....	26
Chart 17: Grassland, woodland and crop fires - comparing calendar year data with financial year .....	27
Table 13: Analysis of grassland, woodland and crop fires at Easter .....	28
<b>Glossary.....</b>	<b>29</b>
<b>Key quality information .....</b>	<b>31</b>

## Section 1: Fires

Fires are classed as primary, secondary or chimney fires.

**Primary fires** include:

- any fire in a non-derelict buildings, vehicle, or outdoor structures
- any fire involving casualties or rescues
- any fire 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.

For the definition of chimney fires please see the [Glossary](#).

**Grassland, woodland and crop** locations include primary fires in allotments, gardens, crops, woods and other agricultural locations, and secondary fires on heathland and as a result of intentional straw and stubble burning, as well as fires on grassland.

This section looks at the total number of grassland, woodland and crop fires that occurred as well as the total number of fires attended which includes fire-related false alarms.

Table 1 shows that Welsh FRAs attended 26,060 fires and fire false alarms in 2021-22. Of these, 13% or 3,431 (including 972 fire false alarms) related to grassland, woodland and crop locations. In 2021-22 attendances at grassland, woodland and crop fires and fire false alarms rose by 4% compared with 2020-21 but has fallen by 61% compared with the peak of 8,837 incidents in 2010-11.

**Table 1: Number of grassland, woodland and crop fires and fire false alarms, by incident type**

	2017-18	2018-19	2019-20	2020-21(r)	2021-22(p)
Primary fires	4,316	4,392	4,279	3,796	3,943
<i>of which were grassland, woodland and crops</i>	68	253	112	180	140
Secondary fires	6,301	8,184	5,978	6,197	6,497
<i>of which were grassland, woodland and crops</i>	2,024	3,761	2,076	2,049	2,319
<b>All fires (a)</b>	<b>11,023</b>	<b>12,911</b>	<b>10,587</b>	<b>10,326</b>	<b>10,740</b>
<b><i>of which were grassland, woodland and crop fires</i></b>	<b>2,092</b>	<b>4,014</b>	<b>2,188</b>	<b>2,229</b>	<b>2,459</b>
Fire false alarms	14,161	14,485	14,281	14,879	15,320
<i>Fire false alarms with location recorded as grassland, woodland or crops</i>	778	1,139	821	1,084	972
<b>All fires and fire false alarms</b>	<b>25,184</b>	<b>27,396</b>	<b>24,868</b>	<b>25,205</b>	<b>26,060</b>
<b><i>of which grassland, woodland and crop fires and fire false alarms</i></b>	<b>2,870</b>	<b>5,153</b>	<b>3,009</b>	<b>3,313</b>	<b>3,431</b>

(a) Includes chimney fires.

(r) Revised data.

(p) Provisional data.

**Fire false alarms:** 6% of fire false alarms relate to grassland, woodland and crop locations. The majority (99%) of the fire false alarms attended in 2021-22 by the FRAs on grassland, woodland and crops were due to calls made with good intent; only 1% were due to malicious calls. In 2021-22 FRAs in Wales attended 10% fewer fire false alarms on grassland, woodland and crops than in the previous year.

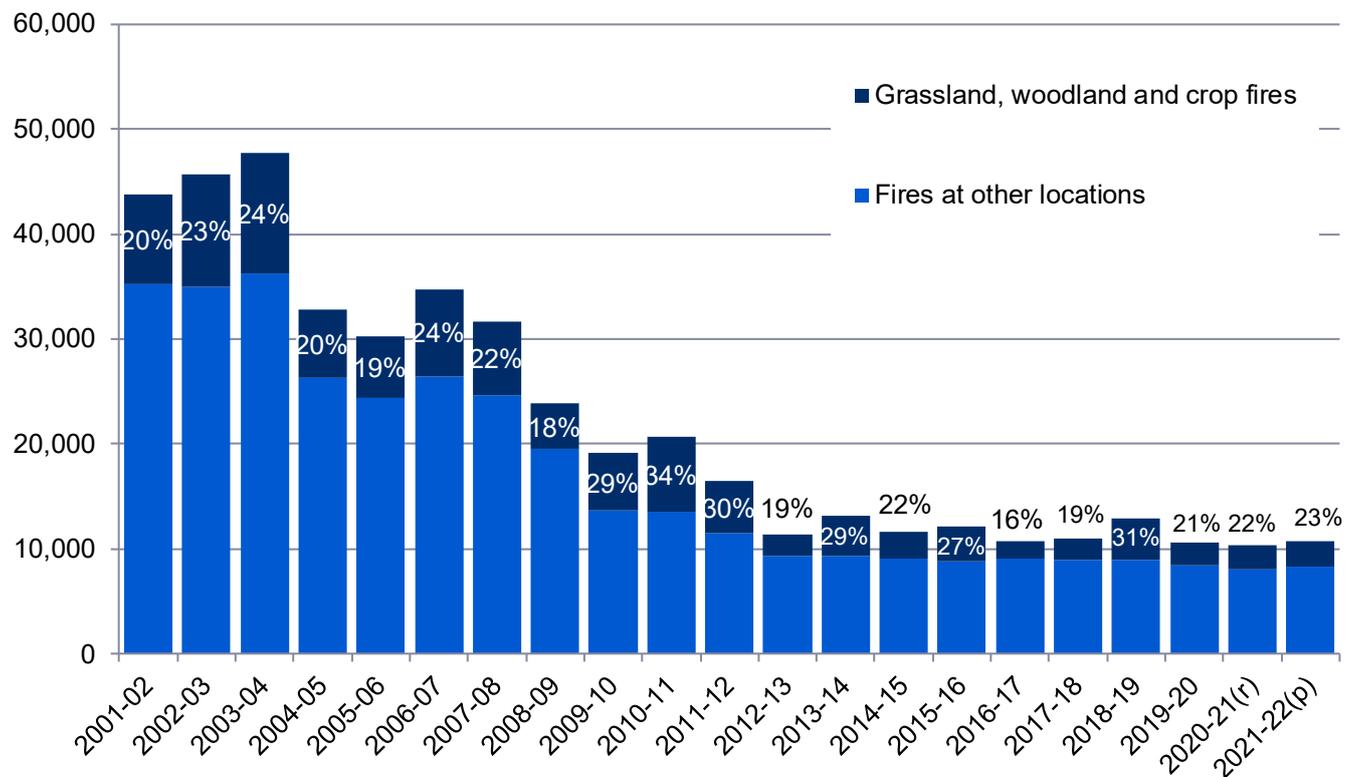
**Fires:** Of the 10,740 fires attended in Wales, 2,459 (23%) occurred on grassland, woodland and crops. Whilst only 4% of all primary fires took place on grassland, woodland or crops, 36% of secondary fires occurred on grassland, woodland or crops.

In 2021-22, the number of grassland, woodland and crop fires (excluding fire false alarms) attended by the Welsh FRAs increased by 10% compared with 2020-21. Compared with the peak figure in 2003-04, the 2021-22 figure is 79% lower. Following large decreases in the early part of the time series (shown in chart 2), recent years (since 2012-13) have seen numbers more stable with smaller year on year increases and decreases.

Numbers of fires in locations other than grassland, woodland and crops rose by 2% compared with 2020-21. Compared with the peak number in 2003-04 numbers have fallen by 77%. Charts 1 and 2 show how the number of fires (and of those, grassland, woodland and crop fires) varies each year.

Chart 2 shows the proportion of fires attended which occurred on grassland, woodland or crops, since 2001-02. During this period the proportion of fires occurring on grassland, woodland and crops range from a low of 16% (in 2016-17) up to 34% (in 2010-11).

**Chart 2: Number of fires attended by Fire and Rescue Authorities in Wales, by location**



(r) Revised data

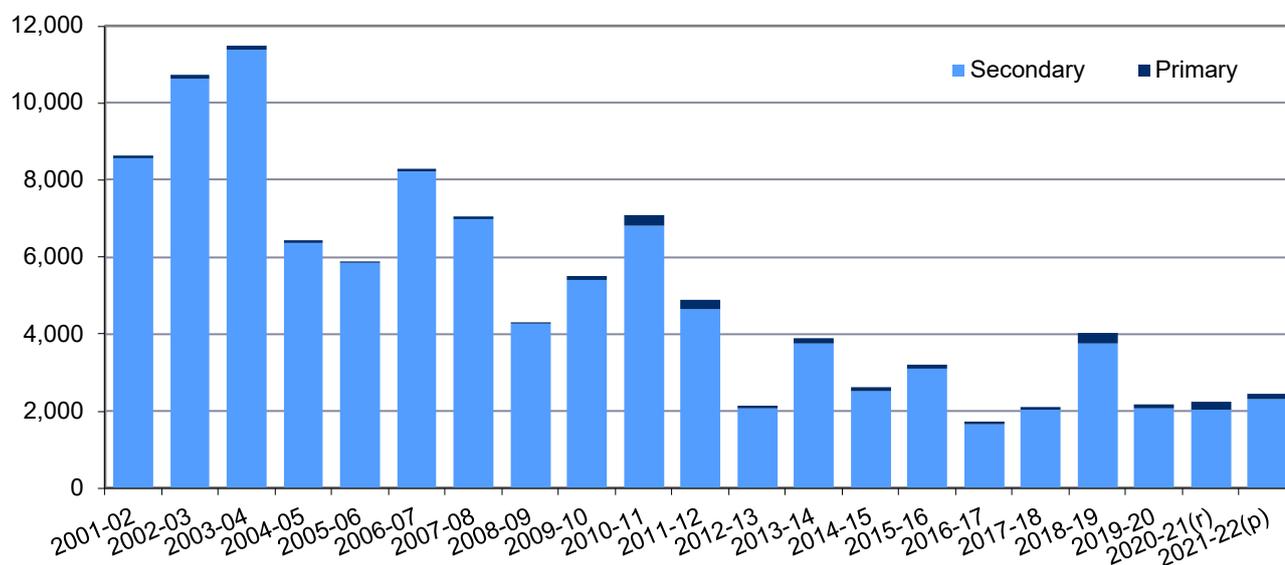
(p) Provisional data

Chart 3 shows the vast majority of grassland, woodland and crop fires attended are secondary fires (between 92 and 99% each year since 2001-02), and further shows the fluctuations in numbers. By definition, the majority of secondary fires occur outdoors and so numbers of these fires are likely to be influenced by weather conditions.

In 2021-22 there were 7% fewer grassland fires compared with the average for the last ten years, however there was around the same amount of sunshine and 12% less rainfall compared with the same period.

2016-17 appears to be an unusual year in which rainfall was relatively low (3<sup>rd</sup> lowest over the last 20 years) and yet the number of grassland fires is the lowest (for the time period). The relationship between grassland fires and the weather is considered further in charts 7 and 8, utilising monthly data.

**Chart 3: Number of grassland, woodland and crop fires, by type**



(r) Revised data.

(p) Provisional data.

### Primary grassland, woodland and crop fires

In 2021-22, 140 primary grassland, woodland and crop fires were attended in Wales, an decrease of 22% on 2020-21. The locations of these primary fires are shown on the map on the following page. Over half the primary grassland fires in 2021-22 occurred in the South Wales FRA Region and 38% were in Mid and West Wales. The remaining 10% were in North Wales. Only North Wales saw an increase in the number of primary grassland fires (up 40%). Mid and West Wales saw a decrease of 22% and South Wales of 28%.

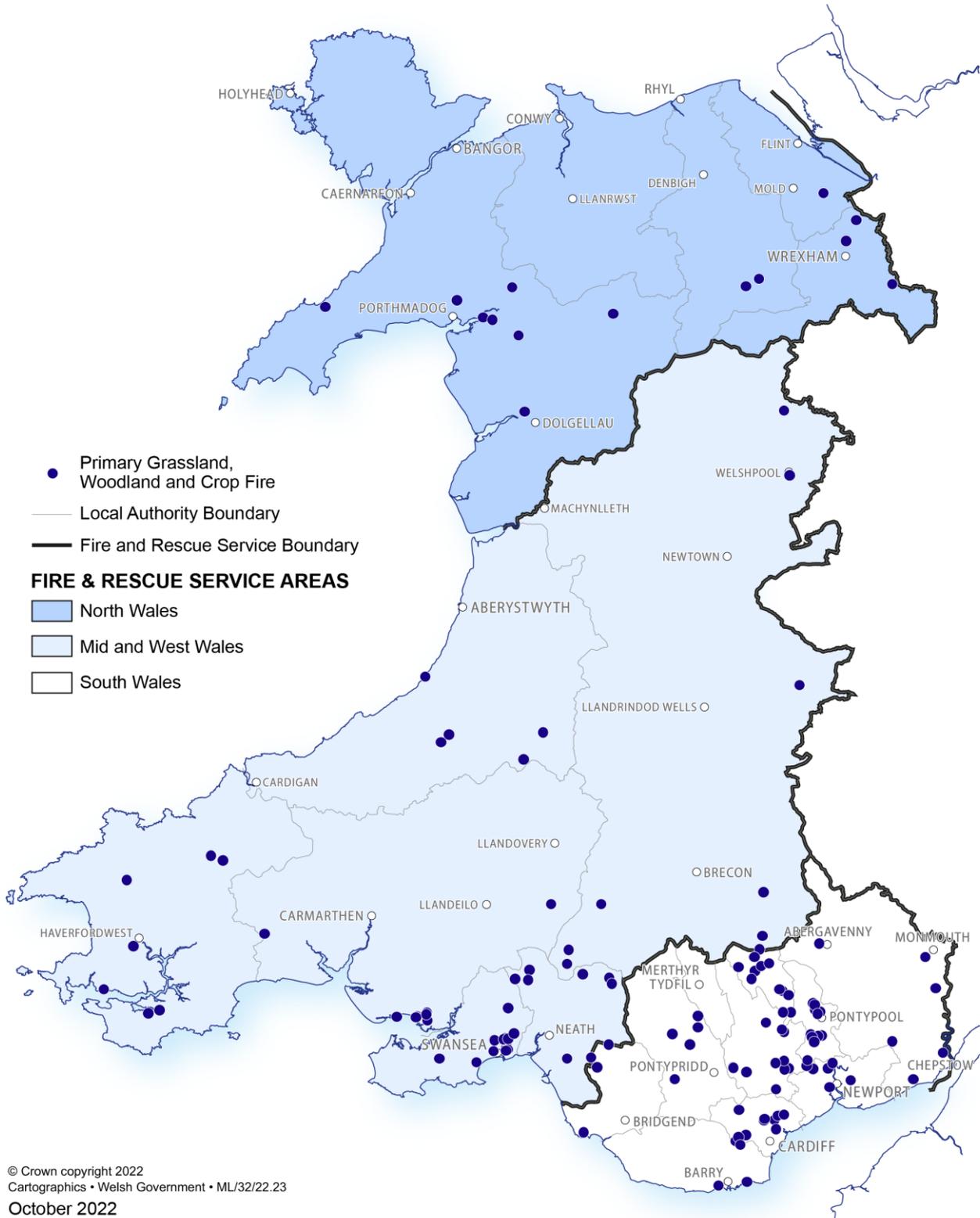
**Table 2: Numbers of primary grassland woodland and crop fires by Fire and Rescue Authority**

	North Wales	Mid and West Wales	South Wales	Wales
2012-13	18	11	34	63
2013-14	20	25	83	128
2014-15	18	15	51	84
2015-16	20	28	70	118
2016-17	23	12	36	71
2017-18	13	14	41	68
2018-19	16	97	140	253
2019-20	11	44	57	112
2020-21(r)	10	68	102	180
2021-22(p)	14	53	73	140
Percentage change 2020-21 to 2021-22	40	-22	-28	-22

(r) Revised data.

(p) Provisional data

# Grassland, Woodland and Crop Primary Fires across Wales, 2021-22



© Crown copyright 2022  
 Cartographics • Welsh Government • ML/32/22.23  
 October 2022



Data mapped above are based on grid references; see the Key Quality Information for further details.

Most categories of primary grassland fires saw decreases, only heathland or moorland and stacked/baled and standing crops saw an increase.

There were 89 primary fires in woodland (64% of primary grassland fires) in 2021-22.

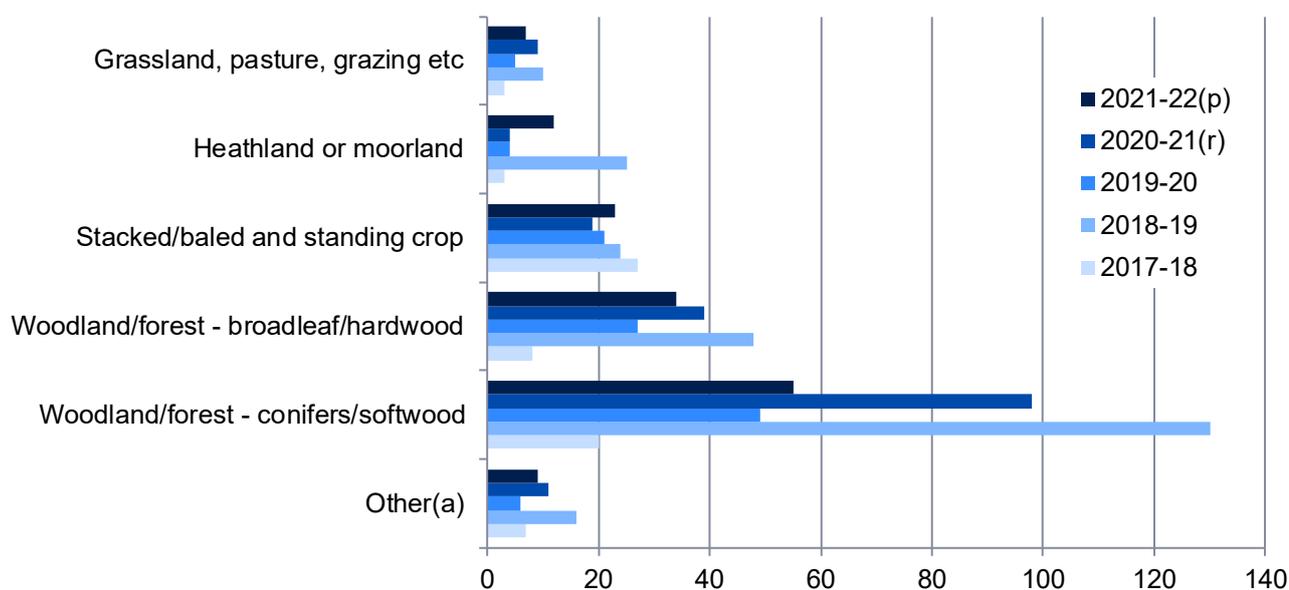
**Table 3: Number of primary grassland, woodland and crop fires, by location**

	2017-18	2018-19	2019-20	2020-21(r)	2021-22(p)
Grassland, pasture, grazing etc	3	10	5	9	7
Heathland or moorland	3	25	4	4	12
Stacked/baled and standing crop	27	24	21	19	23
Woodland/forest - broadleaf/hardwood	8	48	27	39	34
Woodland/forest - conifers/softwood	20	130	49	98	55
Other (a)	7	16	6	11	9
<b>All primary grassland, woodland and crop fires</b>	<b>68</b>	<b>253</b>	<b>112</b>	<b>180</b>	<b>140</b>

(a) Domestic gardens, hedge, nurseries and market gardens, roadside vegetation, scrub land and tree scrub.

(p) Provisional data.

**Chart 4: Number of primary grassland, woodland and crop fires, by location**



(a) 'Other' shown in the above chart includes domestic gardens, hedge, nurseries and market gardens, roadside vegetation, scrub land and tree scrub.

(p) Provisional data.

## Secondary grassland, woodland and crop fires

In 2021-22 there were 2,319 secondary grassland, woodland and crop fires in Wales, a rise of 13% compared with 2020-21; the map on the next page shows the locations of these secondary fires. 43% of secondary grassland fires in 2021-22 occurred in the South Wales FRA region, whilst 41% occurred in Mid and West Wales and 15% in North Wales. All 3 FRSs saw increases in 2021-22, of 20% in Mid and West Wales, 19% in North Wales and 5% in South Wales.

It is likely that the number of secondary fires during 2020-21 and to a lesser extent, the early part of 2021-22 could have been affected by the restrictions introduced due to the COVID-19 pandemic. Since many of these fires take place outdoors and are caused by human interaction, travel restrictions and social distancing measures may have had an impact. Secondary fires are also affected by weather conditions, further analysis of weather data occurs on pages 15 and 16.

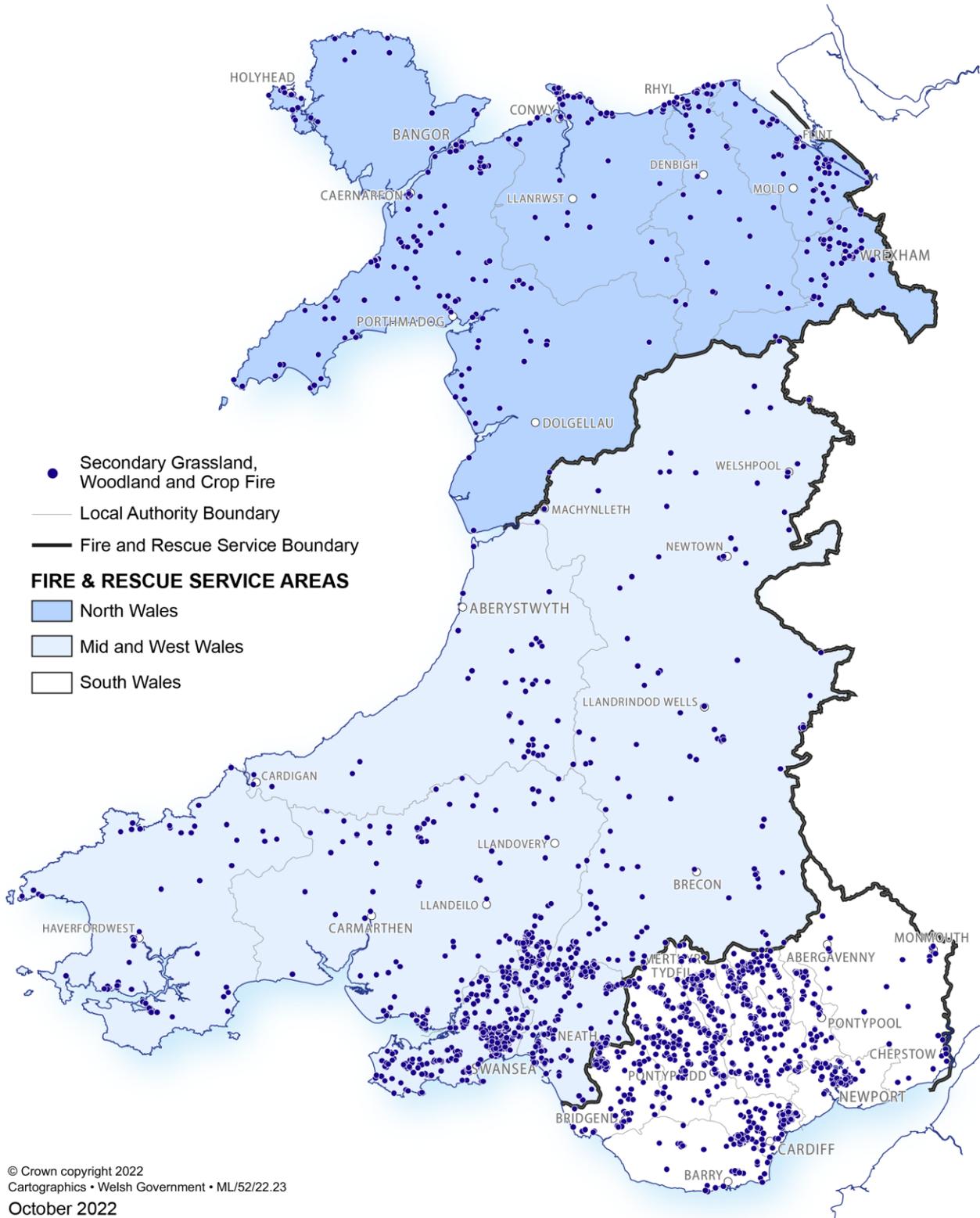
**Table 4: Numbers of secondary grassland, woodland and crop fires by Fire and Rescue Authority**

	North Wales	Mid and West Wales	South Wales	Wales
2012-13	264	713	1,105	2,082
2013-14	460	1,199	2,089	3,748
2014-15	393	835	1,301	2,529
2015-16	426	908	1,763	3,097
2016-17	276	474	895	1,645
2017-18	340	638	1,046	2,024
2018-19	638	1,169	1,954	3,761
2019-20	272	763	1,041	2,076
2020-21(r)	301	798	950	2,049
2021-22(p)	359	959	1,001	2,319
Percentage change 2020-21 to 2021-22	19	20	5	13

(r) Revised data

(p) Provisional data

# Grassland, Woodland and Crop Secondary Fires across Wales, 2021-22



© Crown copyright 2022  
 Cartographics • Welsh Government • ML/52/22.23  
 October 2022



Data mapped above are based on grid references; see the [Key Quality Information](#) for further details.

The category of secondary grassland, woodland or crop fire which saw the largest increase was grassland, pasture, grazing etc. (up 31%) followed by scrub land (up 22%). Domestic gardens saw the largest decrease compared with 2020-21, 41 fewer fires and a 28% fall. In 2021-22, 63% of secondary grassland, woodland and crop fires occurred on either 'grassland, pasture, grazing etc.' or scrub land; these are consistently the two largest categories across the time series, accounting for between 56% and 64% each year since 2009-10.

**Table 5: Number of secondary grassland, woodland and crop fires, by location**

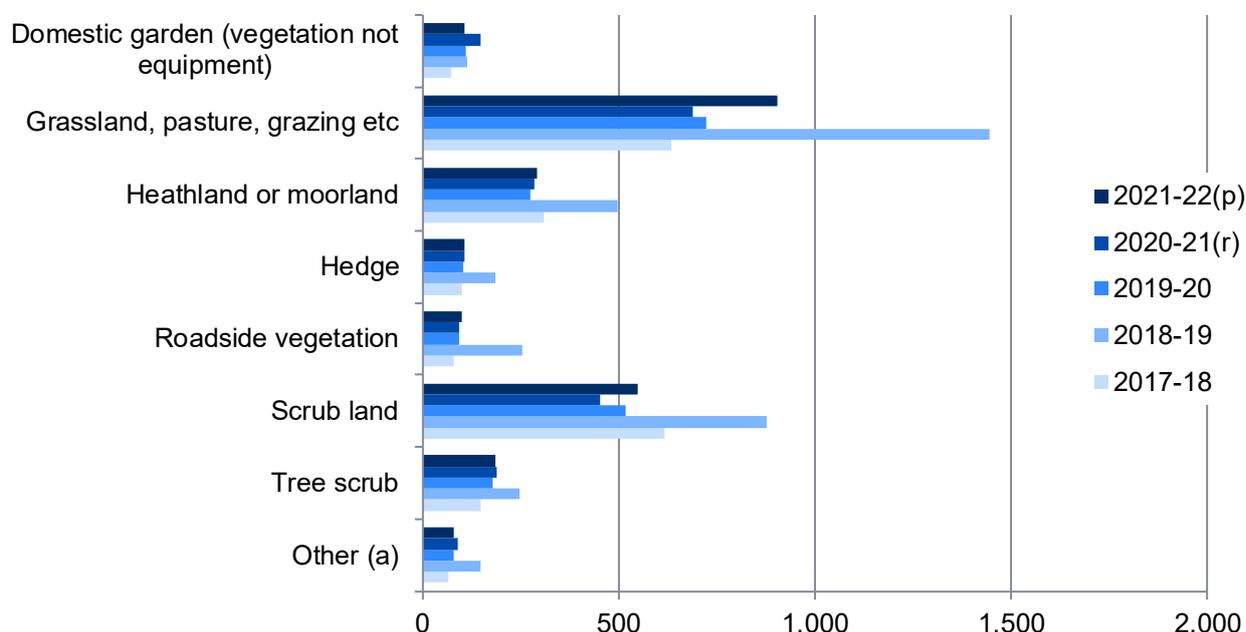
	2017-18	2018-19	2019-20	2020-21(r)	2021-22(p)
Canal/riverbank vegetation	30	74	28	50	38
Domestic garden (vegetation not equipment)	72	113	109	146	105
Grassland, pasture, grazing etc	635	1,446	721	688	903
Heathland or moorland	310	495	275	286	292
Hedge	100	184	102	106	108
Roadside vegetation	80	253	94	93	98
Scrub land	615	875	517	451	549
Tree scrub	147	246	179	189	185
Other (a)	35	75	51	40	41
<b>All secondary grassland, woodland and crop fires</b>	<b>2,024</b>	<b>3,761</b>	<b>2,076</b>	<b>2,049</b>	<b>2,319</b>

(a) Nurseries, market gardens, stacked/baled crop, woodland/forest - broadleaf/hardwood, woodland/forest - conifers/softwood, railway trackside vegetation and straw/stubble burning.

(r) Revised data

(p) Provisional data.

**Chart 5: Number of secondary grassland, woodland and crop fires, by location**



(a) 'Other' as shown in the above chart includes 'woodland/forest - broadleaf/hardwood' and 'woodland/forest - conifers/softwood', 'nurseries and market garden', 'stacked and baled crop', canal/riverbank vegetation, railway trackside vegetation.

(r) Revised data

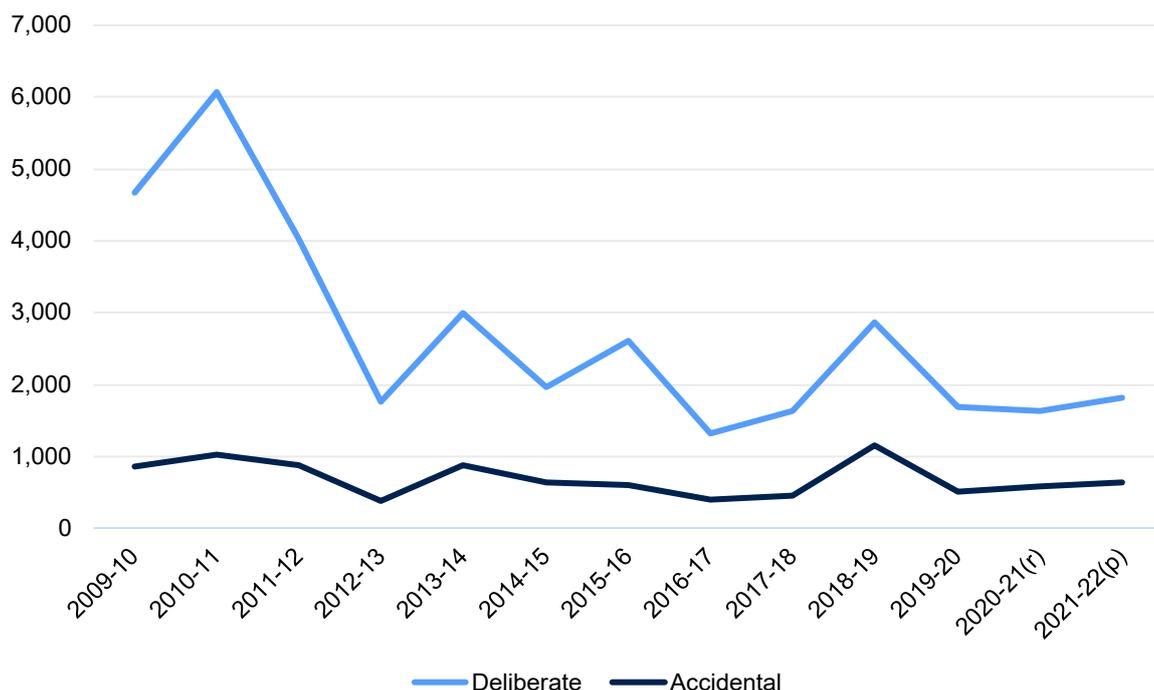
(p) Provisional data.

## Grassland, woodland and crop fires by motive

Since the introduction of the Incident Recording System (IRS) in April 2009 for collecting FRA incident data, greater detail relating to secondary fires has been recorded. This allows us to show a time series by motive from this date for all grassland, woodland and crop fires where previously only data for primary fires were available.

The chart below illustrates how much more fluctuation there is in the time series for deliberate fires than accidental fires. However we can also note that peaks and troughs, while less marked in the accidental time series, often mirror those in the deliberate fires time series. This could imply the effects of the weather, land management strategies and fire prevention work on all grassland fires.

**Chart 6: Grassland, woodland and crop fires by motive**



(r) Revised data  
(p) Provisional data.

Around three quarters of grassland, woodland and crop fires were deliberate in 2021-22, a similar proportion to previous years. Numbers of deliberate grassland fires rose by 11% compared with 2020-21 (to 1,820 fires), whilst numbers of accidental grassland fires rose by 9% (to 639).

For both deliberate and accidental fires occurring on grassland, woodland and crops, the vast majority were secondary fires; 95% of deliberate grassland fires and 94% of accidental grassland fires were secondary.

Deliberate secondary grassland, woodland and crop fires made up 70% of all grassland woodland and crop fires in 2021-22.

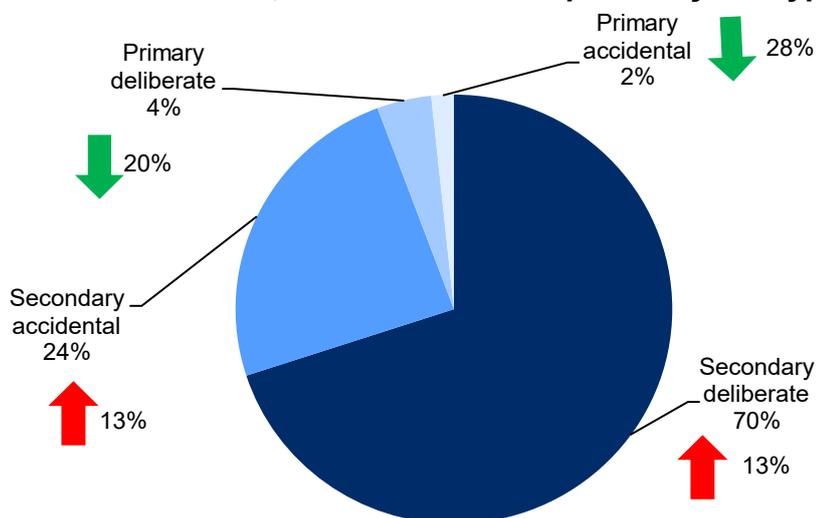
**Table 6: Number and percentage of grassland, woodland and crop fires, by motive**

	Number			Percentage		
	Deliberate	Accidental	All	Deliberate	Accidental	All
<b>Primary fires</b>						
2017-18	48	20	68	71	29	100
2018-19	176	71	253	70	28	100
2019-20	81	31	112	72	28	100
2020-21(r)	123	57	180	69	31	100
2021-22(p)	99	41	140	71	29	100
<b>Secondary fires</b>						
2017-18	1,588	436	2,024	78	22	100
2018-19	2,686	1,075	3,761	71	29	100
2019-20	1,604	472	2,076	77	23	100
2020-21(r)	1,520	529	2,049	74	26	100
2021-22(p)	1,721	598	2,319	74	26	100
<b>All fires</b>						
2017-18	1,636	456	2,092	78	22	100
2018-19	2,862	1,152	4,014	71	29	100
2019-20	1,685	503	2,188	77	23	100
2020-21(r)	1,643	586	2,229	74	26	100
2021-22(p)	1,820	639	2,459	74	26	100

(r) Revised data  
(p) Provisional data.

Accidental secondary grassland fires made up 24% of all grassland, woodland and crop fires in 2021-22 and increased by 13%.

**Chart 7: Grassland, woodland and crop fires by fire type and motive, 2021-22**



Of the 639 accidental (primary and secondary) grassland, woodland and crop fires in 2021-22, 38% occurred on grassland, pasture, grazing etc. and 21% on heathland and moorland.

There were 1,820 deliberate (primary and secondary) grassland, woodland and crop fires in 2021-22, 37% of which occurred on grassland, pasture, grazing etc. and 28% on scrub land.

## Grassland, woodland and crop fires by month

The majority of grassland, woodland and crop fires take place in the spring and summer months. April 2021 recorded the highest proportion (33%) of grassland fires for the financial year 2021-22 and the number increased by 10% compared with April 2020.

March 2022 saw 28% of the grassland fires in 2021-22 and more than double the number in March 2021. The month also saw the largest increase in numbers when there were 408 more fires than in March 2021. This figure for March is the highest since March 2012

**Table 7: Number and percentage of grassland, woodland and crop fires, by month**

	Number					Percentage				
	2017-18	2018-19	2019-20	2020-21(r)	2021-22(p)	2017-18	2018-19	2019-20	2020-21	2021-22
April	803	202	690	748	823	38	5	32	34	33
May	482	401	427	545	102	23	10	20	24	4
June	146	537	83	220	200	7	13	4	10	8
July	215	1,862	325	73	202	10	46	15	3	8
August	81	233	96	110	107	4	6	4	5	4
September	36	96	103	89	144	2	2	5	4	6
October	44	103	15	25	38	2	3	1	1	2
November	37	61	16	36	35	2	2	1	2	1
December	18	13	18	14	19	1	0	1	1	1
January	29	26	13	9	36	1	1	1	0	1
February	133	190	35	69	54	6	5	2	3	2
March	68	290	367	291	699	3	7	17	13	28
<b>Total fires</b>	<b>2,092</b>	<b>4,014</b>	<b>2,188</b>	<b>2,229</b>	<b>2,459</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

(r) Revised data

(p) Provisional data.

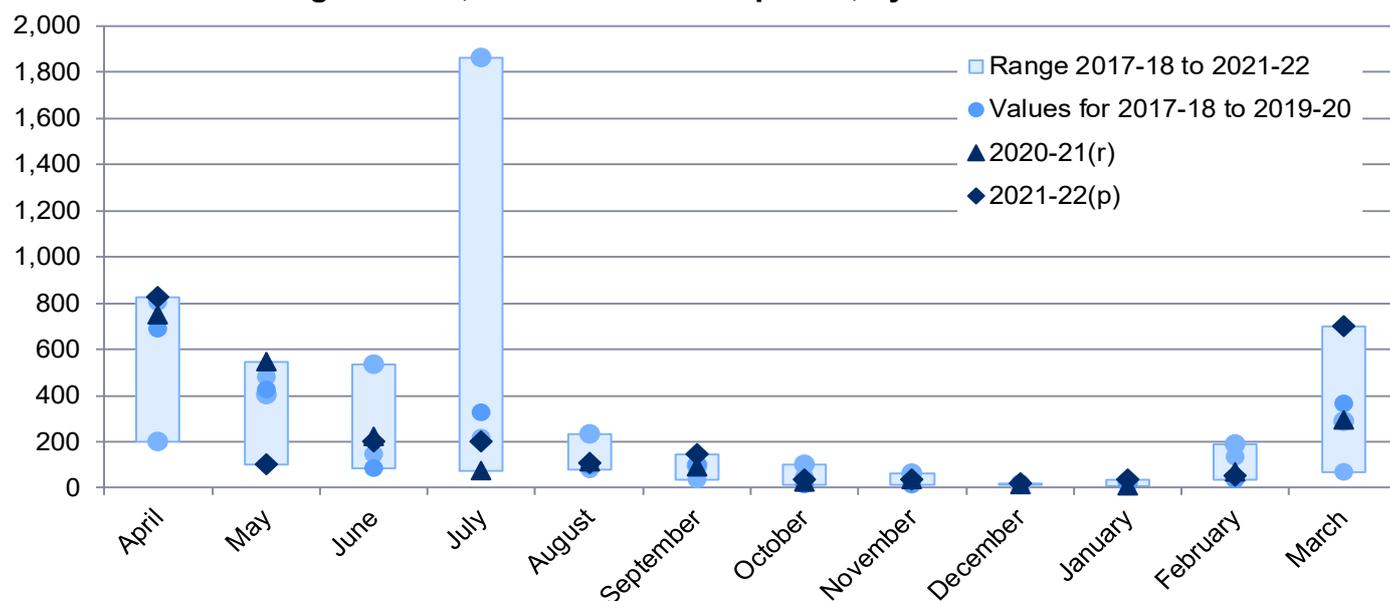
Along with March 2022 six other months of 2021-22 saw increases in numbers of grassland, woodland and crop fires compared with the previous year. The largest percentage increase was seen in January 2022, when there were four times as many grassland fires as in January 2021. July 2021 saw the second largest percentage increase when there were almost three times as many grassland fires compared with July 2020. However numbers in July 2020 were noticeably low compared with the time series.

The largest decrease (in percentage and numbers) was seen in May 2021 when numbers fell by 81%, equating to 443 fewer fires compared with May 2020.

On average there were 27 grassland fires each day in April 2021, compared with 25 each day in April 2020 and 81 in April 2010 (the highest daily average in the time series). The average number occurring each day in March increased from 9 in March 2021 to 23 in 2022.

Chart 8 identifies the grassland, woodland and crop fire data in 2021-22 and 2020-21, along with showing the years 2017-18 to 2019-20, and highlights which months are most volatile in grassland fire occurrences. From the chart we can see little variation in the numbers in the months November to January, but there is a wider spread during the spring to summer months March through to July, although the wide range shown for July is due to one notable outlier which occurred in July 2018.

**Chart 8: Number of grassland, woodland and crop fires, by month**



(r) Revised data.

(p) Provisional data.

The occurrence of outdoor fires is likely to be influenced by the weather. Data from the Met Office shows that in 2021-22, April 2021 had the most sunshine and least rainfall and had the most fires. In the last 9 years April has had the most fires each year except for 2018-19 when there was a large number of fires in July. The Met Office have produced a [factsheet explaining further the links between weather and the occurrence of grassland fires](#).

May 2021 saw the fewest number of grassland fires for May in the time series (from 2009-10) and compared with May 2020 there were 81% fewer fires. This month also saw 40% fewer of hours of sunshine compared with May 2020 and was the wettest May on record (dating back to 1844).

July 2021 saw the largest increase in numbers, with 129 more fires than in July 2020, over the same period rainfall decreased by 32% and there was around 44% more hours of sunshine compared with July 2020. However the largest percentage increase was seen in January 2022 when there were 4 times as many grassland fires compared with January 2021 from 9 to 36; rainfall in January 2022 was around 68% lower and there were 60% more hours of sunshine compared with January 2021.

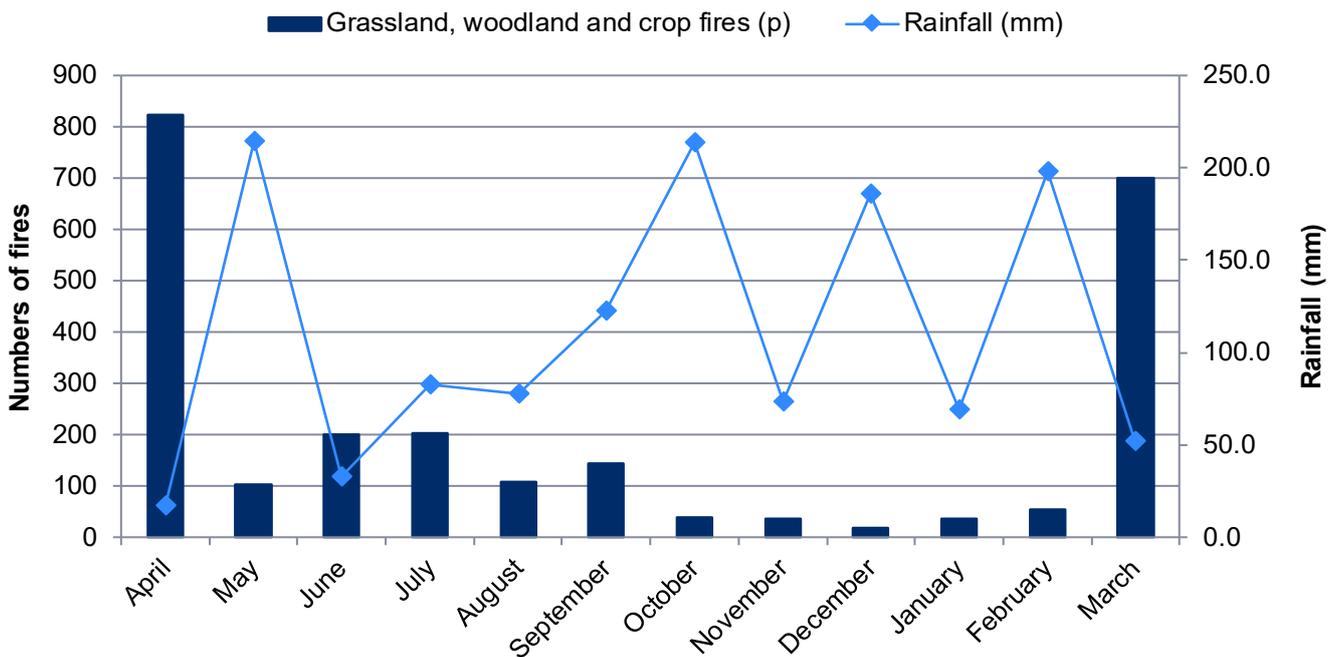
However, weather data cannot explain all the fluctuations; for example June 2021 had more hours of sunshine and less rainfall than June 2020, but saw fewer fires. This may be due to the weather data not being detailed enough (either by time or geography) but there may also be other factors influencing the numbers of fires.

It should be noted that other weather conditions such as snow and ice may also affect the number of fires in the winter.

[Weather data are available from the Met Office.](#)

Chart 9 shows the relationship between the number of grassland, woodland and crop fires and the levels of rainfall each month in 2021-22. Broadly speaking, when the levels of rainfall are high (as in October to February) the number of fires is low. However there were some unusual patterns of rainfall and grassland fires during 2021-22 particularly in the spring and early summer suggesting other factors may also have had an influence during this period.

**Chart 9: Number of grassland, woodland and crop fires and rainfall levels, by month, 2021-22**

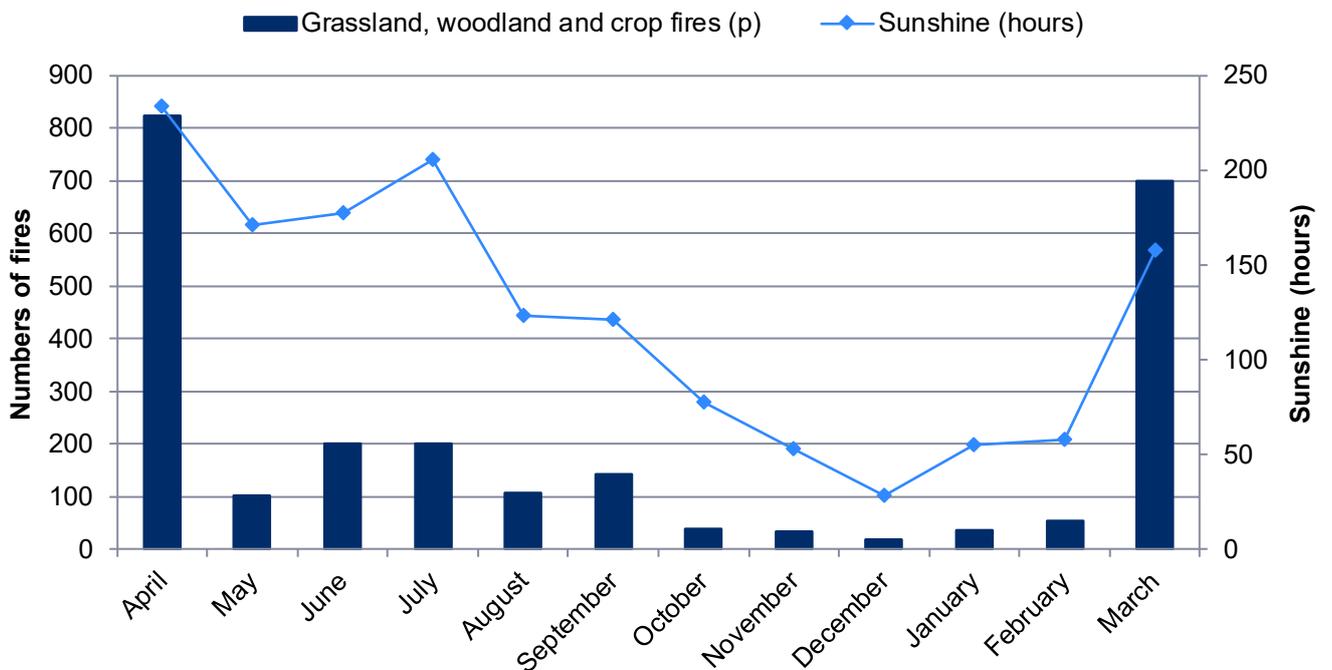


Source: Incident Recording System, Met Office

(p) Provisional data

The correlation with sunshine is seen in chart 10; where there were more hours of sunshine (for instance in April to June and March) there were with higher numbers of fires, whilst the months October to February have fewer hours of sunshine and fewer fires.

**Chart 10: Numbers of grassland, woodland and crop fires and hours of sunshine, by month, 2021-22**



Source: Incident Recording System, Met Office

(p) Provisional data

## Fires and false alarms by Fire and Rescue Authority and Local Authority

In 2021-22 the number of grassland fires increased substantially in North Wales and in Mid and West Wales leading to a reduction in the proportion of grassland fires in South Wales. In the last four years the proportion occurring in Mid and West Wales has increased from around a third of grassland, woodland and crop fires to over two-fifths in 2021-22.

**Table 8: Number and percentage of grassland, woodland and crop fires, by Fire and Rescue Authority**

	Number				Percentage		
	North Wales	Mid and West Wales	South Wales	Wales	North Wales	Mid and West Wales	South Wales
2012-13	282	724	1,139	2,145	13	34	53
2013-14	480	1,224	2,172	3,876	12	32	56
2014-15	411	850	1,352	2,613	16	33	52
2015-16	446	936	1,833	3,215	14	29	57
2016-17	299	486	931	1,716	17	28	54
2017-18	353	652	1,087	2,092	17	31	52
2018-19	654	1,266	2,094	4,014	16	32	52
2019-20	283	807	1,098	2,188	13	37	50
2020-21(r)	311	866	1,052	2,229	14	39	47
2021-22(p)	373	1,012	1,074	2,459	15	41	44
Percentage change 2020-21 to 2021-22	20	17	2	10	.	.	.

(r) Revised data

(p) Provisional data.

. Not applicable

The number of grassland, woodland and crop fires increased in all 3 FRs in 2021-22 compared with 2020-21, up 20% in North Wales, up 17% in Mid and West Wales and a rise of 2% in South Wales. Compared with 2001-02 the number of grassland, woodland and crop fires are lower by 57% in Mid and West Wales, 64% in North Wales and 80% in South Wales.

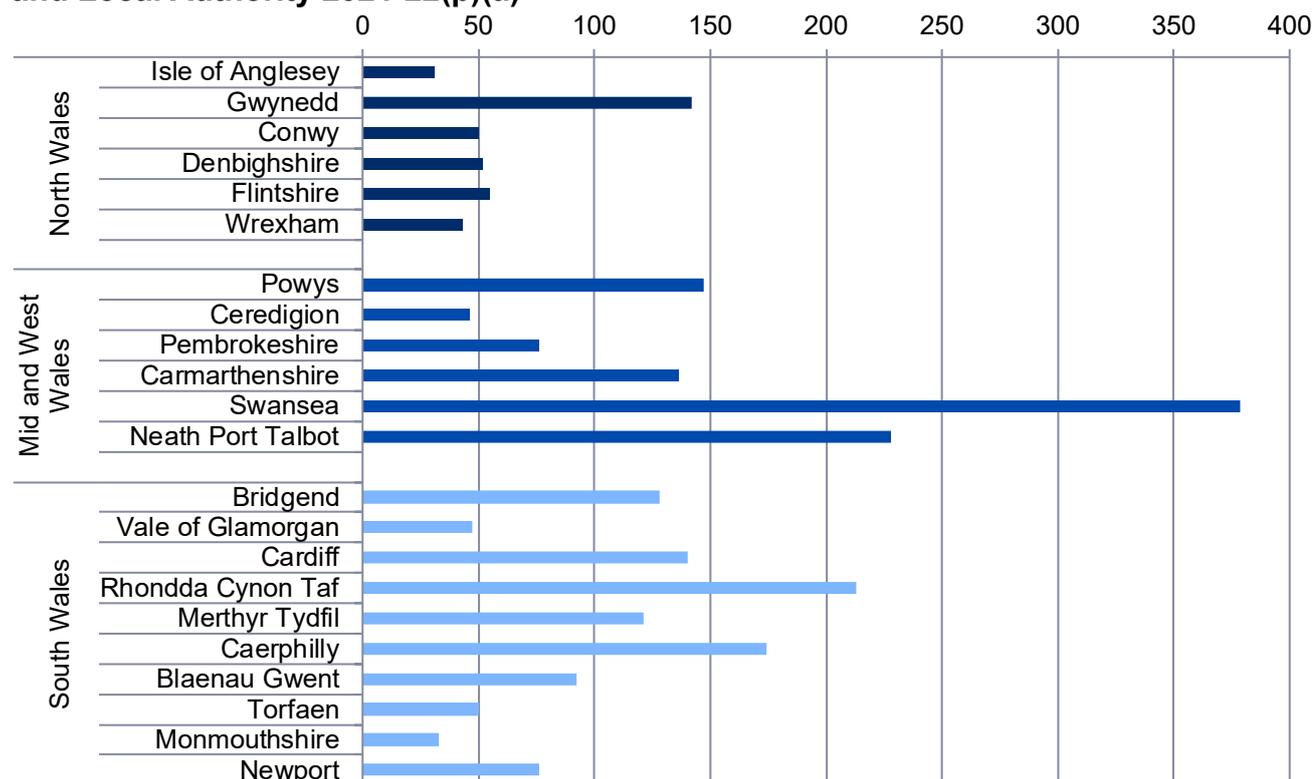
Swansea local authority had the highest number of grassland, woodland and crop fires in Wales in 2021-22 with 379 (equating to 15% of the grassland fires in Wales). Neath Port Talbot and Rhondda Cynon Taf each had 9% of grassland, woodland and crop fires in Wales in 2021-22. The Isle of Anglesey had the smallest number with 31 (1% of those in Wales), closely followed by Monmouthshire with 33 fires. Similar proportions were seen in earlier years.

17 local authorities saw an increase in the number of grassland, woodland and crop fires in 2021-22 (compared with 2020-21); the largest increases were in Denbighshire (up 68%), Merthyr Tydfil (up 57%) and Blaenau Gwent (up 53%).

The local authorities which saw decreases were Rhondda Cynon Taf (down 28%), Isle of Anglesey (down 23%), Torfaen (down 22%), Wrexham (down 19%) and Monmouthshire (down 11%).

Compared with 2011-12, 10 local authorities have seen decreases of at least 50%; only one LA has seen an increase, Ceredigion (of 24%) but numbers of grassland fires in this local authority are comparatively low.

**Chart 11: Number of grassland, woodland and crop fires, by Fire and Rescue Authority and Local Authority 2021-22(p)(a)**



(a) Local authorities have been assigned to incidents based on grid references; see the Key Quality Information for further details. Local Authority data are available on [StatsWales](#).  
 (p) Provisional data.

In 11 local authorities, 'grassland and pasture' were the largest category of location of grassland, woodland and crop fires in 2021-22. Of these, in both Neath Port Talbot and Ceredigion 61% of grassland, woodland and crop fires occurred on grassland and pasture; this is the highest proportion of all the local authorities.

Fires on scrub land made up the largest category of grassland fires in 6 local authorities, all of which are located within the South Wales FRS.

For 4 local authorities, heathland and moorland made up the largest category of grassland fires, 3 of which occurred in North Wales; the largest percentage being in Gwynedd (60%).

In Monmouthshire, the largest category of these fires occurred in hedges although the numbers for this local authority are low.

Almost a fifth of grassland, pasture, grazing etc fires occurred in Swansea, 28% of heathland and moorland fires occurred in Gwynedd and 22% of scrub land fires occurred in Rhondda Cynon Taf.

In 7 local authorities, over 90% of all grassland, woodland and crop fires were started deliberately, all 7 being in the South Wales FRA region. The highest proportion which were started deliberately occurred in Merthyr Tydfil (97%), closely followed by Rhondda Cynon Taf (96%), Blaenau Gwent (96%), Caerphilly (94%), Cardiff (92%), Newport (92%) and Bridgend (91%).

Ceredigion and Gwynedd had the smallest percentages of fires started deliberately (17% and 23% respectively).

In 2021-22 Gwynedd had the most accidental grassland fires in Wales, making up 17% of the accidental grassland fires in Wales.

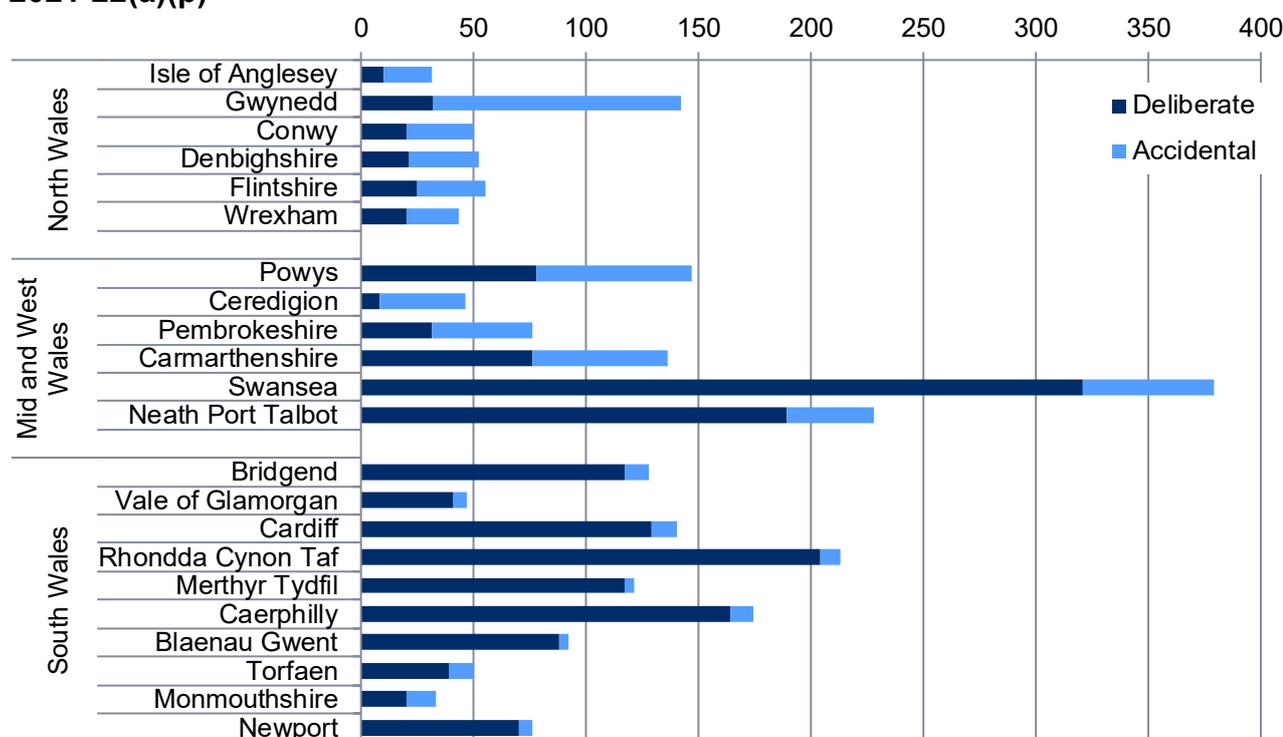
**Deliberate fires by local authority:** 16 local authorities saw an increase in the number of deliberate grassland, woodland and crop fires in 2021-22 (compared with 2020-21). The largest percentage increase (163%) was seen in Denbighshire though the actual number was the third lowest of all the local authorities. 4 further local authorities saw increases of at least 50% compared with 2020-21; Gwynedd (up 68%), Conwy (up 67%), Blaenau Gwent (up 63%) and Merthyr Tydfil (up 58%).

5 local authorities saw decreases in deliberate grassland fires, the largest percentage decrease was in the Isle of Anglesey of 41%.

1 local authority (Ceredigion) saw no percentage change.

All but two local authorities in Wales have seen decreases in deliberate grassland fires compared with 2011-12, the largest percentage change being in Wrexham (87%). Only Ceredigion and Carmarthenshire saw increases compared with 2011-12 (33% and 15% respectively) but numbers in these local authorities are relatively small.

**Chart 12: Numbers of grassland, woodland and crop fires by local authority and motive, 2021-22(a)(p)**



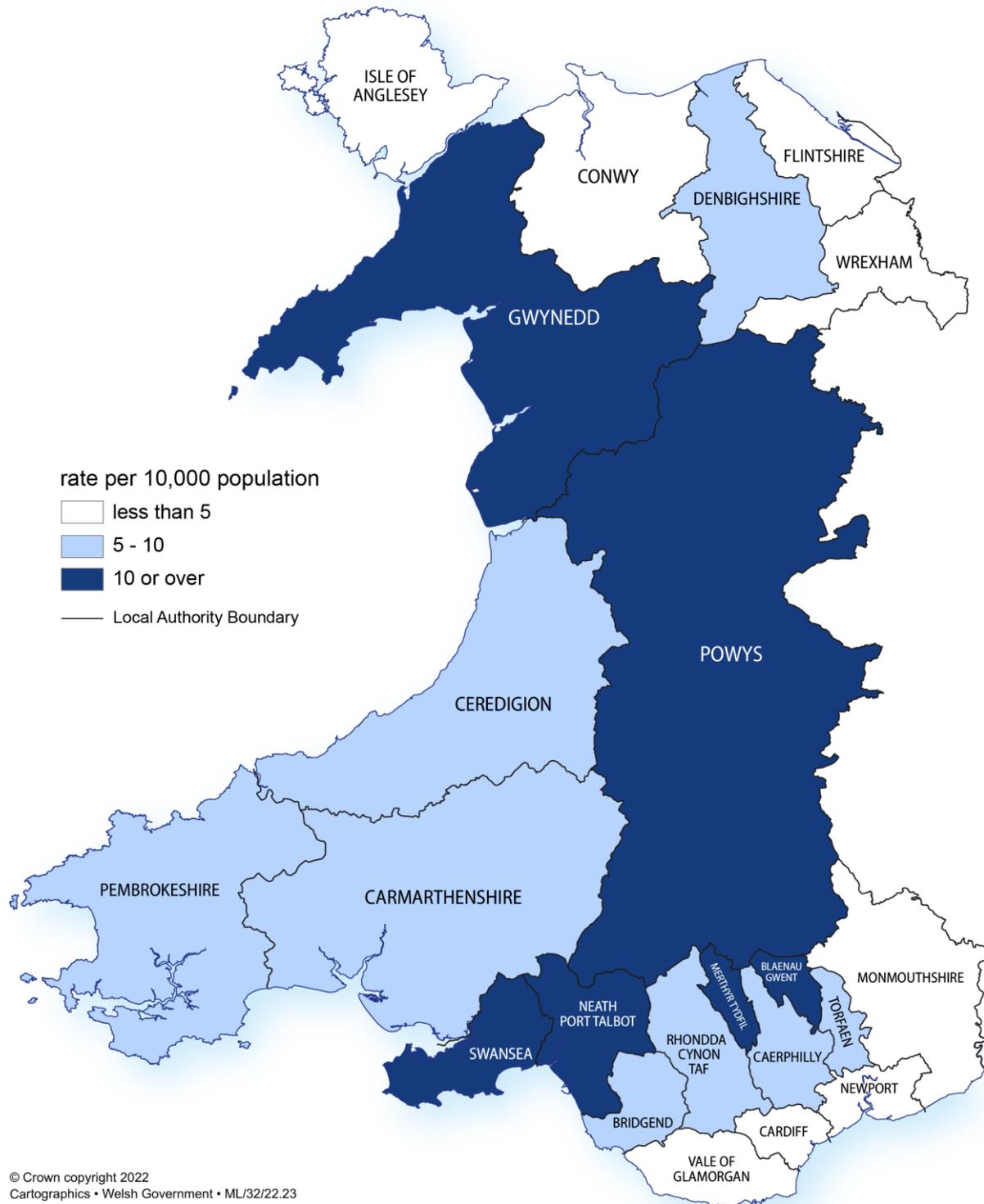
(a) Local authorities have been assigned to incidents based on grid references; see the Key Quality Information for further details.

(p) Provisional data.

The map on the next page shows rates of grassland fires per 10,000 population for each Local Authority in Wales in 2021-22. Merthyr Tydfil has the highest rate in 2021-22 with 20.6 fires occurring for every 10,000 people<sup>1</sup>; Wrexham had the lowest rate of 3.2 per 10,000 population

<sup>1</sup> Based on Census 2021 population and therefore not directly comparable with previous years which were based on Mid Year Estimates

# Grassland, Woodland and Crop fires per 10,000 population by Local Authority 2021-22



© Crown copyright 2022  
 Cartographics • Welsh Government • ML/32/22.23  
 October 2022



## Fire false alarms

Data on fire false alarms on grassland, woodland and crops became available with the introduction of IRS in April 2009.

There was a fall of 10% in the number of grassland, woodland and crop related fire false alarms attended by FRAs in 2021-22 (compared with 2020-21). Only North Wales saw an increase in numbers (up 5%); Mid and West Wales saw a fall of 7% whilst in South Wales there was a decrease of 17%. All 3 FRSs have seen decreases compared with a decade ago; down 39% in South Wales, down 31% in North Wales, and down 30% Mid and West Wales.

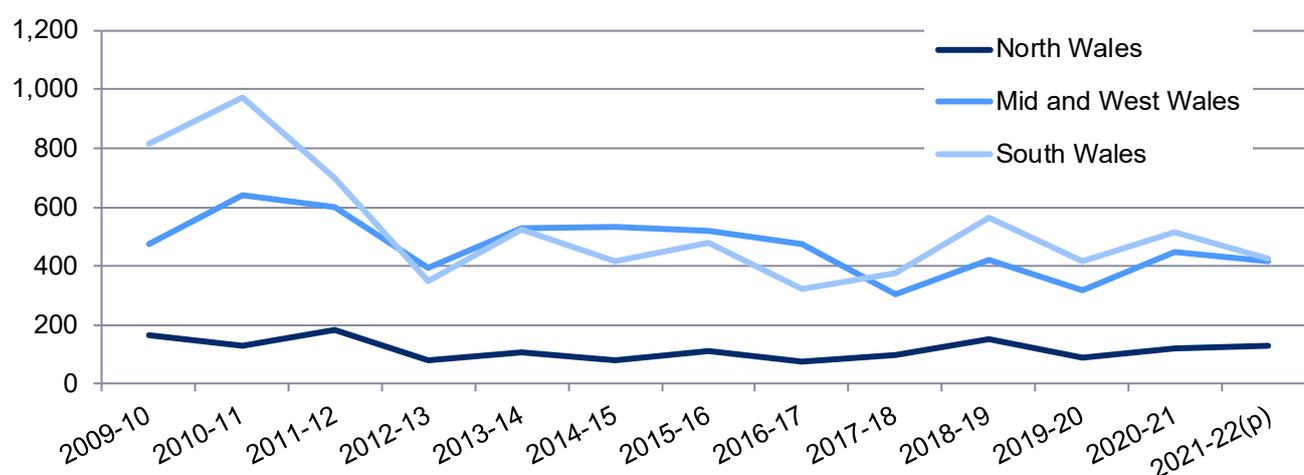
Only 1% of these fire false alarms in 2021-22 were due to malicious calls, with the remaining 99% due to good intent. South Wales continued to have the highest number of malicious calls relating to grassland, woodland and crop fire false alarms, which in turn equated to 2% of the grassland, woodland and crop fire false alarms attended in the region.

**Table 9: Number of grassland, woodland and crop fire false alarms, by Fire and Rescue Authority**

	North Wales	Mid and West Wales	South Wales	Wales
2012-13	81	394	348	823
2013-14	105	528	523	1,156
2014-15	81	531	416	1,028
2015-16	112	521	480	1,113
2016-17	76	475	321	872
2017-18	96	306	376	778
2018-19	153	421	565	1,139
2019-20	89	316	416	821
2020-21	121	450	513	1,084
2021-22(p)	127	418	427	972
Percentage change 2020-21 to 2021-22	5	-7	-17	-10

(p) Provisional data

**Chart 13: Number of grassland, woodland and crop related fire false alarms, by Fire and Rescue Authority**



(r) Revised data.

(p) Provisional data.

## Section 2: Casualties from grassland, woodland and crop fires

Since 2011-12 there have been fewer than 10 casualties each year resulting from grassland, woodland and crop fires.

There has been one fatal casualty in a grassland, woodland and crop fire since 2001-02, which occurred in 2007-08. Since 2001-02 there have been 109 non-fatal casualties in these fires; 42% of the injuries incurred were burns and 34% were sent for precautionary checks.

Data on rescues from fires became available with the introduction of IRS in April 2009. Since then there have been 2 rescues of an uninjured person from a grassland, woodland or crop fire, 1 in 2010-11 and 1 in 2015-16.

There were 3 non-fatal casualties in a grassland, woodland and crop fires in 2021-22, the same number as in 2020-21, although numbers tend to be small and are prone to fluctuation. These 3 casualties equate to less than 1% of all non-fatal fire casualties in Wales in 2021-22.

Over the last 10 years 31% of non-fatal grassland, woodland and crop fire casualties were the result of fires which were started deliberately.

During this same time period, 49% of grassland, woodland and crop related casualties occurred in Mid and West Wales, 33% in South Wales and 18% in North Wales.

**Table 10: Number of casualties and rescues from grassland, woodland and crop fires**

	<u>Fatalities</u>	<u>Non-fatal casualties</u>	<u>Rescues (no injury)</u>
2012-13	0	5	0
2013-14	0	1	0
2014-15	0	6	0
2015-16	0	6	1
2016-17	0	2	0
2017-18	0	5	0
2018-19	0	2	0
2019-20	0	6	0
2020-21	0	3	0
2021-22(p)	0	3	0

(p) Provisional data.

### Section 3: Area of damage caused by grassland, woodland and crop fires

Fires are classified according to the size of area damaged in the course of a fire. In 2021-22, 61% of primary grassland, woodland and crop fires in Wales damaged 20 square metres or less. A further 26% damaged over 200 square metres. All size categories of primary fires saw decreases.

For secondary fires, the majority (59%) damaged 20 square metres or less. Over a fifth of secondary fires damaged an area over 200 square metres, whilst nearly a fifth damaged between 21 and 200 square metres.

Overall the number of grassland, woodland and crop fires in 2021-22 in each category of area damaged varied; those which damaged less than 20 square metres increased by 13% whilst the number of fires damaging 21 to 200 square metres fell by 7% and the number damaging more than 200 squares saw a rise by 23%.

**Table 11: Number and percentage of grassland woodland and crop fires by area damaged**

	Number					Percentage				
	2017-18	2018-19	2019-20	2020-21(r)	2021-22(p)	2017-18	2018-19	2019-20	2020-21	2021-22
<b>Primary fires</b>										
0-20 sq m	40	93	59	89	86	59	37	53	49	61
21-200 sq m	9	50	19	29	17	13	20	17	16	12
201+ sq m	19	110	34	62	37	28	43	30	34	26
<b>Total</b>	<b>68</b>	<b>253</b>	<b>112</b>	<b>180</b>	<b>140</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Secondary fires</b>										
0-20 sq m	1,139	2,119	1,190	1,210	1,375	56	56	57	59	59
21-200 sq m	532	1,021	480	466	444	26	27	23	23	19
201+ sq m	353	621	406	373	500	17	17	20	18	22
<b>Total</b>	<b>2,024</b>	<b>3,761</b>	<b>2,076</b>	<b>2,049</b>	<b>2,319</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>All fires</b>										
0-20 sq m	1,179	2,212	1,249	1,299	1,461	56	55	57	58	59
21-200 sq m	541	1,071	499	495	461	26	27	23	22	19
201+ sq m	372	731	440	435	537	18	18	20	20	22
<b>Total</b>	<b>2,092</b>	<b>4,014</b>	<b>2,188</b>	<b>2,229</b>	<b>2,459</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

(r) Revised data.

(p) Provisional data

In 2021-22, 75 grassland, woodland and crop fires took place on National Park land; 87% of these were secondary fires. Over the last 10 years there have been 686 grassland, woodland and crop fires on National Park land, equating to 3% of all grassland, woodland and crop fires. 91% of these fires (since 2012-13) were secondary fires.

In 16% of primary grassland, woodland and crop fires in 2021-22, strong winds were a rapid growth factor.

Comparative data for secondary fires is not available. Over the last 10 years, more than two fifths of primary fires where strong winds were a factor damaged over 10,000 square metres.

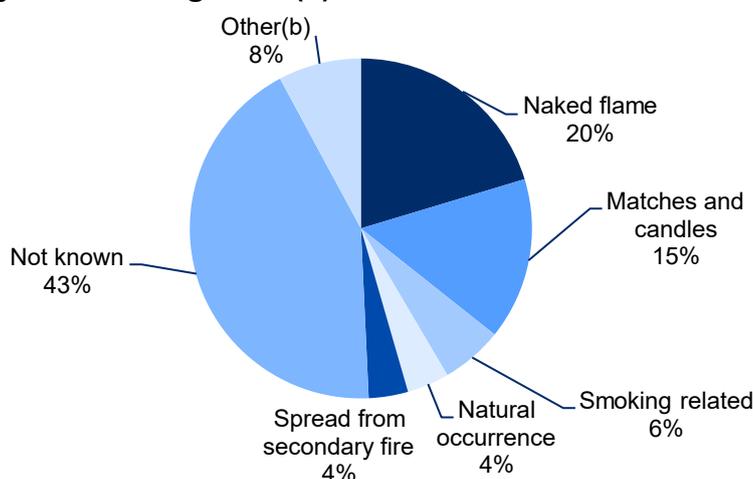
## Section 4: Source of ignition and cause of grassland, woodland and crop fires

Information is available on the source of primary fires, but not secondary fires. Chart 14 looks at the source of the flame, spark or heat that first ignited the fire. This differs from the cause of the fire, which refers to why the fire started, for instance deliberate (not shown in chart 15), careless handling, overheating or natural causes (which are classed as accidental causes).

In 20% of the primary grassland fires over the last 5 years the source of ignition was a naked flame and a further 15% were due to matches and candles. In 43% of primary grassland fires in the last 5 years, the source was unknown.

In 2021-22 numbers of grassland primary fires caused by naked flames decreased by 31%, those caused by matches and candles decreased by 34% and those where the source was unknown fell by 19%.

**Chart 14: Percentage of primary grassland, woodland and crop fires, 2017-18 to 2021-22, by source of ignition(a)**



(a) Accidental and deliberate grassland fires.

(b) Includes Bombs and explosives, Fireworks, Fuel/Chemical, Other, Wet hay, Cooking appliance, Vehicles and Other domestic style appliance.

**Deliberate primary fires:** As may be expected, for most deliberate fires over the last 5 years the source of ignition was a naked flame (26%) or matches and candles (20%). A further 6% were started with smokers' materials. In 43% of deliberate fires the source was unknown.

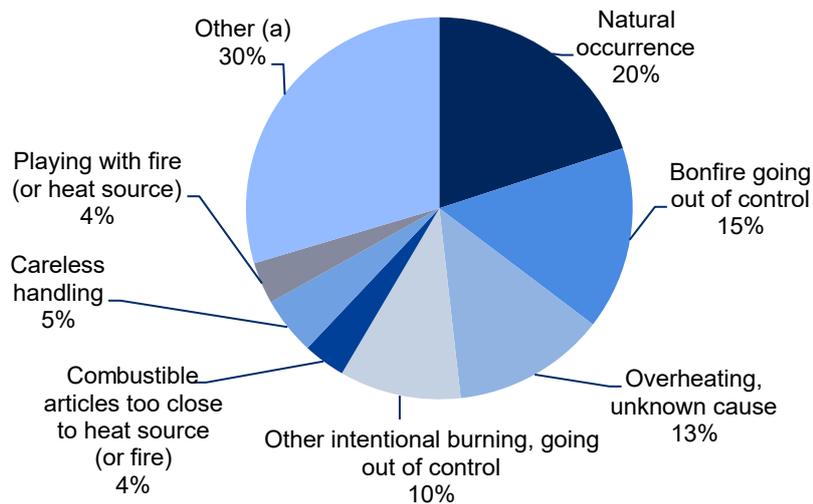
**Accidental primary fires:** The sources of accidental fires are more varied; 12% occurred naturally, 12% spread from secondary fires and 8% started with a naked flame. In 43% of accidental fires the source was unknown.

In 2021-22, for 49% of primary fires the source was recorded as unknown, and 50% of these were deliberate fires.

The causes of accidental primary grassland, woodland and crop fires are also varied. In chart 15, 30% of these fires over the last 5 years are shown as having 'other' causes. These include negligent use of equipment, fault in equipment or appliance, faulty fuel supply, and person too close to heat source (or fire) as well as unspecified causes (a quarter of these fires have not got a specified cause).

In the last 5 years, 20% of accidental primary grassland, woodland and crop fires were determined to have been caused naturally and 15% were due to bonfires going out of control.

**Chart 15: Percentage of accidental primary grassland, woodland and crop fires, 2017-18 to 2021-22, by main cause**



(a) Other in the above chart includes 'Not applicable', 'Fault in equipment or appliance', 'Faulty fuel supply', 'Negligent use of equipment or appliance (heat source)', 'Accumulation of flammable material', and 'Person too close to heat source (or fire)'.

## Section 5: Additional analysis - Calendar year data

This analysis has been included as we are aware that users often refer to data on the situation in the calendar year rather than the financial year, and also to question the impact of the Easter break on the patterns seen.

As has been noted earlier in the bulletin there is regularly a peak in grassland, woodland and crop fires seen in April (beginning of the financial year) and March (end of the financial year), which *may* be linked to the timing of Easter. Analysis of calendar year data can be useful, as this limits periods of Easter in a year to one and also to show the peak period for fires as a continuous time.

Numbers of grassland, woodland and crop fires and fire false alarms fell by 13% in 2021 (compared with 2020); numbers of fires fell by 10% and fire false alarms saw a decrease of 20%.

In 2021 the number of primary grassland fires fell by 40% compared with 2020, whilst numbers of secondary fires fell by 8% compared with 2020.

**Table 12: Numbers of fires and fire false alarms and numbers which are grassland, woodland and crop related – calendar year**

	2012	2013	2014	2015	2016	2017	2018	2019	2020(r)	2021(p)
Primary	4,932	4,896	4,538	4,591	4,885	4,356	4,459	4,212	3,924	3,844
of which grassland(a)	94	137	76	115	76	77	244	106	191	115
Secondary	6,769	8,276	6,344	6,958	5,905	6,467	7,616	6,278	6,079	5,980
of which grassland(a)	2,515	4,081	2,449	3,067	1,923	2,133	3,494	2,173	2,084	1,924
Total fires(b)	12,394	13,919	11,408	12,036	11,199	11,235	12,433	10,844	10,319	10,156
of which grassland(a)	2,609	4,218	2,525	3,182	1,999	2,210	3,738	2,279	2,275	2,039
Fire false alarms	15,805	15,433	15,392	14,351	15,161	14,077	14,485	14,243	14,765	14,969
of which grassland(a)	1,066	1,152	1,030	1,090	900	851	1,057	852	1,069	859
All fires and fire false alarms	28,199	26,841	29,311	26,387	26,360	25,312	26,918	25,087	25,084	25,125
of which grassland(a)	3,675	5,370	3,555	4,272	2,899	3,061	4,795	3,131	3,344	2,898

(a) Grassland, woodland and crops

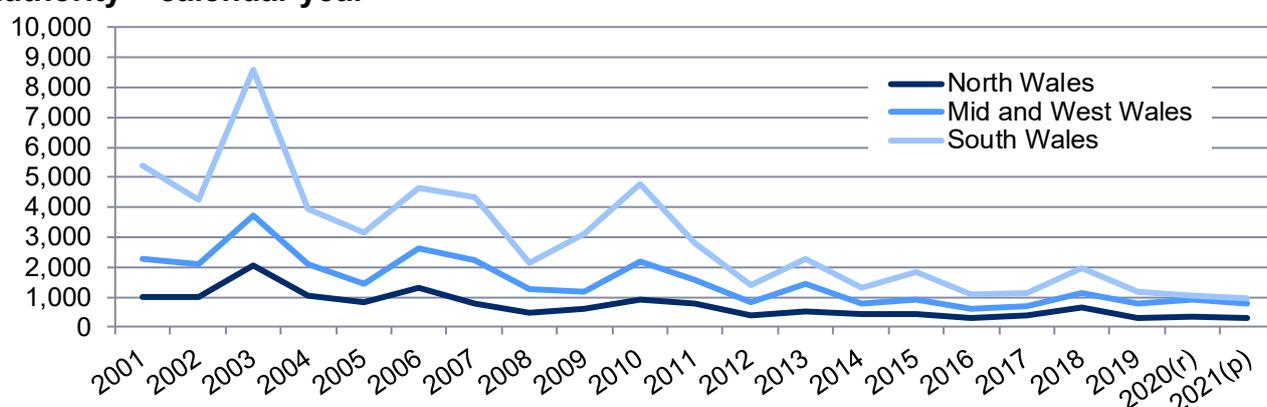
(b) Includes chimney fires

(r) Revised data.

(p) Provisional data.

Chart 16 shows all 3 FRAs have seen a general downward trend since 2001, with numbers of grassland woodland and crop fires falling by 82% in South Wales, 71% in North Wales and 66% in Mid and West Wales. Compared with 2020 all FRSs saw a decrease, down 16% in Mid and West Wales, down 10% North Wales and South Wales saw a fall of 6%.

**Chart 16: Numbers of grassland, woodland and crop fires by fire and rescue authority – calendar year**



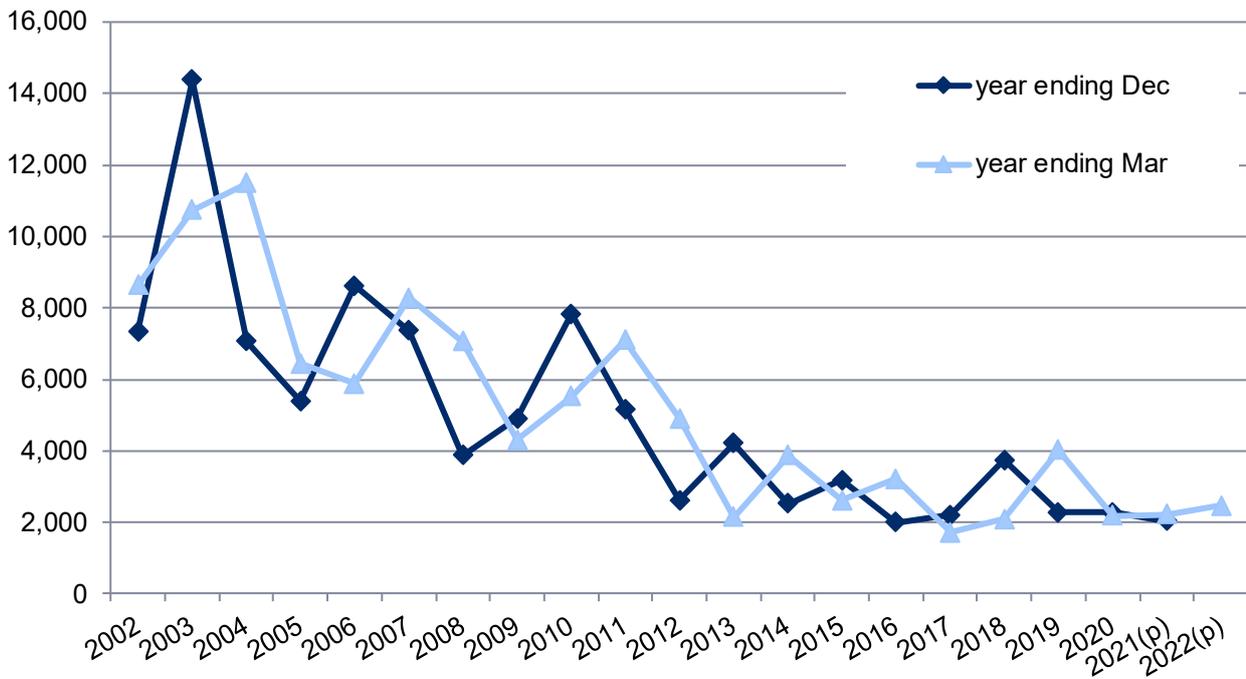
(p) Provisional data

(r) Revised data

## Comparisons between calendar year and financial year

A comparison between calendar years and financial years as shown in Chart 17 shows similar patterns with peaks and troughs displaced by 3 months (i.e. a peak seen in calendar year 2003 will be seen in financial year 2003-04). This is intuitively true since calendar years and financial years have 9 months in common (e.g. calendar year 2003 shares 9 months with financial year 2003-04).

**Chart 17: Grassland, woodland and crop fires - comparing calendar year data with financial year**



(p) Data for financial year 2021-22 and calendar year 2021 are provisional.

## Easter holidays

Table 13 shows the numbers, percentages and daily rates of grassland, woodland and crop fires occurring around Easter each year.

The Easter period in 2020 occurred wholly within the April 2020, and therefore falls entirely within 2020-21. Easter in 2021 fell partly in March 2021 and partly in April 2021. The Easter days occurring in March 2021 are included in the analysis below. Financial year 2020-21 therefore has 21 days of Easter (16 in 2020 and 5 in 2021).

The numbers of grassland fires in this Easter period decreased for both financial and calendar years. The percentage of grassland fires occurring during Easter dropped from 21% in the financial year 2020-21 to 9% in 2021-22. Similarly in the calendar year the proportion at Easter went from 18% in 2020 to 13% in 2021.

The table also makes a comparison with the daily rate for the year and the daily rate for the combined months of April and March (usually numbers of fires are high in these two months and span the Easter period). In 2021-22 the daily rate of fires at Easter (11 days in total) was lower at Easter than the daily rate in March 2022 and April 2021 combined but higher than the annual daily rate.

For the calendar year 2021 the daily rate at Easter 2021 was slightly lower than the daily rate in March 2021 and April 2021 combined but higher than the annual daily rate.

**Table 13: Analysis of grassland, woodland and crop fires at Easter (a)**

	Year Ending March						Year ending December					
	Days of Easter	Fires (b)	% of fires occurring at Easter	Daily rate			Days of Easter	Fires (b)	% of fires occurring at Easter	Daily rate		
				at Easter	April & March (c)	Each year				at Easter	March /April (c)	Each year
2012	17	1,341	27	79	46	13	16	498	19	31	27	7
2013	24	658	31	27	18	6	16	906	21	57	30	12
2014	7	669	17	96	27	11	16	467	18	29	17	7
2015	20	482	18	24	16	7	16	551	17	34	32	9
2016	19	565	18	30	33	9	17	94	5	6	15	5
2017	10	65	4	7	11	5	16	550	25	34	18	6
2018	24	579	28	24	14	6	16	48	1	3	4	10
2019	8	19	0	2	8	11	16	510	22	32	16	6
2020	16	510	23	32	17	6	16	416	18	26	18	6
2021(p)	21	472	21	22	17	6	16	275	13	17	18	6
2022(p)	11	219	9	20	25	7	16	~	~	~	~	~

(a) For the purposes of this table, Easter is defined as the 16 day period starting on the Saturday before Good Friday and ending on the Sunday after Easter Monday. For most years this period matches the Easter school holidays. See Key Quality Information for dates.

(b) Grassland, woodland and crop fires.

(c) In the financial year April is at the beginning of the period whilst March is at the end (e.g. April 2017 and March 2018 in 2017-18) whilst in the calendar year March and April are consecutive months.

(p) Data for financial year 2019-20 and calendar year 2019 are provisional.

~ Data not available yet

## Glossary

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

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. Data on chimney fires do not fall within the scope of this bulletin.

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

**Fire False Alarms** are events in which the Fire and Rescue Authority was called to a reported fire which turned out not to exist. This bulletin does not include data on Special Service Incident False Alarms. False alarms are categorised as follows:

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

**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.

**Grassland fires**, from 2009-10, include fires in gardens, crops, woods, nurseries/market gardens, heathland/moorland, grassland/pasture/grazing etc., scrub land, railway trackside vegetation, roadside vegetation and roadside vegetation. Prior to this date grassland fires referred to primary fires in allotments, gardens, crops, woods and other agricultural locations and secondary fires on grassland, heathland and as a result of intentional straw and stubble burning. This is a broader definition than the land use definition in agricultural publications.

**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.

**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-derelect 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.

## Key quality information

The analysis in this bulletin relates to fire and rescue service incidents between April 2021 and end March 2022 whilst making comparisons with April 2020 to March 2021 a period largely effected by the Coronavirus (COVID-19) pandemic, and therefore the public health restrictions that were in place during the course of the pandemic. Whilst restrictions were eased during 2021-22 there were some periods during the year when restrictions remained in place and patterns of behaviour may not have returned to that occurring prior to the pandemic.

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 almost 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 almost 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 around 1,700 staff including over 1,300 fire-fighters who operate from 47 fire stations throughout South Wales.

## Prevention

Following the exceptional forest fires in Easter 2003 caused by weather conditions, Forest Research used geospatial mapping and qualitative techniques (interviews, observation, and surveys) to characterise and understand the problem of wildfires, focusing on the social factors behind the issue. Their [information paper includes details of measures put in place to avoid similar occurrences](#).

The Welsh Government has issued [guidance on heather and grass burning](#). Currently, burning is only allowed during the following periods:

- 1 October - 31 March in Uplands
- 1 November - 15 March elsewhere

A license is required at all other times and can only be obtained in very specific circumstances. Application for burning during restricted periods can be made through the Welsh Government Website at the above link. It is also illegal to burn between sunset and sunrise. In addition a Burning Management Plan has to be completed for all proposed burnings.

Burning in Wales is controlled by [The Heather and Grass etc. Burning \(Wales\) Regulations 2008](#) and [The Heather and Grass Burning Code](#), which gives advice on burning best practice.

## Relevance

The Welsh Government uses the information in this bulletin to monitor the trends in grassland fires occurring 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. 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 more details of the information collected and held on IRS please see 'Further details' on page 36.

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 usually published in 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. 2019-20 data are currently marked as provisional and may be revised in future publications.

The table below compares the provisional 2020-21 data which was published in September 2021 (and in Grassland, woodland and crop fires 2020-21 in October 2021) with the revised data (extracted in August 2022) as published in this bulletin. There were revisions to both primary and secondary fires, 1 fewer primary fire and 2 fewer secondary fires.

### Comparison of provisional data with revised data (2020-21)

	Provisional 2020-21 Published in September 2021	Revised 2020-21 Published in September 2022	Percentage change
Primary grassland, woodland and crop fires	181	180	-0.6
Secondary grassland, woodland and crop fires	2,051	2,049	-0.1

In earlier releases we have included a table showing a time series of the year on year revisions. The table tends to show that the extent of revisions has been much lower in recent years.

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. These grid references submitted by the FRAs are used to determine the local authority in which the incident occurred.

## **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)
  - .
  - ..
  - ~
  - \*
  - p
  - r
- not applicable
- not available
- not available yet
- disclosive or not sufficiently robust for publication
- provisional
- revised

## **Timeliness and punctuality**

This Statistical Bulletin is pre-announced and then published on the [Statistics & Research website](#).

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 Deliberate fires bulletin if published) which is usually extracted in July each year. This bulletin is usually published in the October around 7 months after the financial 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.

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 the Department for Communities and Local Government 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 2021-22 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.

## Easter holidays

Numbers of fires in March and April may be affected by Easter holidays (bank holidays and school holidays). As the timing of Easter can change this can impact on the financial year in which the school holidays may fall. For the purpose of this bulletin 'Easter' is taken from the Saturday before Good Friday to the Sunday after Easter Monday. School closures due to the COVID-19 pandemic have also been noted.

Main school Easter holidays for the last few years are listed below:

- 2022 – Monday 11<sup>th</sup> April to Friday 22<sup>nd</sup> April. The whole of the Easter holidays in 2022 are outside the scope of this bulletin.

Good Friday 15<sup>th</sup> April Easter Monday 18<sup>th</sup> April

- 2021 – Monday 29<sup>th</sup> March to Friday 9<sup>th</sup> April. Fires occurring between Saturday 27<sup>th</sup> March and Wednesday 31<sup>st</sup> March (inclusive) are included in the analysis of fires at Easter in 2020-21. The remainder of the Easter holidays in 2021 are included in 2021-22.

Following further school closures in January 2021 due to the COVID-19 pandemic a phased reopening of schools began on 22<sup>nd</sup> February 2021 with all remaining pupils returning to learning on site by 12<sup>th</sup> April 2021.

Good Friday 2<sup>nd</sup> April Easter Monday 5<sup>th</sup> April

- 2020 – Monday 6<sup>th</sup> April to Friday 17<sup>th</sup> April, the whole period falling within the financial year 2020-21. It should be noted that all schools across Wales closed on 20 March 2020 due to the COVID-19 pandemic, with the exception of provision for vulnerable children and children of critical workers. They did not reopen until 29<sup>th</sup> June 2020.

Good Friday 10<sup>th</sup> April, Easter Monday 13<sup>th</sup> April.

- 2019 – Monday 15<sup>th</sup> April to Friday 26<sup>th</sup> April, the whole period falling within the financial year 2019-20. Some schools may have scheduled an inset day to occur before or after this holiday period.

Good Friday 19<sup>th</sup> April, Easter Monday 22<sup>nd</sup> April.

- 2018 – Local Authorities were grouped as per the linked [Minister's statement](#) with 16 LAs in Group A (Easter holiday Friday 30<sup>th</sup> March – Friday 13<sup>th</sup> April 2018) and the remaining 6 in Group B (Easter holidays Monday 26<sup>th</sup> March - Friday 6<sup>th</sup> April 2018)

Good Friday 30<sup>th</sup> March, Easter Monday 2<sup>nd</sup> April.

- 2017 - Monday 10<sup>th</sup> April to Friday 21<sup>st</sup> April, the whole period falling within the financial year 2017-18. Good Friday 14<sup>th</sup> April, Easter Monday 17<sup>th</sup> April.
- 2016 - Friday 25<sup>th</sup> March to Friday 8<sup>th</sup> April. The first week of the school holidays falls within 2015-16; the remainder of the holiday falls within 2016-17. Good Friday 25<sup>th</sup> March, Easter Monday 28<sup>th</sup> March.
- 2015 - Monday 30<sup>th</sup> March to Friday 10<sup>th</sup> April. Only the 30<sup>th</sup> and 31<sup>st</sup> March fall in the financial year 2014-15, the remainder of the holiday falls within 2015-16. Good Friday 3<sup>rd</sup> April, Easter Monday 6<sup>th</sup> April.
- In academic years prior to 2014/15 Easter holidays may have varied slightly between local authorities but would have occurred around the time of Good Friday and Easter Monday
- 2014 - Good Friday 18<sup>th</sup> April, Easter Monday 21<sup>st</sup> April. School holidays would have fallen wholly in financial year 2014-15.
- 2013 – Good Friday 29<sup>th</sup> March, Easter Monday 1<sup>st</sup> April. School holidays would have partially fallen in financial year 2012-13 and partially in 2013-14.

## 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)

[Data for 2014-15 onwards](#)

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

Limited Northern Ireland data are available in an annual report 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.

The statistics last underwent a full [assessment](#) against the [Code of Practice](#) in June 2012 (Report number 208).

Since the review by the UKSA, we have continued to comply with the [Code of Practice](#) for Statistics, and have made the following improvements:

- brought forward the publication date improving timeliness
- added Local Authority analysis
- extended the use of weather data
- improved Key Quality information
- publication of excel tables alongside the bulletin

## Well-being of Future Generations Act (WFG)

The Well-being of Future Generations Act 2015 is about improving the social, economic, environmental and cultural wellbeing of Wales. The Act puts in place seven wellbeing 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 wellbeing goals, and (b) lay a copy of the national indicators before Senedd Cymru. Under section 10(8) of the Wellbeing of Future Generations Act, where the Welsh Ministers revise the national indicators, they must as soon as reasonably practicable (a) publish the indicators as revised and (b) lay a copy of them before the Senedd. These national indicators were laid before the Senedd in 2021. The

indicators laid on 14 December 2021 replace the set laid on 16 March 2016.

Information on the indicators, along with narratives for each of the wellbeing goals and associated technical information is available in the [Wellbeing 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 wellbeing assessments and local wellbeing plans

## Further details

The document is available on the Welsh Government website: <https://gov.wales/grassland-fires-april-2021-march-2022>

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

Accessible Excel tables from the bulletin are also published under the heading 'Data' on the [Grassland fires 2021-22](#) webpage. These tables show the full available time series

Analysis of annual Welsh fire incident data can be found in the bulletin '[Fire and Rescue Incident Statistics, 2021-22](#)':

The bulletin includes charts and information on fires, false alarms and Special Service Incidents, on all location types (dwellings, road vehicles etc.), causes of fires and the presence of smoke alarms.

The [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

Grassland fires 2022-23 to be published in October 2023.

## 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](mailto:stats.inclusion@gov.wales)

## Open Government Licence

All content is available under the [Open Government Licence v3.0](#), except where otherwise stated.

