



SCOTTISH

FIRE AND RESCUE SERVICE

Working together for a safer Scotland

TECHNICAL NOTES ON FIRE AND RESCUE INCIDENT STATISTICS (SCOTLAND) 2017-18

31 October 2018

**Working together
for a safer Scotland**

This publication presents fire and rescue incident statistics for Scotland and includes information on fires, non-fire incidents, casualties and false alarms. We publish commentary in the [main bulletin](#) as well as statistical tables in a [downloadable workbook](#). While we continue to host the bulletins and downloadable workbooks published in previous years, users are encouraged to use the most recent publication for the most up to date figures. This statistical series was formerly produced by the Scottish Government and they continue to host their publications on their [website](#).

In line with our [revisions policy](#), we routinely revise statistics for the previous two financial years alongside the newly published figures. Statistics for the most recent year are considered provisional as they may be subject to change as a result of ongoing quality assurance. We identify these with a mark against the relevant end-year totals, where it is practical to do, so in the downloadable workbook.

Feedback and Consultation

We are committed to providing relevant, useful and timely statistics and are very keen to learn more about the users of our statistics and what our statistics are used for. To this end we have implemented a feedback form on our website and we will launch a user consultation alongside the next edition of this bulletin in October 2019.

If you have an interest in fire statistics for Scotland then please sign up to the [Scotstat register](#).

The [Fire and Rescue Statistics User Group \(FRSUG\)](#) is a useful platform for user engagement and may be of interest to those who use a range of fire statistics or are involved in the production of fire and rescue related statistics.

Procedural Improvements

Since our last publication we have been reviewing our procedures and modernising the process of calculating these statistics. While the methodology of generating the statistics is consistent with previous years, we have been working to streamline our tabulation to reduce potential errors. In doing this, some issues from previous years have been uncovered and rectified; please see our [Statistical News bulletin](#) for details.

Data Source

Each time the Scottish Fire and Rescue Service (SFRS) attends an incident in Scotland, details of that incident are uploaded to the Incident Recording System (IRS) run by the Home Office. The IRS is a continually updated database with incidents added on a daily basis. The new and revised figures in this release refer to records of incidents that occurred in the three years prior to 1st April 2018 that had reached the SFRS local instance of the IRS by 28th June 2018 when a snapshot of the dataset was taken.

The IRS was introduced across Great Britain in April 2009 and extended statistical reporting to cover all incidents attended by Fire and Rescue Services. This increased the amount of information available about incidents attended and ensured that all incidents have a distinct record. More information on the IRS can be found [here](#).

Prior to 1st April 2009, the 'fire damage report' form - FDR1 (94) was the main source providing information on all fires involving casualties and all fires in buildings, vehicles and outdoor structures. The FDR3 form collected aggregated data on 'secondary' and 'chimney' fires, consequently analysis of these types of fire prior to 2009 is limited.

Until 2015-16, extracts of the IRS data for Scotland had been taken by the Department for Communities and Local Government and provided for analysis. From 2015-16, SFRS have used snapshots of the internal IRS database which is synced with the national IRS system. Figures based on the live internal IRS have been used by the service throughout the year and reported to the SFRS Board on a quarterly basis. It is possible therefore that some of these statistics will match management information which is in the public domain.

Comparability

The change of data collection with the introduction of the IRS caused discontinuities in some of the longer-term time series. These include: non-fatal casualties and smoke alarms.

Non-Fatal casualties

There is a significant discontinuity in the number of non-fatal casualties between 2008-09 and 2009-10. Non-fatal casualty data should not be compared from before 2009-10 with after the discontinuity.

The change in recording of precautionary checks significantly contributed to this discontinuity. Under the FDR system officers could select this outright whereas under the IRS system officers must first select a nature of injury before precautionary checks can be selected. Consequently the change in inclusion criteria impacts the total count causing a notable decrease.

Removing precautionary checks does not fully resolve the issue and comparisons without this category should not be drawn from before and after the introduction of IRS.

A new category, 'First aid given at scene', was created as a severity of injury which impacted recording practice causing an increase in the total excluding precautionary checks.

Smoke alarms

The IRS introduced 'don't know' in addition to the existing 'yes' and 'no' in gathering data on the presence of smoke alarms. This has affected the trend data and we recommend that smoke alarm data after 2009-10 is not compared with data prior to 2009-10.

Local authority level statistics had not been annually revised prior to the 2017-18 publication, therefore caution is urged in annual figures between downloadable workbooks at this geographic level. Such comparisons should be made using the figures contained within the latest workbook wherever possible.

Quality Assurance and Potential Errors

The officer in charge of an incident enters data to the IRS using software forms with inbuilt validation rules. The SFRS Data Services team then run exception checking scripts on the IRS database to identify potential errors which are subsequently checked.

Further quality assurance is completed by cross checking incidents with control room logs. Until the end of the 2017-18 financial year, the East Service Delivery Area control room provided casualty data to cross check the IRS incident records.

Regional differences

There are differences in quality assurance of casualty data as a result of the three Control centres using differing practices resulting from legacy provision.

As quality assurance is an ongoing process and we currently have no automated means to cross check the IRS logs with control room logs, it is difficult to accurately estimate the true error margin, either at the time of publication or following revision, of the subcategories of incidents or casualties. There may be some miscategorisation which has yet to be addressed, or is not possible to address without access to another data source.

High-level totals

We believe that the high level totals for primary fires, secondary fires, chimney fires, false alarms and non-fire incidents have a very low margin of error (below 1%) as categorisation issues would largely effect subcategories.

Fatal casualties

The total and category breakdowns of fatal casualties are cross checked against records kept by the fire investigation team and are believed to be as complete and accurate as possible. Should a revision take place as a result of new information coming to light it could make a relatively large proportional difference due to the number of fatal casualties recorded.

It is possible that a casualty currently recorded as a non-fatal casualty may later die from injuries sustained in the fire and would then be recorded as a fatal casualty; in such a case a revision to the statistics would occur the following year.

Non-fatal casualties

Non-fatal casualty figures for those who received first aid at the scene or attended hospital following the incidents are believed to have a relatively low error margin as when crosschecking has been possible it is found to be rare for such a casualty to be missed from the IRS record.

Non-fatal casualty figures for those who were encouraged to have a precautionary check with a doctor are believed to have a larger error margin as there is some underreporting that is difficult to consistently crosscheck. There may also be variance in the judgement of officers at a scene in whether to recommend a precautionary check.

Consequently the total for non-fatal casualties with precautionary checks included is believed to have a larger error margin.

Magnitude and Direction Revisions 2017-18

Revisions are typically very small for aggregated totals of incidents although there can be some relatively small variation in subcategorising. Most of the revisions to the 2016-17 non-fatal casualty totals are as a result of a quality assurance project using the East Service Delivery Area control room data, therefore the proportional changes will be larger at Local Authority Area in the East of Scotland.

2016-17: Difference between 2016-17 publication and 2017-18 revision		
	Number	Percentage
Primary fire	9	0.08%
Secondary fires	22	0.14%
Chimney fires	0	0.00%
False alarms	25	0.05%
Fatal casualties (in fires)	0	0.00%
Non-fatal casualties (in fires)	77	6.48%
Non-fire incidents	25	0.20%
Non-fire fatal casualties	5	1.00%
Non-fire non-fatal casualties	55	1.55%

Definitions

Providing general definitions to the main terms used in the bulletin and workbook, for further guidance please refer to the Incident Recording System – Questions and Lists document published [here](#).

Fire Categories

Primary fire: A fire which involved a casualty or rescue, or which was attended by five or more fire appliances simultaneously, or which took place at designated locations (non-derelict buildings, vehicles and most outdoor structures).

Secondary fire: A fire which is not a Primary fire or a Chimney fire. They take place either outdoors or in derelict buildings and include grassland fires and refuse fires.

Chimney fire: A fire where the flame was contained within the structure of a chimney and did not result in any casualties or rescues, or require attendance by five or more appliances, or take place in an industrial chimney.

Late fire calls: Fires which were known to be extinguished at the time the fire service became aware of them (by call or other means) and which were subsequently attended.

Property types

Dwellings: Buildings that are a place of residence, typically occupied by households, excluding hotels, hostels and residential institutions. Mobile homes are specifically included in the dwelling count. In 2000, the definition of a dwelling (for the purpose of reporting fires) was widened to include any non-permanent structure used solely as a dwelling, such as a caravan, houseboat etc.

Other Buildings: All buildings, including those under construction, but excluding those meeting the definition of dwelling, and excluding derelict buildings or those under demolition.

Road Vehicle fires: All fires which take place in cars, vans and other road vehicles including abandoned vehicles but excluding derelict vehicles.

Refuse fires: Secondary fires which take place in a rubbish container (such as a wheelie bin or skip) or where the burning material is loose rubbish (including bonfires).

Motive

Accidental: Fires where the fire was ignited by accident, or where the cause was not known or unspecified.

Deliberate: Fires where the motive was thought or suspected to be deliberate regardless of ownership of the materials and regardless of whether the intent was malicious. Deliberate fires includes fires caused by the crime of wilful fire-raising but is not exclusive to this.

Fire Casualties

Fatal casualty: A person who has died as the direct or indirect result of injuries caused by a fire incident. Even if the fatal casualty dies subsequently, any fatality whose cause is attributed to a fire is included.

Non-fatal casualty: A person who was referred to hospital for injuries, or who received first aid at the scene of an incident, or who was advised to see a doctor for a precautionary check regardless of whether they did so.

Physical injuries: This is an aggregate category under 'nature of injuries' and includes the following IRS injury categories: fractures, cuts and lacerations, back and neck injuries, head injuries, chest and abdominal injuries and other physical injuries.

Other specified: This is an aggregate category under 'nature of injuries' and includes the following IRS injury categories: choking, collapse, chest pain or heart condition or cardiac arrest, impalement, drowning, hypothermia, heat exhaustion, concussion, bruising, unconscious or fitting or unresponsive (no other evident significant injury), other medical conditions, and other breathing difficulties.

False Alarms

Fire false alarms: An event in which SFRRS believe they have been called to a reportable fire and there is no such incident.

Non-fire incident false alarms: An event in which the SFRRS believe they have been called to a reportable non-fire incident and there is no such incident.

Malicious: The call was made with the intention of causing SFRS to attend a non-existent incident.

Good intent: The call was made in good faith in the belief that there was an incident for SFRS to attend.
Due to apparatus: The call was initiated by a fire alarm or the operation of other alerting equipment such as break glass call points.

Non-fire incidents

Formerly called special services, non-fire incidents are those requiring the attendance of an appliance or officer and where there was no fire. The Fire (Scotland) Act 2005 placed a statutory duty on the fire and rescue service to make provision for firefighting and road traffic accidents. It also included an additional function order that covers non-fire incidents such as rescues from collapsed buildings and serious flooding.

Other

Smoke alarms: This is a catch all term used in these statistics for smoke alarms and heat detectors.

Ignition source: The source material giving rise to the fire. The subcategories used in the bulletin are aggregate categories defined under Question 8.4 in the above noted IRS – Questions and Lists document.

Time of call: For the purpose of these statistics, this refers to the hour in which SFRS were first alerted to the incident determined by truncation i.e. a call received at 1:53am would be reported as 1am. In practice SFRS log timestamps for all calls to the nearest second.

Rescue: Where a person has received physical assistance to get clear of the area involved in the incident.

Related Statistics

The Home Office publish a range of [fire statistics for England](#).

The Welsh Government publish [fire statistics for Wales](#).

Transport Scotland publish statistics on road traffic collisions in Scotland. Since SFRS attend incidents where they are required, the [Transport for Scotland statistics](#) provide a more complete picture of road traffic collisions and casualties.

Changes to the Statistics

Category changes in 2017-18

The nature of injury category 'unspecified/not known' in Tables 14b, 14c, 15b, 15c, 16b, 16c, 17b and 17c has been changed to 'other/not known' to match the language used in the IRS.

The 'isolate water supply' category in Table 6d as a subcategory of flooding incidents has been removed this year and the figures merged in with the 'other' category. 'Isolate water supply' is not an IRS category and we are not presently confident in the method that had been used to determine which incidents involved the isolation of a water supply.

Status of the publication

Prior to October 2015, these statistics were produced by the Scottish Government and accredited by the United Kingdom Statistics Authority as National Statistics (signifying full compliance with the Code of Practice for Statistics).

From 2015 onwards these statistics have been published by SFRS, which is not yet designated as a producer of Official Statistics. SFRS continues to work towards gaining this designation as a first step towards publishing these statistics as National Statistics once again. SFRS are continuing to work towards becoming named as producers of Official Statistics.

A Statistics Publication from The Scottish Fire And Rescue Service

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The next edition of Fire and Rescue Incident Statistics (Scotland) bulletin and associated documents is scheduled for release in October 2019.



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