

## Quality Report for Welsh Fire Statistics

### What are these statistics?

These statistics refer to a range of fire statistics. This report covers statistical releases containing a comprehensive set of information on fires and the fire service in Wales. The statistics cover fire incidents, operational statistics and performance indicators. They cover historical and current data. The latest versions are held on our [theme page](#). More details about the specific topics are provided below.

**Fire incident data** covers fire incidents attended by Welsh Fire and Rescue Services. Analysis includes details on location, cause, motive, casualties, and false alarms attended. There are also ad hoc bulletins for example on grassland fires and deliberate fires.

**Operational statistics** cover operational issues affecting Fire and Rescue Services in Wales. The issues consist of Personnel, Equality and Diversity, Health and Safety and Operational Activities, such as non-fire related incidents and fire safety audits.

**Performance indicators** cover information collected about fire and rescue service performance. The performance indicators are grouped under two themes: risk reduction and community safety and corporate health. Corporate health includes indicators about ill-health retirement and sickness absence.

### Users and uses

The statistics have a range of uses including:

- advice to Ministers;
- to measure government targets and key performance indicators;
- to provide context and evidence for the Welsh Government's policies;
- fire service comparisons and benchmarking;
- to compare fires and the fire service in Wales with other countries;
- to inform the debate in the National Assembly for Wales and beyond;
- to assist in fire research and analysis;
- to provide information on FRSSs' performance and activities to citizens and communities in Wales.

We believe the users of fire statistics are:

- Ministers;
- Assembly Members and the Members Research Service in the National Assembly for Wales;
- The Office for National Statistics;
- Department for Communities and Local Government;
- Chartered Institute of Public Finance and Accountancy;
- Fire and Rescue Authorities and Services;
- Welsh Local Government Association;
- Students, academics and universities;
- Other colleagues within the Welsh Government;
- Other government departments;
- Individual citizens and private companies.
- Charities

# Data Processing Cycle

## Data Collected

The information we collect is detailed on our [data collection pages](#). It includes:

- Statutory performance indicators;
- Core performance indicators;
- Human resources;
- Finance;
- Operational data;
- Fire safety;
- Community Fire Safety; and
- Fire incidents.

## Mode of Data Collection

Fire incident data is collected by obtaining a data extract from the Incident Recording System (IRS). All Welsh Fire and Rescue Services enter data onto this system that is administered by the Department for Communities and Local Government. The IRS system has on-line data entry with in-built validation which ensures that basic validation errors are avoided.

All other data are collected from fire and rescue services via Excel spreadsheets. These are downloaded from the Afon file transfer website which provides a secure method for users to submit data.

The spreadsheets allow respondents to validate some data before sending the spreadsheet to the Welsh Government. Respondents are also given an opportunity to include contextual information where large changes have occurred. This ensures that the data received by the Welsh Government is already of a high quality. Examples of validation checks within the forms include year on year changes, cross checks with other relevant data tables and checks to ensure data is logically consistent. For example the total number of staff by age matches the total number of staff by ethnic group.

In the Performance Indicator data collection, denominators are pre-populated to data providers as part of the data collection process. The data are obtained from other data collection sources, specifically the Office for National Statistics for population data and from other Welsh Government collections relating to non-domestic rates and council tax, in providing counts of non-domestic and domestic dwellings by local authority. Data providers input all numerator data including fire related data from IRS, and human resource data from internal systems on sickness, shifts lost and ill health retirements.

## Validation and Verification

Once we receive the data, it goes through further validation and verification checks, for example:

- common sense check for any missing or incorrect data without any explanation;
- arithmetic consistency checks;
- cross checks against the data for the previous year;
- cross checks with other relevant data collections;
- thorough tolerance checks;
- verification that data outside tolerances are actually correct.

If there is a validation error, we contact the organisation and seek resolution. If we fail to get an answer within a reasonable timescale, we will use imputation to fix the error. We will then inform

the organisation and explain to them how we have amended or imputed the data. The affected data is then highlighted in the 'quality information' section of the first release.

For fire incident data, we run some specific checks before publishing the data. For example we check and confirm the number of fatal casualties for each fire and rescue service.

## Publication

Once the data are validated, the release is compiled and the key points and commentary are drafted. The release is independently checked and a final sense check is carried out by the Community Safety Statistician prior to publication on the website. A 'key quality information' section is included in each of our statistical outputs. This includes relevant information on areas such as methods, definitions, coverage, reliability, accuracy and geography.

## Standards

The data collection procedure follows recognised professional standards. However, further [guidelines](#) are also available on the interpretation of these standards to ensure consistency.

## Disclosure and confidentiality

Disclosure is the risk of being able to identify, directly or indirectly individuals, and some personal or otherwise sensitive information being disclosed by the data.

Our outputs are based on extracts and aggregations of administrative data. Disclosure control is not routinely applied. However it is appropriate for some topics. A risk assessment was carried out in June 2011 to determine how disclosure should be applied and to which topics.

Disclosure control has been applied to some data provided by the FRSs in the Operational Data collection (not applied prior to 2011) although no concerns were raised from data providers, users or members of the public. However, given the nature of some of this data, we have conducted an assessment of the disclosure risk and plan to review this on a regular basis. Where disclosure control is deemed necessary we have suppressed small numbers and rounded all other data to 5.

The topics where we apply disclosure control are:

- Staff by sex, age and ethnic group;
- Recruitment by ethnic group;
- Leavers by ethnic group;
- Promotion and career progression by ethnic group;
- Number of days lost due to injury where only one person was injured during the period;
- Ill-health retirements; and
- Sickness by medical reason.

Disclosure control has not been applied to Incident data published in the annual Fire Statistics, Wales bulletin, the ad hoc bulletins (for instance Deliberate fires and Grassland fires) or the accompanying StatsWales tables. However there are data held in IRS which are potentially disclosing or sensitive.

Fields where there is a reasonable likelihood of identifying

- location fields (removed)
- name (removed)
- age (bandings used)

Sensitive or personal information

- victim characteristic information (eg ethnic group)

- household composition
- household occupancy
- age of perpetrator if youth
- incident, source of ignition, cause of fire due to explosives (national security)

In answering any ad hoc requests or publishing other ad hoc bulletins on fire incidents, we would consider the use of fields listed above and carry out disclosure control where necessary.

## Quality

The production of Welsh fire statistics follows a quality strategy, and this is in line with the European Statistical System's six dimensions as listed in Principle 4 of the Code of Practice.

Specifically, the list below details the six dimensions and how we adhere to them.

## Relevance

*The degree to which the statistical product meets user needs for both coverage and content.*

Fire statistics produced by the Welsh Government are used widely in measuring a number of targets and key performance indicators and in making policy decisions. Fire and rescue services use the data to monitor and benchmark performance and to make strategic decisions. Other interest and uses of this data are outlined in the 'Users and Uses' section of this document.

The Information Managers group is the main governance group of fire statistics produced by the Welsh Government. The group meets on an ad hoc basis and provides an opportunity for data providers to share their views on fire data requirements, including identifying new priorities and areas for improvement.

We regularly review our data collections and outputs to ensure that they are relevant, collect reliable data and meet user needs. We also consult our users on a number of fire data collections issues. This is part of an ongoing exercise covering all fire statistics in order to better understand user requirements and priorities for the future. As part of this, Welsh Government policy colleagues, fire and rescue services and others have provided information on how they use fire statistics.

The timing of outputs is discussed with internal users on an annual basis. Regular meetings with users allow us to discuss content, format and timing of outputs. We use networks such as the Chief Fire Officers Association (CFOA) Wales groups, plus specific fire networks to reach other users.

We maintain a live list of users and encourage feedback on all our outputs and data collections.

## Accuracy

*The closeness between an estimated result and the (unknown) true value*

Accuracy can be broken down into sampling and non-sampling error. Non-sampling error includes areas such as coverage error, non-response error, measurement error, processing error.

The fire data requested and provided by fire and rescue services are not required under legislation but we aim to achieve 100 per cent response for all fire collections. There will only be sampling error where there is missing data.

We aim to reduce non-sampling error through the provision of significant guidance about the data collections and the definitions that should be adhered to. We put the data through multiple validation checks to ensure that data is of good quality and fit for purpose. However due to time and resource constraints, we sometimes either record data as missing or we seek to impute the

data. If we impute or change any data then we inform the data provider of this and give them a chance to comment or challenge this. This is a compromise to resolve validation issues and does not impact significantly on the usability of the dataset. The affected data is highlighted in the ‘quality information’ section of the first release.

To date it has not been necessary for the Welsh Government to impute any data.

Within the Operational data collection we receive the previous year’s data. This is checked against the previous year’s return and queried if the figures do not match. Genuine revisions are shown in the relevant StatsWales table (denoted with an ‘r’).

At the time of publication, the rates in the FRS performance release will be based on the most recently published population and dwellings’ data for the relevant years. In time, some of these rates may become out of date, for example as further revisions to historical population data are published in 2013 to reflect the latest Census data. As these changes have only a very minor effect on the results, this release will not be revised, and the latest data will be reflected only in the rates shown on our StatsWales website (see “Further Information”), and, if relevant, in future versions of this release. Similarly previous first releases in this series will not be updated to reflect changes to population and the data within those may differ from the figures for earlier years included in this release. For the same reasons, some of the rates published might also differ very marginally from the rates that were actually subject to audit.

For fire incident data we choose a date to take the extract from the IRS system and produce the release on this data. This date needs to be far enough after the end of the period to allow the data for the end of the period to enter the system but at the same time it cannot be too late to reduce the usefulness of the figures. As a result the fire incident data is initially published as provisional and later updated.

A revision schedule for publishing fire incident data is shown under the ‘Revisions’ in the Data Quality section of the fire incident bulletins

All our outputs include key quality information such as methods, definitions, coverage, reliability, accuracy and geography.

In the unlikely event of incorrect data being published, revisions would be made and users informed in accordance with the Welsh Government’s [Revisions, Errors and Postponements](#) arrangements.

## Timeliness and Punctuality

*Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the time lag between the actual and planned dates of publication.*

All outputs adhere to the Code of Practice for Official Statistics by pre-announcing the date of publication through the [Due Out Soon](#) 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.

The timetable for outputs is generally developed in line with user needs and aims to ensure that outputs are published as soon as the statistics are ready. In the case of incident data, it is necessary to wait a couple of months after the end of the period. This allows fire and rescue services time to update the database.

<b>Output</b>	<b>End of period</b>	<b>Publication</b>	<b>Time gap</b>
Quarterly incident data	30 September	January	3-4 months
Annual incident data	31 March	July	3-4 months
Operational statistics	31 March	October	5-6 months
Performance indicators	31 March	October	5-6 months

## **Accessibility and Clarity**

*Accessibility is the ease with which users are able to access the data, also reflecting the format(s) in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.*

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. Simultaneously the releases are also published on the National Statistics Publication Hub. 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. The format we use is in line with our departmental guidance.

We aim to make our outputs clear for the audience and all outputs adhere to the Welsh Government [accessibility policy](#). Furthermore, all our headlines are published in Welsh and English.

We regularly peer review our outputs.

We inform key users of the publication of the statistics on the day of their release. We also use methods such as update papers to the Welsh Statistical Liaison Committee to ensure that a wide range of users are aware that they can access the most up to date statistics.

Further information regarding the statistics can be obtained by contacting the relevant staff detailed on the release or via [stats.inclusion@wales.gsi.gov.uk](mailto:stats.inclusion@wales.gsi.gov.uk)

## **Comparability**

*The degree to which data can be agreed over both time and domain.*

The Welsh operational fire statistics and performance indicators are mostly comparable from the start of the time series to the end. Fire incident data saw a major change in the method of reporting in April 2009. Reports of incidents were previously collected using a FDR (Fire Data Report) form whereas after this data incidents were input onto the new IRS (Incident Recording System). This change has possibly led to differences in the reporting patterns of certain types of incident. For example, data for fires where no fire detection equipment was present have risen since the introduction of IRS. In such instances, we clearly show this in the outputs by adding footnotes and commented on this in the 'quality information' section.

We consult on substantial changes to methods or classifications prior to implementation. We aim to minimise any disruption to the comparability of a time series when putting forward any

changes. Where advance warning is known of future changes these will be pre-announced in accordance with Welsh Government arrangements.

Generally most of the fire data we collect and publish is comparable with England, and some is comparable with other UK countries. When developing new collections, we aim to achieve comparability through the use of similar definitions and guidance where appropriate. This approach was taken with the new fire safety forms in 2006-07, which are similar to the form used in England. The IRS system is shared between England and Wales and although we are seeking to collect additional information for Wales, the base data is the same.

However, strategies, policies and approaches can differ between countries and this will affect the comparability of statistical outputs in some cases. Differences in legislation can also affect comparability. In both England and Wales the information collected and published on fire safety covers action taken by fire and rescue services under the Regulatory Reform (Fire Safety) Order 2005 whilst in Scotland the action taken on fire safety is based on Part III of the Fire (Scotland) Act 2005.

Where standard definitions are not used we will highlight this and explain the reason in the Quality Information section of our outputs.

The provision of clear guidance and definitions and the extensive validation carried out help to ensure that the data are consistent across fire and rescue services.

## **Coherence**

*The degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.*

For many of the statistics covered by this report, they are the only source of official data on that subject. The fire data are collected from all respondents on the same form with accompanying guidance and definitions. This ensures consistency across the different types of data provider. As part of the review process for each data collection, the data providers are consulted on the guidance and definitions to ensure clarity and consistency.

Data collections are checked between forms to ensure coherence of the data received. For example, the data collected and published annually on human resources overlaps with some of the numerators and denominators of the performance indicator dataset. As a result it is possible to ensure that the data matches across forms.

## **Response burden**

Our Excel-based data collections ask for information on the time taken to complete the data collection form. We use this information in our contribution to the annual Government Statistical Service report on respondent burden and in the Welsh Government's survey costs annual report.

We do not collect any respondent burden data for incident data as we take an extract from a database rather than receiving a form from each fire and rescue service.

We seek to reduce the amount of information we currently collect before accepting proposals for new data collections. This aims to avoid increasing the burden, and therefore the costs, on data providers.

## **Dissemination**

We follow departmental guidance on checking, validating and analysing data. Quality assurance procedures are built into the process of compiling each output to ensure the data are of sufficient quality to justify publication. The high-level messages are published on the first page of the relevant release and high-level tables are included in the release. We provide additional, detailed data on our interactive website, StatsWales. The format we use is in line with our departmental guidance.

## **Evaluation**

We always welcome feedback on any of our statistics. Please contact either the Responsible Statistician (Nia Jones), Claire Davey, or Lee Thomas through [stats.inclusion@wales.gsi.gov.uk](mailto:stats.inclusion@wales.gsi.gov.uk)  
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