

## Background Quality Report: Reserve Forces and Cadets statistics

<b>Introduction</b>	<p><i>This section provides the context for the quality report.</i></p> <p><b>Overview</b></p> <p>Defence Statistics (DS) publishes a large range of Armed Forces personnel statistics, mainly to inform policy and decision making within the Department. The statistics are also used to measure performance against MOD, Government and Parliament targets and to inform general debate in government, parliament and the wider public. The statistics form part of that portfolio of service personnel and are concentrated on the UK Reserve Forces, both regular and volunteer, plus Cadets. They are counts of personnel numbers broken down by various categories.</p> <p>This background quality report covers the principal military personnel statistics published on the Statistics at MOD website on gov.uk: <a href="#">Statistics at MOD - Ministry of Defence - GOV.UK</a></p> <ul style="list-style-type: none"><li>▪ <a href="#">TSP 7 UK Reserve Forces</a></li><li>▪ <a href="#">Tri-Service personnel bulletin</a> (Reserve Forces statistics)</li><li>▪ <a href="#">Quarterly Personnel Report</a> (Reserve Forces statistics)</li></ul> <p><b>Methodology and Production</b></p> <p>The statistics are counts of military reserve personnel by a range of categories, including breakdowns by: Navy, Army and RAF; regular and volunteer reserves; officer and other ranks; males and females. There are also counts of personnel leaving and joining certain parts of the reserve forces.</p> <p>The statistics are principally derived from the Department's Joint Personnel Administration (JPA) system, which is used for the administration of all Armed Forces personnel, supplemented by information from single Services' management systems and other centrally managed databases. Prior to the introduction of JPA in 2006/07, legacy single Service administration systems were used to produce the statistics.</p> <p>Extracts are taken from JPA each month and stored on separate databases to form a time series. The extracts are taken six calendar days after the end of the month and the situation as at the first of the month is calculated. This ensures most late-reporting is captured.</p> <p>Army and Royal Air Force data goes through a series of automatic validation checks and edits to ensure the basic quality of the data and a series of derived fields are calculated.</p> <p>The data is then made available to DS' single Service manpower branches. They undertake a wide range of validation checks and implement specialist editing rules using their expert knowledge and experience as well as data obtained from other sources within the Department.</p> <p>Once the data is confirmed as being accurate the database is queried to produce the range of tables published. These tables undergo several layers of scrutiny to ensure the outputs are accurate and consistent. The results are generally rounded to the nearest 10 to be consistent with our other publications and to ensure small numbers do not disclose information on individuals.</p>
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	<p>Between 2007 and 2012, Naval Service volunteer reserve data were provided direct to DS Tri-Service by the unit responsible for administering those forces. In 2012 this database was closed and records were transferred on to JPA, however the JPA data were not considered robust enough in time for April 2012 publication and therefore the information was again sourced from the administration unit. Following work to assess the quality of the JPA data, the data processing and reporting methods were brought more closely into line with those in the other Services (and other Defence Statistics personnel data.) As a result, Defence Statistics has been able to retain monthly extracts for statistical purposes since October 2012 and can now report from this source. Unlike Army and RAF reserves data, the validation and cleansing work is undertaken by personnel in the Naval Service.</p> <p>Cadet data are provided to DS Tri Service by the Personnel and Training (Reserve Forces and Cadets) division and sourced from the Cadet Management Information System.</p> <p><b>Contact details</b> Head of DS Tri-Service, is responsible for these statistics. Contact details are:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">DS (Tri-Service)</td> <td style="width: 50%;">Tel: <b>020 7807 8896</b></td> </tr> <tr> <td>Ministry of Defence</td> <td>Fax: <b>020 7218 0969</b></td> </tr> <tr> <td>Floor 3 Zone K</td> <td>E-mail: DefStrat-Stat-Tri-Hd@mod.uk</td> </tr> <tr> <td>Main Building, Whitehall</td> <td></td> </tr> <tr> <td>London SW1A 2HB</td> <td></td> </tr> </table> <p>Web site: <a href="http://www.gov.uk/government/organisations/ministry-of-defence/about/statistics">www.gov.uk/government/organisations/ministry-of-defence/about/statistics</a></p> <p>We welcome feedback on this Background Quality Report or any of the statistics mentioned.</p>	DS (Tri-Service)	Tel: <b>020 7807 8896</b>	Ministry of Defence	Fax: <b>020 7218 0969</b>	Floor 3 Zone K	E-mail: DefStrat-Stat-Tri-Hd@mod.uk	Main Building, Whitehall		London SW1A 2HB	
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<b>Relevance</b>	<p><i><b>This section is about the degree to which the statistical product meets user needs in both coverage and content.</b></i></p> <p>The principal customers for the Tri-Service publications are within the Personnel and Training area of the Ministry of Defence. They are used to inform and measure Service personnel strategy in areas such as pay &amp; allowances and overall troop numbers, and in particular the Future Reserves 2020 Programme (FR20). This product is also used to answer parliamentary questions and Freedom of Information requests. The publications are also used to inform the monthly Defence Board Management Information.</p> <p>Since 2013, reserve strengths and FR20 population strengths and flows information has been added to the Quarterly Personnel Report due to the increased attention on reserve personnel in the media and public.</p> <p>In 2013 TSP7 was re-developed in consultation with our internal users and suppliers to ensure that it reflects the correct force structures and therefore can be used to monitor the Department's progress against FR20. Information on the population most relevant to the FR20 key personnel targets was added – including the definition of that population and information on how many have completed training. In addition, a greater range of detail on reserve personnel was added, including age and</p>										

	<p>ethnicity, to provide further background information on these forces to help inform policy.</p> <p>Data availability is not complete for dates prior to April 2012, due to the necessary changes made to reflect modern force structures, and the fact that the Department has not retained some information (i.e. Naval Service reserves data and some ex-Regular reserves data), there is no possibility of restoring the whole time series.</p> <p>DS has developed information on the intake and outflow of personnel to the volunteer reserve forces. This information is currently marked as provisional, which reflects the fact that the methodology is still under development.</p>
<p><b>Accuracy and Reliability</b></p>	<p><i><b>This section is about the differences between the estimates and the unknown true values.</b></i></p> <p>All personnel in the Regular Armed Forces must be recorded on JPA in order for them to receive their pay, and this is also the case for the vast majority of volunteer reserves. (Although for a small number this may not be the case). There is anecdotal evidence that records can take some time to be updated, although the Department has committed resource to ensuring that JPA is brought and kept up to date in each of the three Services. The data on the overall numbers on volunteer reserves is therefore considered to be reasonably accurate.</p> <p>Cadets data are sourced from both combined and single Services, and DS is not aware of any major data quality concerns.</p> <p>The Department has devoted resource at various levels to improving the quality and coverage of volunteer reserves data on JPA over the previous year. This work has resulted in greater confidence in the statistics published in this report, and in its expansion to include information that was not published before 2013 (e.g. Trained Status for volunteer reserves.)</p> <p>Monthly datasets are passed through a range of automatic and manual validation and editing routines in order to make the key fields as accurate as possible, often drawing upon alternative data sources. However the JPA data for volunteer reservists requires varying amounts of post-hoc correction and amendment, including manual corrections which take some time to filter back into the system. This introduces some potential for error in the recording and reporting of reserve data, however processes are documented and personnel have good corporate knowledge. DS' dedicated reserve forces analysts have worked with producers to ensure that information is recorded and processed in line with agreed rules and definitions, and that data are retained and stored appropriately for statistical purposes. DS monitors data and outputs and will query apparent anomalies with producers.</p> <p>There remain variations in quality which are partly due to differences in the recording of information - some key information is required for managing individuals, whereas other information is left to the individual to complete through a self-service tool. This is believed to be a particular problem for reservists, whose attendance at ongoing training is intermittent, and in many cases at locations where access to the system is difficult. This may impact the coverage of certain fields such as ethnic identity and</p>

	<p>nationality. DS monitors coverage in these fields and will only publish figures where coverage is above a certain threshold, generally 80%.</p> <p>There is also a reasonable amount of late reporting which can adversely impact the statistics, especially for areas such as exits and changes to trained status. Obtaining the extract on the sixth calendar day and then calculating the strength at the first of the month overcomes some of this late reporting.</p> <p>Another source of variation in data quality is the development and use of standalone systems (i.e. outside the JPA system), and manual recording of personnel data within some units particularly affecting the data between 2007 and 2012. For this reason, Naval Service Volunteer Reserve data up to and including April 2012 are considered estimates and are likely to remain so as there is no alternative data source. During 2013, considerable effort was made to use JPA as the primary source of personnel management information with the result that all data for volunteer and regular reserve personnel are now primarily sourced from JPA.</p>						
<p><b>Timeliness and Punctuality</b></p>	<p><i><b>This section reports on the time gap between publication and the reference period (timeliness) and the gap between planned and actual publication dates (punctuality).</b></i></p> <p>The monthly extracts are taken on the sixth calendar day. The editing and production process usually takes around 2 weeks at the single Service level. It then takes a further 2 weeks to compile these data at a tri-Service level. In addition we need to check and validate the manual feeders before we can publish as a National Statistic.</p> <p>The following table provides an example of the timeline for 1 April 2012 TSP 7.</p> <table border="1" data-bbox="512 1294 1374 1413"> <thead> <tr> <th>Publication</th> <th>Situation Date</th> <th>Publication Date</th> </tr> </thead> <tbody> <tr> <td>TSP 7 - UK Reserve Forces &amp; Cadets</td> <td>1 Apr 12</td> <td>17 May 12</td> </tr> </tbody> </table> <p>Historic and planned publication dates can be found on the <a href="#">Publication Release Dates</a> section of the gov.uk Statistics at MOD webpage and on the <a href="#">UK National Statistics Publication Hub</a></p>	Publication	Situation Date	Publication Date	TSP 7 - UK Reserve Forces & Cadets	1 Apr 12	17 May 12
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<p><b>Accessibility and Clarity</b></p>	<p><i><b>This section reports on the: ease with which users are able to access the data and the format in which the data are available and the availability of supporting information (accessibility); and the quality and sufficiency of the metadata, illustrations and accompanying advice (clarity).</b></i></p> <p>The reports are published on <a href="#">Statistics at MOD - Ministry of Defence - GOV.UK</a> and are available as Excel spreadsheets or pdfs. They can be found by first following the “statistics by topic” link and then under the “Personnel statistics” heading. They can also be accessed via the <a href="#">UK National Statistics Publication Hub</a> or through an internet search engine such as Google.</p>						

	<p>The TSP7 covers many of the different types of reserves and cadet forces. There is an overall commentary and graphs provided. The commentary identifies and analyses the key changes in the data and summary statistics. It discusses the quality of the underlying data and identifies specific issues and estimates their impact. Each table has a number of footnotes clarifying what is included/excluded, and provides appropriate caveats. Graphs are used to aid comparison of strengths and illustrate comparisons between the Services, and to ensure trends can be easily identified. In 2013, the commentary and metadata were updated and enhanced and a glossary added.</p>
<p><b>Coherence and Comparability</b></p>	<p><i><b>This section examines: the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar (coherence); and the degree to which data can be compared over time and domain (comparability).</b></i></p> <p>The DS statistics on UK Reserve Forces are the definitive personnel statistics in the MOD. Volunteer reserves statistics broken down by trained status are published quarterly in Quarterly Personnel Report, and these are aligned to those in TSP7. Total Volunteer Reserve, Regular Reserve and Cadet strengths are presented annually in Tri-Service Personnel Bulletin and they are aligned to TSP7. There are no other publically available regular publications on the numbers of UK Reserve and Cadet Forces with which to ensure coherence. Within the MOD direct queries of the Joint Personnel Administration system will produce markedly different numbers due to timing and quality issues.</p> <p>The UK Reserve Forces personnel statistics are not always directly comparable with other countries' statistics due to definitional differences in what constitutes a Reserve Force.</p> <p>Annual editions of UK Defence Statistics since 1992 and historic Tri-Service publications back to 2001 are available on <a href="#">Statistics at MOD - Ministry of Defence - GOV.UK</a> by following the link to "archived statistics". The total number of Service personnel are comparable across time but the breakdowns are generally not comparable due to structural changes to the physical and financial structures of the MOD. The introduction of JPA across 2006/07 also impacted the statistics, reducing availability, accuracy and coverage due to a lack of investment in JPA for reserve personnel, as the Regular forces were prioritised. Work during 2012 and 13, as outlined above, resulted in changes to the statistics, both in data processing and definitions. DS has endeavoured to match historical data to the current definitions; where this has not been possible the tables are marked with a break in series.</p>
<p><b>Trade-offs between Output Quality Components</b></p>	<p><i><b>This section reports the extent to which different aspects of quality are balanced against each other.</b></i></p> <p>The main trade-off is between timeliness and quality. To ensure statistics are timely the editing and validation process is restricted to around three weeks. We do not have the resource to investigate further so we publish to a level that we feel is appropriate. Self-reported data are most often published as-is.</p> <p>Due to the nature of the reserve forces as outlined above, the data are unlikely to be as robust as that for their regular counterparts. For example, information on whether individuals are considered trained or not is wholly reliant on Unit Admins updating the relevant data in a correct and timely</p>

	<p>fashion. Great effort has been made by the Department to educate Unit Admin staff, however they are often volunteer reservists themselves and subject to time and access pressures. The information is published acknowledging that it may never be 100% accurate but it represents the best information available, and there has been considerable improvement since 2012.</p> <p>For cadets information we are solely reliant on single service subject matter experts providing us with summary statistics. We do not have the resource to invest in investigating this area as it is not a priority for the Department.</p>
<p><b>Assessment of User Needs and Perceptions</b></p>	<p><b><i>The section reports the processes for finding out about users and uses, and their views on the statistical products.</i></b></p> <p>DS Tri-Service frequently meet with customers within the Department to discuss data, results, interpretation and any changes to requirements. They also seek feedback from a wider range of internal and external customers. A key use of these statistics is to allow the Department and the public to assess how the Department is progressing under FR20, which is a top level Departmental programme.</p> <p>We have made our own assessment of what these statistics could be used for using the categorisation in the UKSA paper <i>The Use Made of Statistics</i>.</p> <p>We believe the statistics could be used as follows:-</p> <ul style="list-style-type: none"> <li>i. Informing the general public's choices: <ul style="list-style-type: none"> <li>e. about the performance of government and public bodies</li> </ul> </li> <li>ii. Government decision making about policies, and associated decisions about related programmes and projects: <ul style="list-style-type: none"> <li>b. policy monitoring</li> </ul> </li> </ul> <p>The underlying data also allow for:</p> <ul style="list-style-type: none"> <li>ii. Government decision making about policies, and associated decisions about related programmes and projects: <ul style="list-style-type: none"> <li>a. policy making</li> </ul> </li> <li>vii. Facilitating academic research.</li> </ul> <p>TSP7 is not well publicised or understood, partly because of the data quality and coverage problems it has suffered in previous years. Now the data quality has improved and data are in the QPR, it is hoped that this will be used as the authoritative source of reserves strengths and flows statistics. This should achieve consistency of message and better satisfy external users' needs.</p>
<p><b>Performance, Cost and Respondent Burden</b></p>	<p><b><i>This section is about the effectiveness, efficiency and economy of the statistical output.</i></b></p> <p>DS has four branches dedicated to producing information relating to personnel and providing analysis and advice. However, the majority of time is spent on adding value through analysing, forecasting and answering ad hoc queries rather than producing the National Statistics per se. Some of DS' other branches (there are approximately 15) provide support to the manpower branches. 3x FTE statistical officers (1 of which</p>

	<p>is Army-focused) are currently dedicated to producing and compiling reserve forces information.</p> <p>There is some respondent burden as not all data are automatically obtained from administrative systems.</p>
<p><b>Confidentiality, Transparency and Security</b></p>	<p><i><b>This section is about the procedures and policy used to ensure sound confidentiality, security and transparent practices.</b></i></p> <p><b>Security</b> All staff involved in the production process have signed the Data Protection Act; all MOD, Civil Service and data protection regulations are adhered to. The data is stored, accessed and analysed using the MOD's restricted network and IT systems, and the access to raw data is password protected.</p> <p><b>Confidentiality</b> All published outputs are counts of individuals in particular groupings. The outputs are rounded according to DS' rounding policy, which reflects the degree of accuracy of the outputs and prevents disclosure of information on individuals.</p> <p><b>Transparency</b> QPR and TSP 7 provide commentary on the key features of the outputs and identify any issues or caveats to the data. This quality report provides further information on the method, production process and quality of the output.</p>

## References

Reference	Website Location
Tri-Service Personnel 7 – UK Reserve Forces	<a href="https://www.gov.uk/government/collections/strength-of-the-uk-reserve-forces-index">https://www.gov.uk/government/collections/strength-of-the-uk-reserve-forces-index</a>
Tri-Service Personnel Bulletin	<a href="https://www.gov.uk/government/collections/tri-service-personnel-bulletin-statistics-index">https://www.gov.uk/government/collections/tri-service-personnel-bulletin-statistics-index</a>
Quarterly Personnel Report	<a href="#">UK armed forces quarterly personnel report: index - GOV.UK</a>
Publication Release Dates	<a href="https://www.gov.uk/government/statistics/announcements?utf8=%E2%9C%93&amp;keywords=&amp;topics%5B%5D=&amp;organisations%5B%5D=ministry-of-defence&amp;from_date=&amp;to_date=&amp;commit=Refresh+results">https://www.gov.uk/government/statistics/announcements?utf8=%E2%9C%93&amp;keywords=&amp;topics%5B%5D=&amp;organisations%5B%5D=ministry-of-defence&amp;from_date=&amp;to_date=&amp;commit=Refresh+results</a>
UK National Statistics Publication Hub	<a href="https://www.gov.uk/government/statistics/announcements">https://www.gov.uk/government/statistics/announcements</a>

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