

Research Note

The Lloyd's Register Archive: an appraisal

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Abstract

This Research Note presents the findings of an appraisal of the archives of Lloyd's Register recently undertaken by researchers from Blaydes Maritime Centre, University of Hull. Funded by Lloyd's Register Foundation, the aim of this project was to assess the character, extent and evidential quality of a rich, yet under-utilised, assemblage of records relating to shipping and vessel safety from the late eighteenth century. After discussing material generated by the organisation's management committees, ship classification process and labour deployment, the Note concludes with a discussion of current and future reader access to this large, historically significant and dynamically evolving collection of primary source materials.

Keywords

Lloyd's Register, ship classification, ship surveyors, documentary records, digital archive

Introduction

Funded by Lloyd's Register Foundation, between 2018 and 2021 six staff and doctoral students made a series of research visits to the Foundation's Heritage & Education Centre (LRFHEC) in Fenchurch Street, London, and its document repository in Woolwich, to appraise the character, extent and evidential quality of the archives of Lloyd's Register (LR). As 'Project Undaunted', LRFHEC's initiative to catalogue and digitise the Ship Plans and Survey Reports Collection was under way, the Hull team focused on the organisation's central administrative records, notably those pertaining to its management committees, ship classification and human resource. The findings of this three-part appraisal are presented below, with the Research Note

culminating in a discussion of current and future reader access to this large, historically significant and dynamically evolving collection of primary source materials.

Lloyd's Register committee records

Little is known about the management and organisation of Lloyd's Register (LR) from its inception in 1760 to its reconstitution in 1834. Although most of the annual Registers of Shipping it produced survive, its administrative records have disappeared, reputedly lost in the fire that destroyed the Royal Exchange in 1838.¹ Such documents as do survive are few in number and dispersed around the archive. There is therefore little to help the historian reconstruct the very beginnings of ship classification, or to shed light on matters such as the rival Society of Merchants, Shipowners and Underwriters, which split off from LR in 1799 and published a rival register until the two organisations, by then both in financial difficulties, merged in 1834.² The LR archive in effect commences in that year and runs through to the present day, although only a few records from the post-1970 era are available online to researchers.³ This Research Note therefore focuses on the material generated between 1834 and the 1970s.

Since its reconstitution in 1834, the fulcrum of LR has been its General Committee, made up of roughly equal numbers of merchants, underwriters and shipowners, their numbers expanding during the nineteenth century as the reach of the organisation increased.⁴ As the Chairman put it in 1946, 'the General Committee is paramount. Everything is done in its name, and it has to confirm everything that has been so done'.⁵ It was the General Committee that appointed all of the subsidiary bodies whose records are discussed here, and it was the General Committee that confirmed their decisions. The Committee's minute books, then, are the essential source for understanding how the organisation functioned. They survive in a complete run from 1835 to the present day, though those postdating 1939 are closed to researchers and those generated after 1969 have not yet been submitted to the archive. The business detailed therein covers the full range of LR's activities, and reveals much about how the organisation functioned and how it arrived at decisions. For instance, on 8 November 1866, the General Committee's meeting covered the resignation through ill health of the Deputy Chairman, decisions on seven individual ships (mainly animated by builders or owners questioning their classification), a lengthy report (reproduced in full) from the Sub-Committee of Finance, and a letter regarding colonial-built shipping, which it referred to the Sub-Committee of Surveyors. At other times, meetings could cover everything from disciplinary issues among staff, to the interplay between LR and government agencies.

¹ H.J. Cornish, *The Classification of Merchant Shipping* (London, 1905), 2.

² N. Watson, *Lloyd's Register: 250 Years of Service* (London, 2010), 13-8.

³ Post-1970 documents are available upon request, with photographs or scans provided for enquirers. There may be some limitations, such as refused disclosure of details of ships still active or information on living people.

⁴ Cornish, *Classification of Merchant Shipping*, 6.

⁵ Ernest I. Jacobs, *Lloyd's Register: What it is and what it does* (London, 1946), 3.

The General Committee minutes are the key source for understanding the inner workings of the organisation. Moreover, because the records of the Sub-Committee of Finance no longer exist, they represent one of the few sources of information on the financial workings of Lloyd's. However, they are not without difficulties. As with most committee minutes, there is rarely any record of discussion around agenda items, and in most instances the reader only gets a note that a particular communication has been read, and a brief record of the decision thereon. Where a matter was referred up from a sub-committee it is possible to go to its minutes and obtain further detail, although this is a laborious process. In many cases, though, discussions were precipitated or followed (or both) by correspondence with an individual or body external to LR. In such cases the trail usually goes cold altogether, because little of the correspondence received or sent by any part of LR prior to the mid-twentieth century has survived.

Moving on from the General Committee, the most important of its subordinate bodies was the Sub-Committee of Classification, which fixed the classification of individual ships, based on surveyors' reports and other material, which were checked by LR's clerical and technical staff before being submitted for final decision. In practice, most cases appear to have been dealt with by the Chairman, with only complex cases or those of particular technical significance being referred to the full committee, which met twice a week. The minutes of the sub-committee were separated out from those of the General Committee in 1836, and thereafter form a discrete and continuous run of records. So, too, would the minutes of the Sub-Committee of Finance, but regrettably, as noted above, these are no longer extant.

The other committees, whose minutes make up a large part of the archive, met less frequently, and their business was usually less routine in nature. Foremost among these was the Sub-Committee of Surveyors, a technical body that met at the behest of the General Committee. There appears to be a brief gap in its records between 1887 and 1891, but aside from that they are complete from 1836 until at least the 1920s. Most of the business dealt with by this sub-committee was technical in nature and concerned either changes to, or the application of, the Rules and Regulations. A typical, though early, example is a query discussed in October 1838 over the use of Fernando Po wood in ship construction. The committee saw no reason not to treat this as inferior to oak, and recommended this and a highly technical point about the framing of ships' sterns to the General Committee for incorporation into the Rules. The sub-committee also spent some of its time formulating and ordering dissemination of instructions to the surveyors, and until at least the late nineteenth century it also had some disciplinary functions. On numerous occasions it can be found investigating and adjudicating on complaints against surveyors, and frequently referring its findings to the General Committee. This makes its minutes a perhaps unexpectedly useful source in considering not only the interaction of LR and the shipping industry, but its own organisational history.

The growing volume and complexity of technical business during the late nineteenth century appears to have swamped the Sub-Committee of Surveyors to an extent, with the result that a separate Technical Committee was created in 1891 to take over the business of considering changes to the rules. There was much crossover of personnel between the two, but the Technical Committee was augmented by

representatives from shipbuilding and engineering firms. No minutes from this body have survived, but lists of papers considered at each meeting are extant, so it is nevertheless possible to examine how LR dealt with the increasing technological sophistication of merchant shipping.

The Technical Committee seems to have taken on functions previously considered not only by the Sub-Committee for Surveyors, but also by various Special Committees that were formed over the years to consider particular issues. It was, for instance, a Special Committee that formulated the first Rules for classification of iron ships between 1853 and 1855. Special Committees continued to be formed after 1891, but evidently more to deal with matters of staffing and personnel than technical issues. It was, for instance, a Special Committee in 1906 that considered appointments of surveyors to Buenos Aires and Montevideo, whilst two years later another debated whether to introduce a compulsory retirement age for surveyors. An evidently complete set of minutes of Special Committees survives, though because of the intermittent nature of their operation they are patchier and much less voluminous than for all of the bodies outlined above.

The final shot in LR's battery of committees was its Visitation Committee, formed in 1840. This consisted of the Chairman of the General Committee, Chief Surveyor, Secretary and other senior staff. Its task was one of internal oversight. It visited a number of ports each year, checking on the work of surveyors and also visiting the premises of shipowners and builders in an attempt to ensure that the high standards demanded by the Rules were being maintained by the industry and effectively monitored by the surveyors. It tended to make one tour of inspection a year, usually in a relatively small geographical area. In 1851, for instance, it spent time in northern England, visiting Newcastle and Sunderland as well as Liverpool and ports on the Cumbrian coast, and also made a foray to Glasgow and Leith.

The records of all of these committees add up to a large and – with the exception of the Sub-Committee of Finance – almost complete body of minutes and other documentation considered by each. This is complemented by a large collection of other material. There is a complete set of the Rules and Regulations, changes in which can therefore be charted over time and cross-checked with records of the committees that recommended and implemented them. There are lists of staff dating back to the 1830s, later replaced by a series of volumes known internally as the 'Staff Bible', which contain a wealth of information on the workforce of Lloyd's Register, enumerating as they do details of qualifications, experience, family circumstances, war service and sundry other matters (for more detail on staff records, see below). Many of these staff would have read the internal bulletins, which were replaced in 1958 by the in-house magazine *100A1*. Largely complete runs of these internal publications are catalogued and housed in the library, and will soon be digitized and available online.

The LR archive is therefore a large and complex one, but there are some gaps. As noted above, there are few records prior to 1834, no records of the Sub-Committee of Finance, except where reproduced in minutes of the General Committee, and no surviving correspondence except that reproduced in minutes. Nor have any records been preserved of the various Branch Committees established in ports around the UK

and overseas. It is not clear when these were disposed of, since although it is known within the organisation that the archive was weeded and slimmed down several times before the late 1990s, no record was kept of what was disposed of and why.

In terms of condition, with only a very few exceptions the surviving records are very well preserved and easy to work with. Most minutes are handwritten prior to the 1890s, but there are only few instances of illegibility and most volumes the project team examined were in good physical condition, albeit with occasional – and inevitable – issues of ink fade and tired binding. Thereafter they are usually typewritten, and therefore easier still to read and interpret. As the final section of this Research Note relates, a major digitization programme is under way, and it is to be hoped that the LR archive, an outstanding resource for maritime historians, will soon be largely available online.

Vessel classification, 1809-1881

The Register Books published annually by LR grouped the ships listed into a number of categories, based on an assessment of the quality of their hull and equipment. While a vessel's safety is a function of many variables, the classification process addresses the critical parameter of overall seaworthiness. To evaluate the impact upon merchant shipping safety of LR's implementation in 1834 of a pioneering approach to the management of quality and risk, changes in the distribution of vessels across the different categories were examined for the period 1809-1881.

A literature review indicated that an analysis along these lines had not previously been attempted. In the past, it may have been considered prohibitively time-consuming: the Register Book for 1879 alone contains 16,783 vessel entries. In 2014, Peter Solar and Stephen Behrendt highlighted the challenges that Lloyd's Register Books pose for historians, describing them as 'a daunting source to quantify' and doubting whether 'digitization will entirely open this data mine'.⁶ Two years later, Solar again referred to the difficulties of utilising the Registers for historical analysis, while recognizing that they represent 'an invaluable source of information on individual British ships', albeit one that has 'rarely been exploited systematically by historians'.⁷ Investigating the changes in classification trends over the period 1809-1881 involved analysis of 901,081 individual Register Book entries, a process that certainly served to confirm the challenging nature of this resource. However, the exercise also suggested that recently available open-access digital copies of the Registers present a novel opportunity, potentially unlocking source material made daunting by its sheer size and thus opening up a host of exciting new avenues for research.

The digitization project undertaken in 2019-2022 by Lloyd's Register Foundation Heritage and Education Centre (LRFHEC) has rendered large-scale data mining of the Register Books more feasible,

⁶ Stephen D. Behrendt and Peter M. Solar, 'Sail on, Albion: The Usefulness of Lloyd's Registers for Maritime History, 1760-1840', *International Journal of Maritime History*, 26 (2014), 570.

⁷ Peter M. Solar, 'Late Eighteenth-Century Merchant Ships in War and Peace', *International Journal of Maritime History*, 28 (2016), 36.

providing images of a higher quality than those previously available and also offering improved search functionality.⁸ Another important difference is that all pages within the Registers are now available online. In the past, the images that could be viewed were mostly scanned copies of a series of abridged Register Book reprints published in the 1960s by Gregg Press,⁹ which generally only featured the principal Register Table. The comprehensive coverage now available means that for the first time there is access to digital images of the 'Prefaces' of Register Books, many of which incorporate some form of annual summary table in addition to a wealth of other valuable information. Without these summaries, a detailed investigation of classification trends would simply not be feasible.

Origin, evolution and nature of the Summary Tables

Between 1799 and 1833, a bitter disagreement over classification rules led to the production of rival Registers, known respectively as the Green (Underwriters) and Red (Shipowners) Books due to the colour of their covers. This dispute was brought to an end by the reconstitution of Lloyd's Register in 1834.

Figure 1 shows a Summary Table that appears in the preface to the 1809 Red Book and sets out the distribution of ships across the different classes. Subsequent Shipowners Registers incorporate similar tables and provided the input data for this analysis. Although this is currently the earliest Summary Table encountered in the Registers, it is possible that a Table may have been included in the 1808 red book. However, neither a physical nor a digital copy of that publication has been found in research undertaken to date. Summary Tables were never included in the Green Books, but remained a feature of the Red Books until publication of rival registers ceased in 1833.

Figure 1 near here

After the reconstitution of 1834, a Summary Table was omitted from the first two amalgamated Register Books published in 1834 and 1835, but reappeared in a slightly amended form in the 1836 edition. The Summary Table format was altered no less than 16 times between 1836 and 1878 to reflect modifications in LR's classification system and the changing nature of merchant shipping. Summary Tables were eventually replaced, with more detailed Annual Statements appearing from 1878 onwards. While the data-mining process took full account of all the format revisions that occurred, these are too numerous to describe here. However, Figures 2 and 3 illustrate the evolution of the summaries over this period, comprising respectively the first post-reconstitution Summary Table included in the 1836 Register Book and the first Annual Statement from the 1878 Register Book.

Figures 2 and 3 near here

⁸ Lloyd's Register Foundation Heritage & Education Centre (hereafter LRFHEC), Lloyd's Register of Ships Online. <https://hec.lrfoundation.org.uk/archive-library/lloyds-register-of-ships-online/lloyds-register-of-ships-online>. Accessed 6 June 2020.

⁹ *Lloyd's Register of Shipping* (London: Reprinted by Gregg Press, 1963).

Challenges involved in extraction and utilization of data

While the availability of digitized copies of Register Books made the analysis feasible, extracting and processing such a large quantity of information was inevitably very time consuming. The task was made more long-winded because the summaries in Red Books for 1809 to 1833 subdivide classification data on the basis of a vessel's equipment rating, as can be seen in Figure 1. Since Summary Tables from 1834 onwards take no account of equipment and only relate to hull classifications, all pre-1834 sub-divided data had to be aggregated before it could be used for comparative purposes. In addition, the many revisions to Summary Tables between 1834 and 1878 made data extraction somewhat complex: the proliferation of sub-classes within these proved particularly problematic. Similar difficulties were encountered with the Annual Statements introduced in 1878, where information is broken down to an even greater degree, making the task of extracting and collating of relevant data more onerous.

Once the necessary details had been extracted, establishing equivalence between pre- and post-reconstitution classification systems posed a further substantial challenge. Comparison of data extracted from the Red Books published between 1809 and 1833 with those drawn from amalgamated Registers published from 1834 onwards involved reconciling the output of two significantly different classification systems. The wording of class definitions and the letters used to designate classification were substantially revised as a consequence of LR's 1834 reconstitution and subsequently underwent significant on-going amendments, giving rise to the frequent revisions in the format of annual summaries. However, as can be seen from the definitions appended to Figures 1 and 2, the two systems have sufficient in common to allow broad equivalence to be established between the symbols used, as set out below.

A ('First Class' ships in the 1809-1833 Red Books) corresponds to **A** and numerous variants ('First Description of the First Class' ships in Register Books from 1834 onwards).

E ('Second Class' ships in the 1809-1833 Red Books) corresponds to **Æ** and several variants ('Second Description of the First Class' ships in Register Books from 1834 onwards).

I ('Third Class' ships in the 1809-1833 Red Books) corresponds to **E** ('Second Class' ships in Register Books from 1834 onwards).

O ('Fourth Class' ships in 1809-1833 Red Books) is not directly equivalent to the symbol **I** ('Third Class' ships in Registers from 1834 onwards). However, this does not represent a significant difficulty since both symbols appeared very infrequently: vessels with an **O** classification account for less than 0.1% of Red Book entries while vessels classed **I** amount to less than 0.6% of entries in Register Books from 1834 onwards.

Red Books only list classed vessels and hence the pre-reconstitution system has no equivalent to the various unclassified categories found in post-reconstitution Register Books.

For the purposes of the classification distribution analysis, no distinction was drawn between the numerous forms of words used in Register Books from 1834 onwards to denote lack, denial or cancellation of a classification: vessels described as 'Not classed', 'No character assigned', 'Character expunged',

'Character withdrawn or expired', 'Dis-classed' or 'Never classed' were grouped into a single category denoted by the symbol **NC**.

Preliminary findings, further research and future potential

Table 1 and Figure 4 provide full details of the classification distribution analysis results. These indicate that the distribution of Register Book entries across the various categories fluctuated in a complex manner between 1809 and 1881.

Table 1 and Figure 4 near here

Six distinct periods and associated shifts in distribution patterns have been identified, as detailed below. These will form the subject of further research that will investigate the causes of the observed changes and assess their significance with respect to merchant shipping safety. It must be stressed that the new survey-based approach to vessel classification introduced by LR following its 1834 reconstitution did not totally renounce the principle that a vessel's class is a function of its age. Future research will therefore also include demographic analysis of a representative sample of vessel entries drawn from the recently available digitized Register Books for the period 1809-1881.

- 1. 1809-1833:** the total number of vessels listed grew steadily. There were gradual declines in the proportion of vessels rated **A** and **I**, accompanied by a corresponding increase in the proportion of vessels rated **E**. During this period, only classed vessels were listed in the Register Books.
- 2. 1834-1839:** although Summary Tables were not included in the Register Books for 1834 and 1835 it can be deduced from the 1836 Summary Table that the total number of vessels listed dropped sharply between 1833 and 1836, a trend that continued until 1839. Between 1836 and 1839, the proportions of vessels rated **A**, **Æ** and **E** all increased substantially while **NC** entries displayed a correspondingly substantial decline.
- 3. 1840-1854:** the total number of vessels listed, together with the proportion of **Æ** and **NC** entries remained fairly constant. A gradual increase in the proportion of **A** ratings was accompanied by a gradual decline in **E** ratings, culminating in the effective disappearance of the latter class.
- 4. 1855-1869:** the total number of vessels listed and the proportion of **A** ratings gradually increased. The proportion of vessels rated **Æ** declined sharply and there was a corresponding sharp rise in the proportion of **NC** entries.
- 5. 1870-1873:** the total number of vessels fell sharply in 1870 and remained at a much lower level until 1873, due to the disappearance from the 1870 Register Book of a large number of **NC** entries. This not only caused the proportion of **NC** vessels to drop sharply, but also resulted in a sharp rise in the proportion of **A** ratings, although the actual number of vessels with an **A** classification remained virtually constant. The number of vessels rated **Æ** ratings gradually declined, although the proportion of **Æ** entries remained fairly constant as a consequence of the sharp drop in total numbers.
- 6. 1874-1881:** the total number of vessels increased sharply in 1874, and then rose gradually until 1877 before levelling off. The gradual decline in the proportion of **Æ** ratings continued, falling to only 2 per cent by 1881. The proportion of vessels rated **A** fell slightly while the proportion of **NC** entries rose by a marginally greater amount, resulting in parity between these two categories. By 1881, 49 per cent of vessels in the Register Book held an **A** rating and an equal proportion were categorised as **NC**.

Staff Records, 1834-1972

The archives of the ~~Lloyd's Register Foundation Heritage and Education Centre (LRFHEC)~~ hold a number of sources relating specifically to the staff who worked for the Society at ports all over the world. Until recently, this body of evidence was only available to researchers via in-person consultation at the archive in London. However, the recent digitisation project, although not covering all the staff sources, has now made a key source for this section of the archive -- the List of Surveyors -- available online. Between 1834 and 1972, the original Register Books featured a list of the names of every surveyor employed by the Society, organised by port, and detailed any changes to such teams during the year. As the Society developed, the information recorded in the lists became more detailed, containing information not only on the outport staff, but also the staff at the head office in London, in addition to drawing distinctions between the different positions surveyors could hold within each port office, including roles like shipwright and engineer, and also detailing those who held senior surveyor positions. All of the lists between 1834 and 1972 are now available in PDF format on the 'Lists of Surveyors' section of the LRFHEC website.¹⁰

Useful in their own right, the Lists of Surveyors also help to unlock the potential of other staff records in the archive that have not been digitised. For the purposes of this Research Note, it is best to separate this archive into two sections, one dealing with the administrative staff, and the other concerning the technical staff. Administrative staff documents largely focus on the people who worked in the London head office, along with a bound volume listing the administrative teams at other ports in the UK, and at overseas bases, from the early 1930s until 1948.¹¹ These include each administrator's name, age or birthdate, dates of employment with LR, salary and, if appropriate, reasons for leaving the Society, thereby providing insight into an often overlooked section of the Society's workforce. References to the administrative staff can also be found in other more general LR sources, notably the large collection of committee minute books. Appointments to, and departures from, both the administrative and technical staff were often recorded in the General Committee minutes alongside any disciplinary issues, so further information on particular individuals may be found in these sources.

The vast majority of the Staff Records, however, relate to the technical workforce, particularly the surveyors who were employed by LR all over the world. The main sources here are undoubtedly the Lists of Officers, more commonly known by LRFHEC archivists as the 'Staff Bibles'. Like the List of Surveyors, these documents record the names of the surveyors who worked for the Society, organising them by name rather than port. For the majority of surveyor entries, the details recorded are the name, date of birth, start of employment with, and posts within, LR -- information that allows researchers to follow the careers of

¹⁰ LRFHEC, Lists of Surveyors. Available Online: <https://hec.lrfoundation.org.uk/archive-library/lists-of-surveyors>. Accessed 3 August 2022.

¹¹ LRFHEC Archive, Lloyd's Register Staff Records, Clerical Staff at Outports, c.1932-1948.

individual surveyors as they moved around the UK and the world working for the Society. They also detail any problems or disciplinary matters that arose during those careers, along with any action taken by the Society in response to such issues. As with the List of Surveyors, the Lists of Officers became more detailed over time, with later entries also recording background information on the surveyors, including their education and career before joining the Society, along with a more detailed account of the ports in which the surveyors served and their reasons for leaving. All the volumes contain salary information, and note any changes in pay, together with details about bonuses and pensions paid to surveyors and their dependants.

Limitations of the Staff Records held by LRFHEC

Although the Staff Records provide a welter of information on LR's human resource, researchers should note that a number of factors affect the quality of the evidence yielded. Firstly, corroborating the information contained in the documents is difficult, largely because little evidence outside of LR's own collection has survived. The Lists of Officers are one of the very few sources that deal with the staff directly, so testing the accuracy and validity of their contents against other sources is not easy. One can use the Lists of Surveyors in the register books to check the accuracy of dates of employment, and the committee minutes for any unusual contents, but beyond that, corroborative material is sparse. One partial solution is to consult the holdings of local archival repositories. In Hull, for example, records relating to surveys undertaken in the port can be compared with LR's employment data, and this has helped to substantiate some, but not all, of the information presented in the 'Staff Bibles'. Secondly, there are simple inconsistencies in the information collected by contemporaries. Problems arise in analysing the age statistics for the surveyors, for instance, as not all of the biographical entries in the Lists of Officers record the age or birthdate of a surveyor, restricting the extent to which age patterns within the workforce can be analysed. The age of the documents themselves also impairs wider analysis. As previously mentioned, the later Lists of Officers provided much more detail than earlier versions, particularly regarding the education, training and previous appointments of every surveyor, an inconsistency of data collection that makes larger analysis of the evolution within the Society's recruitment strategy more difficult to complete, particularly when attempting a comparative analysis of LR recruitment over time. Perhaps the main evidential weakness of the Society's Staff Records, however, is the focus on the head office in London. Many of the documents covering LR's staff relate to the individuals who worked for the Society in London, particularly those who worked in the administrative sections. Research suggests that each outport of the Society kept its own administrative staff records, but remarkably few of these documents have made their way down to the head office, and as a result the vast majority of administrative staff records only cover London employees. Such data for the outports are limited to the sporadic inclusion of administrative staff alongside the surveyors in the Lists of Officers, amounting to a single bound volume detailing staff wages around

1872-73, and a booklet recording the administrative staff at the outports, c.1932-1948.¹² Consequently, analysis of administrative staff outside London is limited temporally to narrow periods, rendering long-term analysis of outport staff extremely difficult, unless the regional office records have been kept. Nevertheless, as research into LR's activities at Hull demonstrates, the Society's Staff Records can be deployed to reveal much about the operations of the Society at the local level.

Potential of the Staff Records

As Nigel Watson states, 'the people of Lloyd's Register are Lloyd's Register', and any investigation into the work of the Society necessitates an understanding of the role of its staff.¹³ This is apparent with regard to Hull, where issues such as the evolution of the education of surveyors, the average age of surveyor teams, the levels of staff retention, discipline, and wages and payment structures for surveyors can be assessed using evidence derived from the Staff Records.

On a broader front, sources like the lists of surveyors and officers can be deployed to quantify the growth of the Society and its operational activity at both the individual port level, and around the world. For instance, in 1834, at the reconstitution of the Society, Lloyd's Register appointed 63 surveyors to serve at ports around the UK, a complement that the Staff Records show had risen to 513 working all over the world by the end of the First World War.¹⁴ Using the Staff Records for the eight ports where LR first employed exclusive surveyors, this analysis can be taken further to provide comparative analyses of staffing levels between ports (see Figure 5).

Figure 5 near here

Figure 5 infers that, after a period where surveyor numbers remained relatively stationary around the UK, the 1870s witnessed an increase in staff across the outports. This reflected the maritime context in which LR functioned. As Britain's overseas commerce 'experienced sustained growth during the 1850-1913 period', quadrupling between 1876 and 1913, more surveyors were required to monitor the increased number of vessels frequenting British ports.¹⁵ Moreover, the 'relentlessly upward' trend of British shipbuilding after 1850, which resulted in British shipyards constructing over 60 per cent of world tonnage in the two decades before the First World War, demanded an increase in the number of LR surveyors at British shipyards.¹⁶ New shipbuilding materials like iron and then steel, along with the increasing

¹² LRFHEC Archive, Lloyd's Register Staff Records, Staff Wage Book, c.1872-73; Clerical Staff at Outports, c.1932-1948.

¹³ Nigel Watson, *Lloyd's Register: 250 Years of Service* (London: Lloyd's Register, 2010), 215.

¹⁴ LRFHEC, Lists of Surveyors, 1834-1870 [Extract from Register Books] Available Online: <https://hec.lrfoundation.org.uk/archive-library/lists-of-surveyors>. Accessed 10 August 2022; Watson, *Lloyd's Register*, 221

¹⁵ D.J. Starkey, 'Nach der Pfeife des Handels tanzen – die Britische seetransportindustrie von 1850 bis 1990', *Zeitschrift für Weltgeschichte*, 12 (2) (2011), 45-75 ('Dancing to the tune of Trade': Britain's Sea Transport Industries, 1850-1990' in *Journal for World History*).

¹⁶ A. Slaven, *British shipbuilding 1500-2010: a history* (Lancaster: Carnegie Publishing, 2013), 18, 46.

prevalence and sophistication of steam-powered marine engines, also increased the need for surveyors, especially engineer surveyors, who were appointed to LR's staff rosters in growing numbers from the late 1870s. The data from the Staff Records also demonstrate how LR responded to the changing geographical distribution of vessel construction. The significant growth in the surveyor teams at Glasgow and Newcastle shows how the Society moved the focus of its operational activity out of London to the areas where shipbuilding and marine engineering gravitated. As Slaven points out, 'by the beginning of the twentieth century half of all merchant shipbuilding output was concentrated on the North East coast', with another 'great concentration' on the Clyde, which 'regularly delivered around 30 per cent of new merchant tonnage'.¹⁷ As a result, by 1957, the Scottish LR offices at Glasgow, Greenock and along the Clyde had a total of 129 surveyors, far surpassing staff levels at head office in London.¹⁸

Few, if any, of these surveyors were women. In contrast, the Society employed a relatively large number of female administrators, at least in the 1930s and 1940s. 'For many years Lloyd's Register was a male-dominated environment', but the outports adopted 'a more enlightened approach', and the Second World War was a particularly important turning point in this regard.¹⁹ The limited clerical staff records for the outports show that, during the 1930s and into the 1940s, many outports had administrative teams comprised mostly of women. Indeed, as Figure 6 indicates, of the first seven exclusive outports of the society -- Bristol, Glasgow, Hull, Leith, Liverpool, Newcastle and Sunderland -- all but the latter two had offices in which women constituted the majority of administrative employees.

Figure 6 near here

The Staff Records of LRFHEC also shed light on regional specialisms. The ports on the Humber are a prime example here. After sharing in the post-1870s boom in surveyor numbers seen across the UK, Hull retained a relatively large surveyor staff. Initially, this might come as a surprise, particularly as major Humber shipyards like Earles Shipbuilding and Engineering Company closed down in the early 1930s. But a key factor at play here was the growth of the fisheries, with the sustained expansion of the surveyor team in Hull corresponding with the emergence of new trawling technology. By the late 1880s and 1890s, Hull and Grimsby began to play 'a major role in the development of the purpose-built steam-screw trawler', a vessel design that drew the interest of LR, which sought to use experiences in Hull and Grimsby to extend its own outreach through the development of a unique set of rules and regulations for the construction of trawlers.²⁰ This made the Hull office an ideal location for LR to engage with the trawling industry and

¹⁷ Slaven, *British Shipbuilding*, 50.

¹⁸ LRFHEC, List of Surveyors, 1956-1959 [Extract from Register Books] Available Online: <https://archive.org/details/HECLOS1956/mode/2up>. Accessed 26 April 2022.

¹⁹ Watson, *Lloyd's Register*, 249-51.

²⁰ Robb Robinson, *Trawling: The rise and fall of the British trawl fishery* (Exeter: University of Exeter Press, 1996), 91.

extend its sphere of influence into the most dangerous maritime occupation in the world, as reflected in the steady rise in surveyor numbers in Hull and Grimsby after the 1880s and 1890s.

Figure 7 near here

As the complement of surveyors in the Humber ports grew, the Staff Records highlight the changing nature of the role (see Figure 7). Whereas in the decades following the 1834 reconstitution, LR focused on the surveying of ships both afloat and under construction through the appointment of ship surveyors, from the 1880s engineering played a growing role in the operational activity of the Society on the Humber. This reflected the Society's response to the evolution of maritime technology, the new demands placed upon its workforce and the positive contribution made by LR to the safety of maritime activities in outports like Hull.

Current and future access to the collections

The physical facilities of the Heritage and Education Centre (HEC) closed in March 2020 during the Covid-19 pandemic. After the lockdown restrictions eased, it was decided to refurbish the Centre and present it as a state-of-the-art modern archive. The refurbishment involves the creation of new archival facilities within the basement of the Collcutt Building, the historic home of Lloyd's Register in Fenchurch Street at the heart of the City of London. The Centre will host a variety of archival materials, with the main 'Dense Archive Store' having a capacity of 861 linear metres of shelves. It will also host a reference library to help the researchers with the interpretation of the archival collections, as well as reading rooms equipped with tools to explore the largest items of the collections. The Collcutt Building itself will be interpreted to reflect the past, current and future challenges of the Lloyd's Register Foundation and its vision to create a safer world.

Accessibility is central to the vision for the new Visitor Centre. Measures have been considered in the planning of the physical facilities and the different user journeys for people with different backgrounds. The historic spaces of the Collcutt Building will be employed to engage with internal and external stakeholders, including clients, researchers and heritage enthusiasts, with tours and open house events. The library collections and spaces will be organised to take into account the needs of students, family researchers and Lloyd's Register Group employees.

As ambitious as the renovation of the physical spaces, Lloyd's Register Foundation's digital assets are being meticulously analysed under the Digital Transformation Project. The aims of this project include the development of a new digital brand experience and the enhancement of the current user experience, as well as developing a better understanding of the Foundation's audiences and consequently driving the digital offer towards visibility and growth. The digitisation of the Ships Plans and Survey Reports Collection under 'Project Undaunted' was completed in spring 2022, with more than 1.1 million documents now freely accessible online, to be added to existent resources such as the *Lloyd's Register of Ships*, *Lloyd's Register Casualty Returns* and the Lists of Surveyors. The HEC website figures for the period 2019-2022 show that there have been 1.37 million page views, 1.15 million of which were visits to the newly digitised Ship Plans

and Survey Reports collection. The single most popular page is *Lloyd's Register of Ships* Online, with 183,000 views. Women accessing the HEC website account for 38 per cent of the total users, with room for improvement. The 18-35-year-old demographic represents 32 per cent of total users.

The user flow in the six weeks period between September and mid-October 2021 was 32,000 page views. In 2022, there has been a massive increase in views, with figures doubling to 66,000. The Register Books page has seen an increase from 4,586 to 5,479 unique visitors. However, whereas in 2021 it represented 14.2% of the website views, it has decreased to 8.3% in 2022 due to the enhanced HEC online offer, including the new 'Learning From the Past' programme, which attracted more than 400 views in its first six weeks since launch.

The successes of 'Project Undaunted', and the prospect of engaging with users unlikely to visit the Collcutt Building, continuously drive the digitisation efforts. Among new archival materials currently scheduled to be scanned and uploaded on the HEC's platforms are LR's historic magazines (*100A1* and *Society*), annals and annual reports covering the nineteenth and twentieth centuries, the General Committee minutes, technical reports, *Rules and Regulations* books, and the supplements to the Register Books. A project commenced in autumn 2022 involves the digitisation of the *Missing Vessels Books* collection housed at the Guildhall Library, which will dramatically increase the footprint of the collection and prove useful for maritime archaeologists in identifying shipwrecks. To attend to the needs of its digital users, the Heritage and Education Centre has put in place a Historical Research service freely available to its publics. Other than general and events enquiries, the users can request the high-resolution version of the online materials, information on specific ships and regulations, flag missing or incorrect documents, as well as establishing strong connections with the HEC team.

With an increased number of on-going projects and a robust online presence, the HEC team has had to adapt and expand, and now comprises a total of 12 staff members. The Archive team oversees the day-to-day operations, with positions specifically designed to support the digital offer. The Research, Interpretation and Engagement team brings stories from the HEC archive to the public and continues progressing the relationship between Lloyd's Register Foundation's heritage and the Ocean Citizens of tomorrow.

Figure 1. Summary Table from the 1809 Shipowners Register (Red Book)

**NUMBER OF SHIPS
REGISTERED IN THIS BOOK,
Exclusive of the Supplements.**

	A 1	A 2	E 1	E 2	I 1	I 2	O 1	O 2	Total
A.....	655	20	426	25	38	6	1	—	1171
B.....	291	9	222	14	34	6	1	—	577
C.....	409	13	303	23	31	6	1	—	786
D.....	225	6	176	9	15	6	1	—	438
E.....	324	12	283	12	33	13	1	—	678
F.....	349	19	291	10	37	3	—	—	709
G.....	186	7	178	10	15	1	1	—	398
H.....	400	12	327	16	30	8	1	1	795
J.....	504	12	404	27	54	9	—	1	1011
K.....	36	2	36	2	7	—	—	—	83
L.....	303	8	193	17	24	4	—	—	549
M.....	545	21	368	22	38	2	—	—	996
N.....	200	9	156	8	18	5	1	—	397
O.....	98	4	53	1	1	1	1	—	159
P.....	312	7	250	19	29	4	1	—	622
Q.....	14	—	9	—	—	—	—	—	23
R.....	218	8	165	14	17	7	—	—	429
S.....	417	16	339	26	41	6	2	1	848
T.....	252	10	217	14	31	6	—	—	530
V.....	228	5	167	7	29	1	—	—	437
U.....	101	5	64	4	12	2	—	—	188
W.....	165	11	124	13	21	1	—	—	335
X.....	3	—	—	—	—	—	—	—	3
Y.....	17	—	20	—	3	—	—	—	40
Z.....	18	—	11	1	1	—	—	—	31
	6270	216	4782	294	559	97	12	3	12,239

Notes to Figure 1

Summary Tables in this format appeared in all Red Books from 1809 until 1833. Data was subdivided according to hull classification (A, E, I or O) and equipment classification (1 or 2).

During this period, First Class ships were allocated the A class for a period in years from new, during which they were deemed suitable to safely carry a dry cargo. Duration of the class was determined by the place of build and the species

of timber used in their construction, ranging from 12 years for vessels built of Indian teak to four years those constructed from Nova Scotian fir.

Second Class ships, marked **E** in the Register, were also regarded as suitable for perishable cargoes, by virtue of having been kept in perfect condition free from defects, subject to verification by survey.

Third class ships, designated by the letter **I**, were those that surveys showed to suffer from defects or lack of maintenance, consequently being deemed seaworthy only for goods not liable to sea damage.

Fourth class vessels, denoted by **O**, were not deemed safe for foreign voyages.

Ships equipment was marked **1** if 'well found' and **2** if 'indifferently found'.

Red Books only list classed vessels.

Figure 2. Summary Table from the 1836 Lloyd's Register Book

KEY TO THE REGISTER
NUMBER OF SHIPS IN THE REGISTER BOOK,
 For the Year 1836, and 1837.
(Exclusive of Supplements.)

	A.	Æ.	E.	I.	Classed.	Not Classed.	Total.
A	271	293	71	6	641	523	1164
B	126	172	43	4	345	352	697
C	258	234	58	5	555	436	991
D	105	114	25	2	246	205	451
E	252	185	53	2	495	417	912
F	112	132	30	2	276	329	605
G	99	97	21	3	220	216	436
H	163	166	40	2	371	359	730
I	47	48	12	1	107	132	239
J	152	168	39	2	361	382	743
K	16	20	5	1	42	49	91
L	132	138	54	2	326	313	639
M	245	244	63	8	558	570	1128
N	59	87	32	—	178	183	361
O	56	45	7	—	108	82	190
P	144	155	48	1	348	320	668
Q	7	8	2	—	17	12	29
R	137	140	33	1	311	275	586
S	199	208	53	7	467	546	1013
T	122	124	27	1	274	273	547
U	18	34	10	—	62	72	134
V	61	49	15	—	125	114	239
W	97	104	37	1	239	255	494
X	—	1	2	—	3	2	5
Y	3	2	4	1	10	19	29
Z	8	8	6	—	22	18	40
	2,879	2,986	790	52	6,707	6,454	13,161

Notes to Figure 2

This was the first Summary Table to appear after the reconstitution, since Summary Tables were not included in the 1834 and 1835 post-amalgamation Register Books. Data was subdivided in the Table only according to the hull classification, now revised to **A**, **Æ**, **E** or **I**. Although a vessel's equipment continued to be allocated a classification of **1** (denoting 'efficient state and condition of ships anchors, cables and stores) or **2** ('insufficient in quantity or defective in quality'), this no longer figured in the annual Summary Tables.

The designation **A** was applied to ships that had been built under Lloyd's Register survey, had not passed a prescribed age, had been kept in 'the highest state of repair and efficiency' and were therefore deemed safe for the conveyance

of dry and perishable cargoes to and from all parts of the world. The requirement for vessels to be built under Lloyd's Register survey had been introduced in 1834 and entailed inspection at three specified stages during construction.

When a ship reached its prescribed age, it could undergo a wide-ranging programme of restoration work to retain what was referred to as the 'First Description of the First Class', marked by the letter **A** in Registers. Alternatively, if confirmed to still be suitable for perishable cargoes, it could be reclassified under the 'Second Description of the First Class', designated by the diphthong **Æ** with retention of this mark in the Register subject to regular surveys.

Second Class vessels, denoted by the letter **E**, were those regarded as fit for the conveyance to all parts of world of only those cargoes not susceptible to sea damage.

The letter **I** was used to denote Third Class ships that were also only suitable for this type of cargo, although only on short voyages within Europe.

Registers between 1834 and 1838 included all British registered ships over 50 tons, describing as 'Not classed' those vessels that had not yet been subject to the new form of classification survey introduced under the reconstitution of 1834. From 1839 onwards, Register Books included only those ships that had undergone such a survey, with any vessels found by survey to be inadequate to achieve an **A**, **Æ**, **E** or **I** rating being grouped under the heading 'No character assigned' or similar forms of words in Summary Tables.

The format of the Summary Table was amended 16 times between 1836 and 1878.

superseding the Summary Tables that were no longer included. The Annual Statement provided a very significant quantity of additional data, differentiating between iron steamers, iron sailing ships, wood ships (including composites), British, colonial and foreign vessels. Instead of 'No character assigned' it used the terms 'Dis-classed' and 'Never classed', while also providing total tonnages and vessel numbers for the various new categories.

Figure 4. Distribution of vessel categories as percentage of total number of vessels in Register Books, 1808-1881

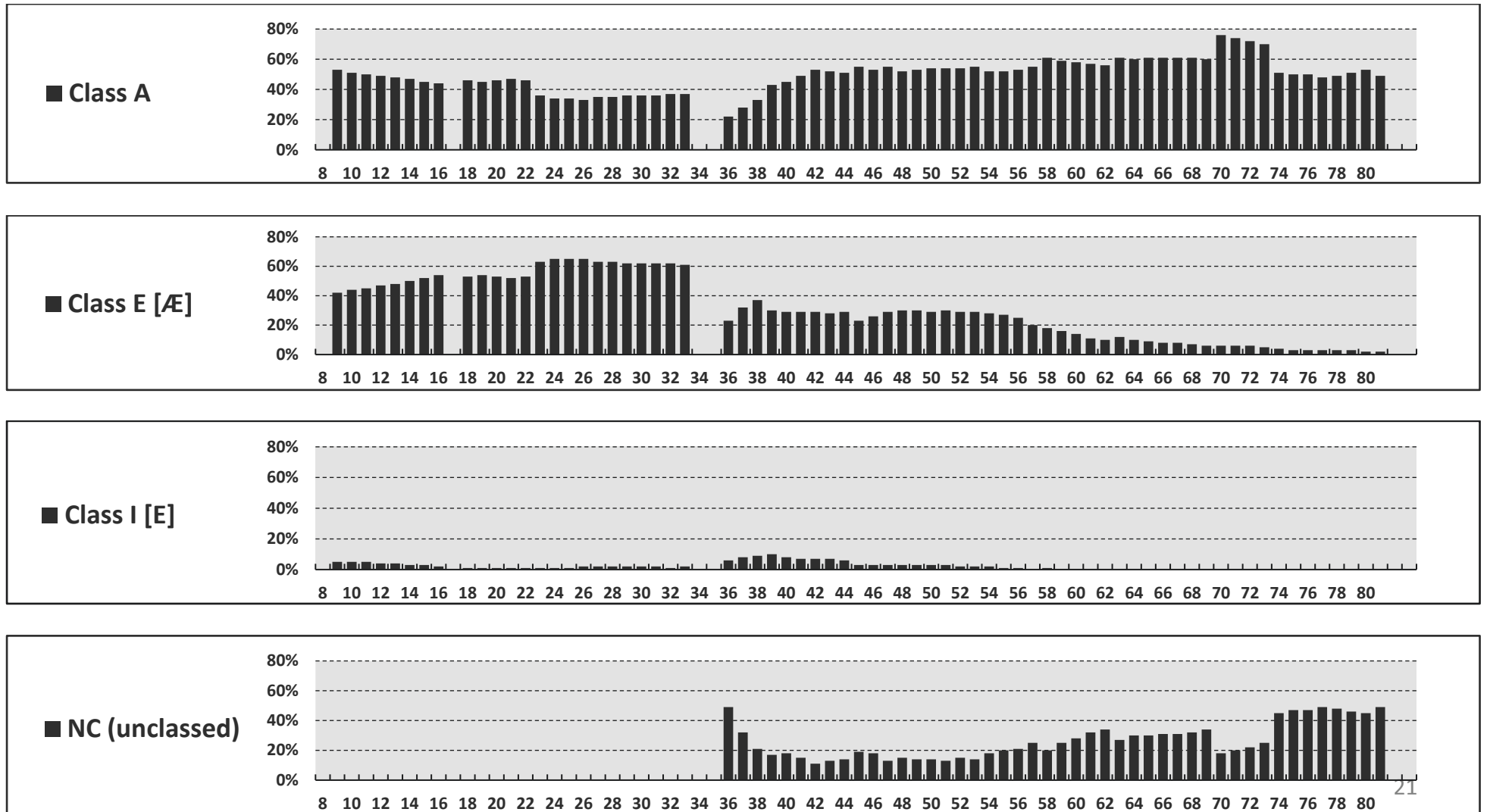
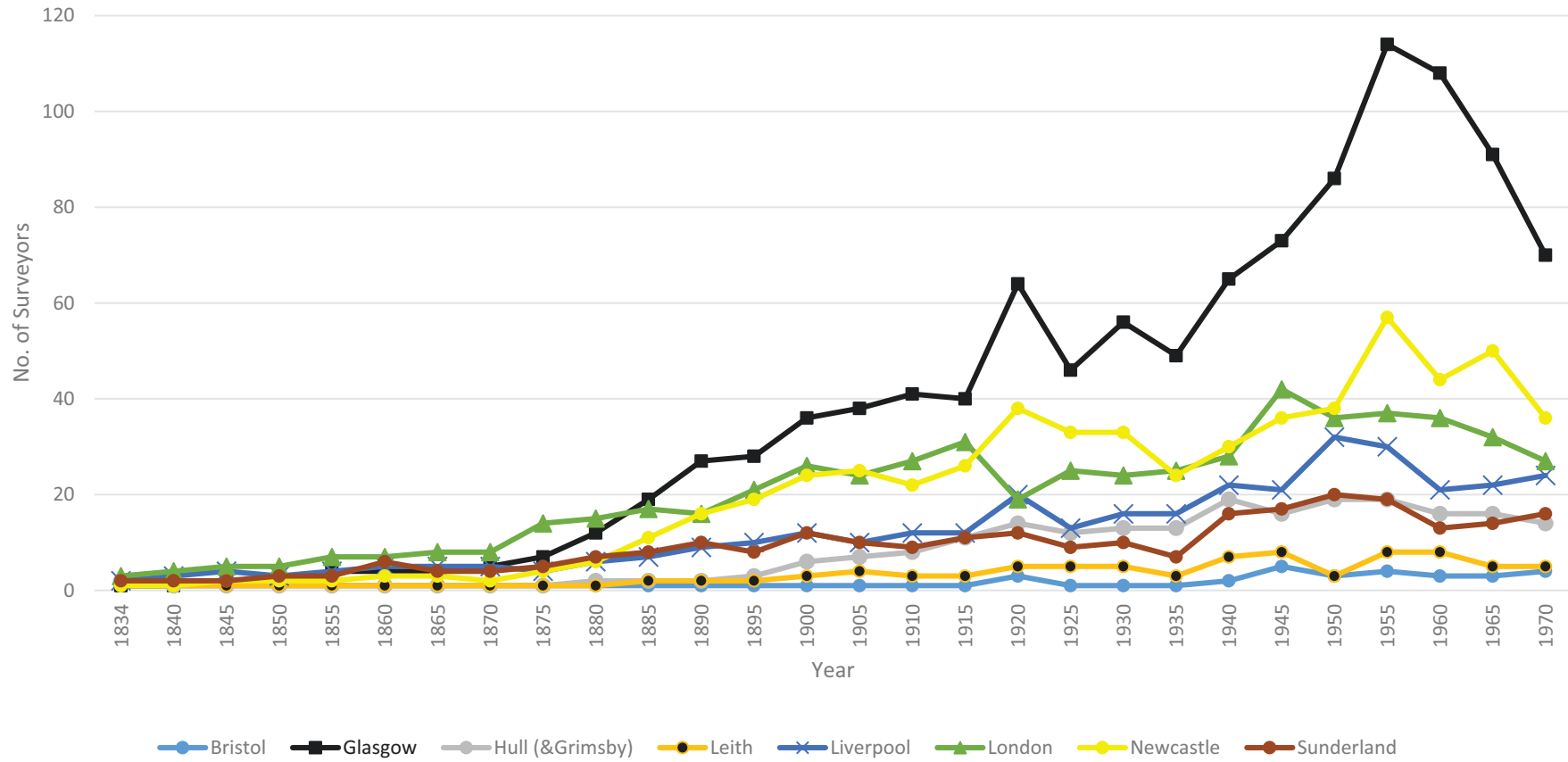
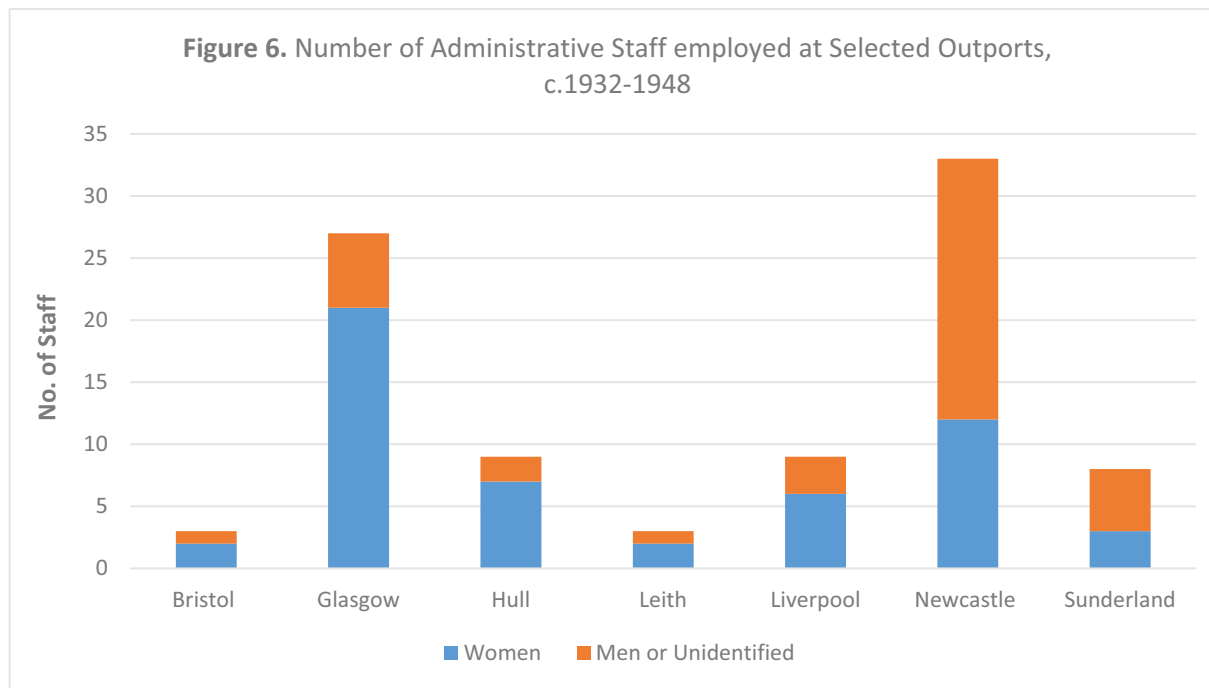


Figure 5. Number of Lloyd's Register Surveyors at Selected Ports, 1834-1970

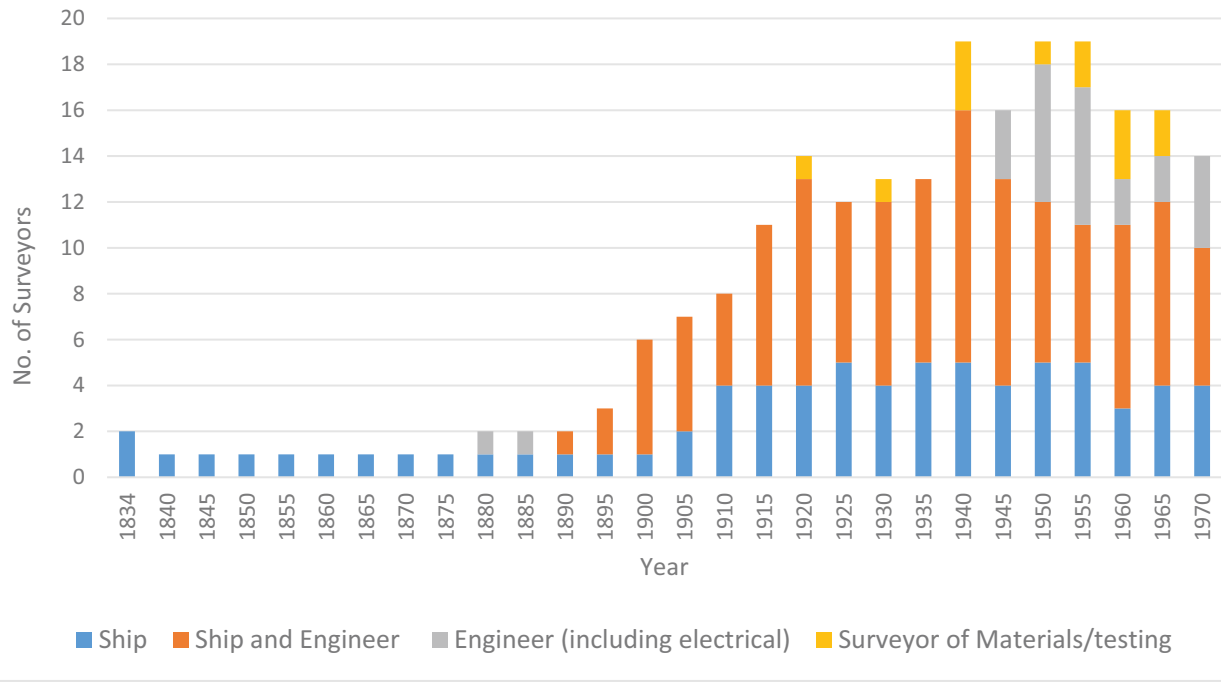


Source. Lloyd's Register Foundation Heritage & Education Centre Archive, Lists of Surveyors, 1834-1970.



Source. Lloyd's Register Foundation Heritage & Education Centre Archive, Lloyd's Register Staff Records, Clerical Staff at Outports, c.1932-1948.

Figure 7. Lloyd's Register Surveyor Employment in the Humber region, 1834-1970



Source. Lloyd's Register Foundation Heritage & Education Centre, Lists of Surveyors, 1834-1970.

Table 1. Distribution of vessel categories in Register Books, 1808-1881

Year	Total no of vessels	Distribution of categories as percentages of total				Year	Total vessels	Distribution of categories as percentages of total				Year	Total vessels	Distribution of categories as percentages of total			
		A	E [Æ]	I [E]	NC			A	E [Æ]	I [E]	NC			A	E [Æ]	I [E]	NC
1808	No data (1)				1834	No data (2)				1860	11,190	58	14		28		
1809	12,233	53	42	5		1835	No data (2)				1861	11,549	57	11		32	
1810	12,393	51	44	5		1836	13,161	22	23	6	49	1862	11,811	56	10		34
1811	13,467	50	45	5		1837	11,510	28	32	8	32	1863	11,636	61	12		27
1812	14,298	49	47	4		1838	11,418	33	37	9	21	1864	11,948	60	10		30
1813	14,763	48	48	4		1839	10,204	43	30	10	17	1865	11,937	61	9		30
1814	14,686	47	50	3		1840	11,595	45	29	8	18	1866	12,183	61	8		31
1815	15,185	45	52	3		1841	12,329	49	29	7	15	1867	12,300	61	8		31
1816	15,638	44	54	2		1842	12,055	53	29	7	11	1868	12,315	61	7		32
1817	No data (1)				1843	12,106	52	28	7	13	1869	12,656	60	6		34	
1818	14,846	46	53	1		1844	11,876	51	29	6	14	1870	10,038	76	6		18
1819	14,034	45	54	1		1845	10,733	55	23	3	19	1871	10,224	74	6		20
1820	14,131	46	53	1		1846	11,128	53	26	3	18	1872	10,417	72	6		22
1821	14,170	47	52	1		1847	10,553	55	29	3	13	1873	10,698	70	5		25
1822	14,104	46	53	1		1848	10,668	52	30	3	15	1874	14,493	51	4		45
1823	13,937	36	63	1		1849	10,723	53	30	3	14	1875	15,040	50	3		47
1824	13,973	34	65	1		1850	10,711	54	29	3	14	1876	15,707	50	3		47
1825	14,014	34	65	1		1851	10,431	54	30	3	13	1877	16,591	48	3		49
1826	14,061	33	65	2		1852	10,398	54	29	2	15	1878	16,711	49	3		48
1827	14,018	35	63	2		1853	10,050	55	29	2	14	1879	16,783	51	3		46
1828	14,198	35	63	2		1854	11,027	52	28	2	18	1880	16,769	53	2		45
1829	14,440	36	62	2		1855	11,044	52	27	1	20	1881	16,492	49	2		49
1830	15,221	36	62	2		1856	11,077	53	25	1	21						
1831	15,263	36	62	2		1857	10,952	55	20		25						
1832	15,577	37	62	1		1858	10,548	61	18	1	20						
1833	15,670	37	61	2		1859	10,976	59	16		25						
Notes																	
(1) No data - Red (Shipowners) Books missing / possibly not published																	
(2) No data - annual Summary Tables not included in Register Books																	
(3) Category equivalence - E (1809-1833) is broadly equivalent to Æ (1834-1881), while I (1809-1833) is broadly equivalent to E (1834-1881)																	
(4) Only classed vessels appear in Registers for 1809-1833, hence there are no unclassified entries (denoted by NC in Table)																	

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