

INDUSTRIAL HERITAGE IN ENGLAND — RESILIENCE AND SUSTAINABILITY OF DESIGNATED SITES



report for
Historic England / Ironbridge Gorge Museum Trust

prepared by
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**INDUSTRIAL HERITAGE IN ENGLAND
RESILIENCE AND SUSTAINABILITY OF DESIGNATED SITES**

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Summary

This report considered the resilience and sustainability of designated industrial heritage sites accessible and interpreted to the public in England. Desk-based research on 682 sites was combined with questionnaires and interviews involving 71 sites. The work was undertaken in 2024-25, and collected data from the period 2020-23.

The large sample of 682 sites was representative but not comprehensive. Key findings:

- 83% of these sites are outside London and the south-east
- 74% operate for public benefit
- 26% are in public ownership
- 51% are run by not-for-profit NGOs, most of which are formally-constituted charities

The smaller sample of 71 sites was more focussed on active visitor attractions, 56 of which (79%) are run by not-for-profit NGOs. Together:

- 61 of these sites employ 505 staff
- 55 of these sites provide opportunities for 4114 volunteers
- 50 of these sites have nearly £25 million annual turnover
- 49 of these sites had 3.8 million visitors during 2020-23

These industrial heritage sites embody many positive attributes, including:

- Support for 98 different technical (mechanical and heritage craft) occupational skillsets
- More than half of the 71 sites have been active for more than 40 years
- Visitors and volunteers report high levels of wellbeing

However there are also a number of current and future challenges:

- Income is seasonal and profitability is marginal for most smaller sites
- Reductions in public funding have directly and indirectly impacted many sites
- Nearly two-thirds of the 45 sites who responded to the questionnaire survey have less than six months' reserves
- Around half of the 61 sites who provided information have no up-to-date strategic, management or business plan
- 62% of volunteers in 55 reported sites are over 50
- Shortage of non-technical skills, especially digital, marketing, management and finance
- Governance arrangements are sometimes weak, with limited succession planning
- Fuel and energy costs, and future availability of 'heritage' fuels, is a major concern for many
- Lack of coherent sector-wide advocacy and strategic thinking

The report makes ten recommendations to improve resilience and sustainability for publicly-accessible designated industrial heritage sites:

- Create a baseline of key sites for long-term measurement of improvements
- Provide additional support for the IHSO role
- More detailed analysis of on approaches to best diversify sector governance, management and funding
- Greater advocacy with government and other stakeholders
- Volunteer renaissance — more flexibility and proactive development of/for volunteers, including community champions for industrial heritage
- Skills enhancement — technical, financial, management and marketing skills development
- Audience development — integrated approaches to marketing and visitor experience
- Formal mentoring scheme for sector-wide professional development involving existing industrial heritage networks
- Heritage fuel research consortium to develop sustainable alternatives for a global market

- Strategic review setting out clear priorities and parameters for the proactive conservation and management of designated industrial heritage accessible and interpreted to the public for the next 25 years.

**INDUSTRIAL HERITAGE IN ENGLAND —
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Abbreviations

The following abbreviations are used in this report for English regions. The inventory (Appendix 1) is grouped by region, and where sites are identified in the text their regional location is noted in brackets by these abbreviations.

EE	East of England
EM	East Midlands
LSE	London and the South East
NE	North East
NW	North West
SW	South West
WM	West Midlands
YH	Yorkshire and the Humber

Other abbreviations which appear in this report include:

ACE	Arts Council England
AIA	Association for Industrial Archaeology
AIM	Association of Independent Museums
BCLM	Black Country Living Museum
DCMS	Department for Culture, Media and Sport
DEFRA	Department for the Environment, Food and Rural Affairs IDB
	Internal Drainage Board
IGMT	Ironbridge Gorge Museum Trust
IHSO	Industrial Heritage Support Officer
NHS	National Health Service
NLHF	National Lottery Heritage Fund

Sites highlighted in bold in the text are among the 682 sites which formed the core of the study and are listed in Appendix 1.

1 Introduction

1.1 Background

In April 2024 Heritage Innovation Limited were commissioned by the Ironbridge Gorge Museum Trust, on behalf of Historic England, to undertake a desk-based survey of industrial heritage sites in England and the organisations responsible for them. The project was designed to provide information on the state of designated industrial heritage sites and visitor attractions, to inform Historic England's draft *Industrial Heritage Strategy and Corporate Plan* as well as future strategy for the Industrial Heritage Support Officer (IHSO).

1.1.1 Rationale

Most industrial heritage survives in the care of organisations with limited resources. Previous surveys (see 1.1.2 below) had identified around 600 heritage sites in England which have statutory protection and are interpreted to, and accessible by, the public. These are managed by around 400 organisations. A rapid online survey in 2021 for the Industrial Heritage Support Officer (IHSO) project suggested that the majority of those organisations are either local authorities or charitable trusts (independent not-for-profit organisations).¹

Some evidence suggested that there was cause for concern about the resilience and viability of some of these organisations in the longer term, and that there was therefore a potential threat to the industrial heritage which they care for.

Local authority investment in museums and galleries declined by 42.8% in real terms between 2009-10 and 2022-23, and over the same period dropped as a proportion of overall spending from around 0.22% to 0.16%.²

A significant minority of independent museums are experiencing challenging circumstances. Visitor attendance for 30% of museums was significantly worse in 2023 than anticipated; 36% had to scale back planned activity, and 44% only feel able to cope with cost pressures for the short term. Many museums need financial support for development, in particular capital funding for maintenance (44%) and transformation projects (39%).³ It might be expected that capital funding needs are higher in the industrial heritage sector due to the complexity and fragility of many industrial buildings and the machinery which they contain — and which in many cases forms an integral part of their structure. A 2021 IHSO survey of 70 industrial heritage sites indicated significant maintenance backlogs.⁴

The majority (68%) of industrial heritage collections are managed by people with no formal conservation training; 30% are managed by volunteers, of whom 94% have no formal conservation training. Moreover volunteer capacity is being eroded due to wider demographic changes: volunteering has declined sharply in recent years in all age groups except 65-74.⁵ This will also have a significant impact on many industrial heritage sites and organisations.

¹ IHSO 2024. Within this report charitable trusts include registered charities, community interest organisations, community interest companies and similar not for profit vehicles such as voluntary groups. The majority of these are formally constituted.

² DC Research / Wavehill 2024.

³ AIM 2023.

⁴ IHSO 2021.

⁵ ICON 2023; NCVO 2023.

Although the impact of these and other factors on designated industrial heritage sites can be inferred, there had not been a comprehensive and specific survey of the sector for over 15 years. In that time there had been significant changes to the economic and social frameworks within which industrial heritage is cared for. These included:

- the global financial crisis of 2009 and its aftermath, which continued to impact investment until the mid-2010s
- the UK departure from the European Union, a process which created financial and social uncertainty during the later 2010s and early 2020s
- the global Covid (coronavirus) pandemic of 2020-21, and associated lockdowns which had an adverse impact on visitor attractions and cultural organisations
- a 'cost of living crisis' with a number of causes, but exacerbated by the Russian invasion of Ukraine in February 2022

1.1.2 Previous studies

Awareness of the importance and vulnerability of England's industrial heritage has driven a number of initiatives over several decades. In 1989 the then English Heritage Industrial Advisory Panel adopted a co-ordinated strategy to reinforce and extend statutory protection for industrial monuments and buildings. This was formalised in 1995, and resulted in additional funding for the conservation of industrial sites, and the extension of the Monuments Protection Programme (MPP) during the 1990s to assess a wide range of industrial monument types.⁶

These initiatives achieved some notable successes, but several issues remained including:

- The sustainability of long-term preservation, particularly of operable machinery and plant;
- The level of protection for 20th century industrial sites reflecting declining industries;
- Meeting the revenue requirements associated with the conservation of major sites.

1998 report

In 1998 English Heritage commissioned PLB Consulting Limited to examine these and other issues.⁷ The resulting report on *Public Access to England's Preserved Industrial Heritage* explored four main areas:

- Financial implications associated with the repair and structural maintenance of important industrial heritage sites;
- Costs incurred in facilitating public appreciation and enjoyment of industrial structures and scheduled monuments;
- Funding arrangements for industrial archaeology sites;
- The level of public interest in industrial archaeology, and prospects for increasing and sustaining this interest.

The 1998 report produced an inventory of publicly accessible industrial heritage sites in England. A total of 608 sites were inventoried. The selection of sites was intended to create an 'inventory of mainly statutorily protected sites and structures' that were preserved specifically or largely for 'presentation to the public'.⁸ The approach to the selection of sites was described as a 'funnel' of filters comprising a successive sequence

⁶ English Heritage 1995a; English Heritage 1995b; Palmer and Neaverson 1995.

⁷ PLB Consulting 1998

⁸ PLB Consulting 1998, 13-14; 157; Figures 1-8.

of seven criteria: site, type, period, status, usage, management, public access and context.⁹ This resulted in a substantial data set, albeit one that was not comprehensive and contained a number of inconsistencies. These included:

- Three mainline railway stations that were still in public use, along with a mainline railway tunnel. It is not clear why these particular examples were chosen.
- Some sites were inventoried when similar sites nearby were not. For example Bedlam Furnaces were included but Blists Hill Blast Furnaces were not;
- Some landscapes with extensive publicly-accessible industrial remains were included, such as Little Germany in Bradford (YH) or Lathkill Dale National Nature Reserve (NW); however equally important areas of similar archaeological character — such as the Stiperstones metal mining area in Shropshire — were not.
- Canal infrastructure was inconsistently inventoried or wrongly labelled. For example Rochdale Nine Locks (Greater Manchester) were listed as ‘Delph Nine Locks’ (which are in Brierley Hill); however Delph Nine Locks themselves — along with other notable flights of canal locks, such as the 10-flight Foxton Locks (Leicestershire) or the 30-flight Tardebigge Locks (Worcestershire) — were not inventoried.
- A handful of maritime sites were included, including both active and redundant lighthouses and docks; but there were many more notable exclusions.
- Large numbers of watermills, windmills and pumping stations were included when in many cases there appears to have been limited or no public access to these sites.
- Some sites were included where there was only a very slight industrial heritage association — such as Burton Agnes Old Hall (a 17th century donkey wheel) — or where there was none at all (Shibden Hall, Calke Abbey Estate).

It is worth noting that the 1998 report was undertaken without internet access, which created challenges in producing the list of sites. The 1998 survey sent postal questionnaires to 593 of the 608 sites, and conducted follow-up telephone interviews to obtain detailed management and operational information. A total of 295 postal questionnaires were returned (a 48% response rate), and 100 telephone interviews were conducted. Six ‘case study’ sites were also visited.

Despite the inconsistencies noted above, overall the sites which returned data in the 1998 study were broadly representative of the national stock of sites in each of the MPP industrial classifications. This is shown in the table below.¹⁰

<i>MPP classification</i>	<i>Percentage of sites in overall national stock</i>	<i>Percentage of sites represented in 1998 sample</i>
Extractive	11%	12%
Inorganic manufacturing	7%	8%
Organic materials	49%	53%
Power and utilities	8%	6%
Transport	24%	20%
Services and miscellaneous	1%	1%

The study considered a number of issues associated with the management of industrial heritage sites for public access and enjoyment. These were grouped into the following categories:

⁹ PLB Consulting 1998, 14-18

¹⁰ PLB Consulting 1998, 66 (Table 4.1).

- Management and operations. Ownership, management, organisational structures, volunteers, community engagement, skills and training;
- Conserving historic industrial structures. Approaches and philosophies, conservation plans, inventories, operational implications, monitoring and maintenance;
- The market for industrial heritage. Visitor trends, market segmentation, marketing approaches;
- Interpretation, education and public enjoyment. Themes, mechanisms for delivering interpretation, educational groups, access issues;
- Funding conservation and access at industrial heritage sites. Capital funding, revenue funding, private sector involvement, visitor income streams, promotion and marketing costs;
- Prospects for sustaining access to England's preserved industrial heritage. Organisational viability, market forecasts, investment, skills development and projects;
- Opportunities and constraints. Financial needs, community interest, defining priorities, marketing and sustaining public interest, professionalisation, partnership working and product development.

The 1998 report made 14 recommendations for the sector as a whole,¹¹ many of which subsequently fed into strategy and policy of what was then English Heritage, as well as other organisations such as the Heritage Lottery Fund (now the National Lottery Heritage Fund). In summary, the recommendations were:

1. Disseminating information on funding sources.
2. Funding interpretation at industrial buildings and monuments
3. Pilot grant scheme for small scale repairs
4. Addressing thematic and geographical lacunae in the stock of preserved monuments
5. Increasing uptake of best practice in preparing appropriate management tools
6. Increasing training provision for operators, managers and staff
7. Reviewing best practice in skills recording and transfer
8. Disseminating good practice in conservation
9. Investing in product development — interpretation and facilities
10. Improving joint marketing efforts locally and regionally
11. Improving education services at all sites
12. Identification of a suite of 'flagship sites' to increase engagement
13. Investment into sites which act as gateways into the surrounding landscape
14. Promoting guidelines on adaptive re-use

2008 report

In 2008 English Heritage commissioned Sir Neil Cossons to examine the state of preserved industrial archaeological sites in England and make recommendations on how their future may be secured.¹² Cossons' report was not informed by systematic data collection and did not review or revise the 1998 inventory. However it did draw on extensive consultation within English Heritage (which at the time was a single body undertaking both regulatory and management functions). The report provided a discursive review of selected issues, including:

- Strategic planning of industrial heritage protection;
- Management and operation of industrial heritage sites, particularly smaller sites and those in local authority control;
- Degradation, focussing on the need for conservation principles to become embedded in the day-to-day operation and development of industrial heritage sites;

¹¹ PLB Consulting 1998, 169-172.

¹² Cossons 2008, 3.

- Visitors and operating costs, emphasising the relatively low turnover of many sites making investment in visitor experience more challenging.

The report identified a ‘crisis’ in the preservation of industrial heritage, which Cossons suggested had arisen due to a combination of policy failure, underfunding and demographic change. It was argued that the unique nature of industrial heritage required the development of unique solutions at a national policy level.¹³ Cossons identified six main ‘areas of concern’:

- The nature and complexity of the material evidence, especially where this includes machinery, whether mobile or stationary;
- Low levels of understanding of the value of that evidence and the absence of widely accepted conservation principles, planning or practice;
- Lack of widespread appreciation of contemporary best-practice management standards, on the part of operators and statutory agencies;
- The fragility and vulnerability – in terms of governance, funding and longer term volunteer involvement - of many of the current site management arrangements;
- Lack of nationally coherent marketing of the industrial heritage to the public;
- Absence of an academic infrastructure promoting the study of the industrial heritage and, in particular, its preservation and conservation.

The 2008 report made 11 recommendations for English Heritage, some of which influenced internal policy developments. Of particular relevance to the present study was the creation of the Industrial Heritage Support Officer (IHSO) role, partly in response to recommendations 4, 5, 6, 9 and 11. In summary, the report recommended that English Heritage should:

1. Recognise that the preserved industrial heritage represents a unique cultural asset of international significance and requires special measures;
2. Open discussions with the equivalent conservation bodies in Scotland, Wales, Northern Ireland and the Isle of Man to develop a UK wide approach;
3. Prioritise the unique nature and international importance of the nation’s industrial legacy as part of its strategic planning;
4. Reconstitute the Industrial Archaeology Panel and widen its terms of reference;
5. Establish a strategic relationship with the Heritage Lottery Fund;
6. Establish an Industrial Archaeology Unit (IAU);
7. Review the designation categories of key preserved industrial sites;
8. Identify and document a core portfolio of all types of key historic industrial sites;
9. Explore opportunities for the establishment of Industrial Preservation Foundations and networks of Associated Properties (where possible in partnership with others);
10. Take the lead in offering start-up funding to widen access to the preserved industrial heritage;
11. Support the provision of research and teaching in specialist areas of preservation, conservation and management relating to the historic industrial environment.

Other relevant studies

Further exploration of issues around the conservation, management and public understanding of industrial heritage in England have taken place since 2008. Some focussed on professionals and their networks; others were more wide-ranging. Relevant studies are summarised here.

Industrial Heritage at Risk (2011). This English Heritage project found that structures classified as ‘industrial’ comprised around 13% (188 of 1400) of the structures then listed on the Heritage at Risk Register.

¹³ Cossons 2008, 23-25.

The proportion may have been higher as some of those classified in other categories would also have been industrial in nature. There was considerable regional variation in the level of risk, as shown in the table below.

<i>Region</i>	<i>Number of industrial structures listed on the 2011 Heritage at Risk register</i>	<i>% of the regional total of all structures listed on the 2011 Heritage at Risk register</i>
West Midlands	35	19%
South West	34	14%
Yorkshire and the Humber	28	21%
North East	27	22%
East Midlands	26	15%
North West	24	17%
South East	7	4%
East of England	5	3%
London	2	2%
Total	188	13%

The 2011 study also highlighted the numbers of industrial sites at risk in specific categories of their original industrial use, as shown in the table below.

<i>Original use of industrial site</i>	<i>Number of structures in each category listed on the 2011 Heritage at Risk register</i>	<i>Category total as a % of industrial structures listed on the 2011 Heritage at Risk register</i>
Fuel production and mining	46	24%
Textile industry	46	24%
Mineral extraction and production	34	18%
Industrial (other)	21	11%
Food and drink industry	13	7%
Metal industry	13	7%
Engineering industry	11	6%
Paper/wood processing	2	1%
Power generation	2	1%
Total	188	100%

The 2011 Heritage at Risk project also explored public understanding of industrial heritage, and the need for investment in industrial heritage at risk.¹⁴ It was widely recognised that volunteers and local groups play a central role in the conservation and management of England’s industrial heritage.¹⁵

Heritage Organisations and Resilience (2012). This study by the Heritage Lottery Fund and Historic England took a definition of resilience developed for Arts Council England to see if it had relevance and application to the heritage sector.¹⁶ Resilience was defined as the ability to continually adapt and redesign to pursue core purpose; resilience was about systems rather than organisations.¹⁷ The report identified some key areas where improvements would help to generate better resilience within the heritage sector. These included:

- Developing leadership skills, including providing opportunities for all staff to develop networks and take advantage of learning opportunities; creating specific leadership training programmes where appropriate;
- Increasing professionalism and commercial awareness, including business planning, among boards, leadership teams, staff and volunteers;
- Increasing awareness of the characteristics of resilience to ensure that potential issues were addressed at an early stage; creating toolkits and support networks that organisations could access, particularly those undergoing rapid changes — such as local authority services;
- Making funding processes more accessible, encouraging funders to align their priorities, and making best use of grant aid to increase organisational expertise and resilience.

Not all of these recommendations were able to be considered. In 2015 the former English Heritage was separated into Historic England (regulator) and the English Heritage charity.

Mendoza review of museums in England (2017). This high-level review of the museum sector in England was commissioned by DCMS and focussed on strategic issues for the sector, with particular emphasis on the role of national museums and arm’s-length bodies.¹⁸ Although not concerned specifically with industrial heritage, many of its recommendations informed subsequent policy development and decision making by DCMS, ACE and NLHF, which in turn impacted on many organisations caring for industrial heritage. The Mendoza review made six recommendations to government:

- A. A joined-up approach from government and its arm’s-length bodies
- B. A clearer museums role for DCMS
- C. National responsibilities for national museums
- D. A stronger development function for ACE with museums
- E. A more effective use of National Lottery funding for museums
- F. The closer involvement of Historic England

100 industrial places (2021). A review by Nigel Barker-Mills for Historic England of the listing of industrial buildings in England, looking in detail at additions and amendments to the list between 2010 and 2020. Although there were fluctuations over time, these can generally be explained by particular regional or thematic trends — for example the creation of large numbers of new records in relation to the centenary of the First World War. Overall the proportion of industrial assets added to the list remained fairly constant at

¹⁴ BRDC 2011; Colliers 2011.

¹⁵ Gould 2015.

¹⁶ BOP 2012.

¹⁷ Robinson 2010.

¹⁸ Mendoza 2017.

around 22% of all new additions, as shown in the table below.¹⁹ The experience of industrial assets in the designation process suggests that industrial heritage was being given appropriate priority in the application of policy during this period; balancing the perception given by the 2008 report.

<i>Year</i>	<i>Total entries</i>	<i>New listings (excluding WW1)</i>	<i>Industrial assets excluding WW1 (number)</i>	<i>Industrial assets excluding WW1 (percentage)</i>
2011	912	578	113	23%
2012	695	413	121	26%
2013	640	303	119	33%
2014	690	245	80	20%
2015	1043	332	86	25%
2016	1432	345	50	12%
2017	1177	277	63	20%
2018	1173	282	72	25%
2019	737	203	38	16%
2020	642	252	59	20%
Total	9141	3230	801	Mean = 22%

IHSO rapid review of industrial heritage (2021). This reviewed 70 industrial heritage sites still emerging from the Covid pandemic and looked at a range of issues; the results indicated that there were some significant maintenance backlogs

Impact of Covid on heritage volunteering (2021). This study focussed on the immediate aftermath of Covid, and set out strategies for post-pandemic recovery.²⁰ It was one of a number of sector-wide studies undertaken by or on behalf of Historic England during this period. It used responses to an online questionnaire (310 respondents), and although the sample was biased toward faith-based organisations, it provided a useful general picture.

Heritage railways and Covid (2021). This study provided an overview of the impact of the pandemic on heritage railways in England, using a mixture of published evidence and interviews with organisations.²¹ It highlighted some of the common mitigation strategies, and suggested ways in which they could be applied more broadly across the heritage sector.

Association of Independent Museums (2022 and 2023). A series of reports on the impact of the Covid pandemic on independent museums, and the recovery of the sector in the aftermath.²² The reports were based on surveys of around 200 AIM members, and included useful data on visitor attitudes as well as information about the responses of museums and heritage attractions not only to Covid, but also to

¹⁹ Barker-Mills 2021, 20 (Table 4.1).

²⁰ Ward 2021a.

²¹ Ward 2021b.

²² AIM 2022a; AIM 2022b; AIM 2023.

subsequent issues such as the cost of living crisis (including the availability of energy and fuel for museums).

Developing a skilled industrial heritage conservation workforce (2023). A UK-wide ‘plan for action’ produced by the Institute of Conservation (Icon) in close consultation with 70 museums professional conservator-restorers, and representative bodies.²³ The report defined ‘industrial heritage’ to include the remains of industrial processes such as manufacturing and mining, as well as transport, engineering and energy production; architectural elements of industrial sites; computing, and technology. Icon noted the unique nature of industrial heritage, which often involved ‘large, or very large objects and buildings with bespoke infrastructure’ and collections with ‘working or partially working objects in challenging environments’. The report identified 14 ‘actions’ grouped into four priority areas:

- Actions to preserve existing knowledge
 - 1) Development of a conservation skills ‘Red List’.
 - 2) Review existing research and develop methods of rapidly recording information.
 - 3) Establish cross-disciplinary stakeholder group.
- Actions to support volunteers
 - 4) Conservation volunteer charter.
 - 5) Manual to guide volunteers in care and maintenance of industrial heritage collections.
 - 6) Develop ‘Principles of Conservation-Restoration’ training for volunteers.
 - 7) Conservation-restoration volunteer management training.
- Actions to support the professional workforce
 - 8) Establishment of ‘Industrial Heritage’ group within Icon.
 - 9) Training opportunities targeting existing professional conservator-restorers.
 - 10) Promotion of Icon Accreditation to individuals undertaking conservation-restoration.
 - 11) ‘Principles of Conservation Training’ for allied heritage professionals.
 - 12) Developing demand for skilled conservation professionals.
- Actions to bring new people into the sector
 - 13) Map existing training provision to add ‘industrial heritage’ related content.
 - 14) Work with sector partners to inspire and engage young people in industrial heritage conservation careers.

IHSO stationary steam engine survey (2023). The IHSO undertook a brief survey of stationary steam engines during summer/autumn 2023.²⁴ A total of 88 questionnaires were sent, of which 40 responses were received. The majority of these (22 sites, 55%) identified costs as the greatest challenge — particularly fuel, insurance and maintenance. A further 16 sites (40%) identified recruiting and retaining skilled volunteers as the greatest challenge. Many sites were adversely affected by low visitor numbers and volunteers during the Covid pandemic, and recovery has been slow.

1.1.3 Business case

Industrial heritage is arguably the only unique contribution that the UK has made to the world. Indeed ‘the inception and process of industrialisation ... has changed and moulded the way in which all the peoples of the world now live’.²⁵

²³ Icon 2023.

²⁴ Nevell 2024a, 7.

²⁵ DCMS 1999, 4.

Fourteen of the UK's 35 World Heritage Sites specifically relate to industrial heritage — and a number of others contain industrial elements as part of their story. The legacy of industrialisation underpins many of the social, economic and environmental concerns which the world faces in the 21st century. As the origin point the UK has a special responsibility to ensure that this aspect of global cultural heritage is cared for in an appropriate and sustainable way.

The IHSO post was established in 2012. Its creation was influenced by recommendations in the 2008 report (see 1.1.2 above), and was an output of the 2011 English Heritage *Industrial Heritage at Risk* project. The purpose of the IHSO project is to deliver a combination of support, capacity building, network creation, sharing best practice, and research on current issues facing the sector. There is no equivalent project elsewhere.

Nevertheless there is a need to develop clear and focussed priorities for action, to ensure that the benefits of the IHSO project can be delivered in a way which offsets any risks associated with the loss or deterioration of designated industrial heritage sites and the capacity of public, private and third-sector organisations to care for and manage it. This project identifies some of the key priorities for the IHSO post to address in the future.

There is considerable public interest in ensuring that industrial heritage sites are well-supported and remain viable as visitor attractions and as exemplars of heritage conservation. Industrial heritage sites deliver public benefit in a number of ways, including:

- **Educational value.** Many of these sites represent important strands of local, regional and national history — and either are, or have the potential to become, key elements in partnerships with schools and other education providers.
- **Amenity value.** Most of these sites include buildings and spaces which are valued by local communities, and have the potential to support more active community engagement. Some sites contain areas of open space which are valuable places for recreation. There is huge potential for industrial heritage to engage with much wider and more diverse audiences, particularly in urban areas.
- **Well-being value.** Both as places to go, and as opportunities for volunteering and personal development, many of these sites can enhance mental and physical well-being for individuals and groups. There is tremendous potential for linking in with wider mental health and wellbeing outcomes.²⁶ However this value has not been quantified in a systematic way for industrial heritage; doing so could provide greater resilience for the sector.
- **Historical value.** The intrinsic historic value of these sites is important in defining and supporting local, regional and national identity, place-making and cultural resilience.

1.2 Scope

The current project was designed to investigate the management and operation of designated industrial heritage sites in England that are open to the public, and to make recommendations to support the future development of the IHSO role and Historic England's strategies for industrial heritage.

1.2.1 Aims

The project had four principal aims, namely:

²⁶ For example through organisations such as Men's Sheds (<https://menssheds.org.uk/>), and through social prescribing (<https://socialprescribingacademy.org.uk/>). See also Mughal *et al.* 2022.

1. Review the 1998 and 2008 reports (summarised in 1.1.2 above), and compare the numbers of industrial heritage sites, preserved, interpreted and open to the public in England in 2024 with those listed in earlier surveys.
2. Use a combination of desk-based research, online questionnaires and interviews with sites and stakeholders to gather representative data on governance, finance, staffing, volunteers, visitor management, maintenance, skills, resilience and sustainability.
3. Undertake analysis of the data to provide an overall assessment of the challenges, risk, liabilities, opportunities and potential of these designated industrial heritage sites in the context of:
 - Conservation management, maintenance and repair;
 - Visitor experience, public engagement and the wider visitor economy;
 - Industrial heritage as a key sub-sector of the wider heritage profession.
4. Produce a series of recommendations to support the future development of the IHSO role and Historic England's strategies for industrial heritage

1.2.2 Objectives

To achieve these aims, the project had the following objectives, which were set out in the project brief and the proposal:

- Identify and analyse the governance models of the industrial heritage sites identified in the study (ie. charity or other not-for-profit arrangement, local authority or private business), including ownership and security of tenure;
- Identify and analyse the economic funding model of these sites, including annual turnover, expenditure, assets and liabilities;
- Summarise the number of full and part-time staff employed by each site, and therefore of the sector as a whole; also to assess any changes in employment since earlier surveys;
- Assess the range and types of public engagement, including the number of volunteers supporting each site; also to assess any changes in employment since earlier surveys;
- Compare the visitor numbers of these sites in 2022-23 with equivalent figures for 2018-19 (ie. prior to the Covid pandemic), and to look at longer-term trends where possible;
- Consider the overall risk to these industrial heritage sites, in terms of both operation and condition, in the short, medium and long term;
- Briefly review the English experience in the operation and management of these sites with experiences elsewhere, both within the UK and beyond.

1.2.3 Activities and products

The following products (deliverables) were agreed at the inception stage of the project.

- I. Communications plan. To be developed at the outset of the project in collaboration with the IHSO, Historic England, and the IHSO Steering Group.
- II. Online questionnaire. To gather information as set out above; to be circulated using the contact list provided by the IHSO, and thereafter used to inform subsequent stages.
- III. Database of sites. A spreadsheet will be populated with the questionnaire responses to facilitate analysis and interview preparation.
- IV. Online interviews. To provide detailed case studies of 12-15 sites, representing a cross-section of those identified by the questionnaire, and to include sites run by charities or trusts, local authorities, accredited museums, business, and voluntary and privately run sites.
- V. Digital dissemination and social media. This includes two strands. First, blogs and social media posts via the IHSO website and social feeds, during the course of the project. Second, articles for Historic England Research magazine, Industrial Archaeology News and/or relevant museums journals close to the end of the work.

- VI. Final report and archiving. A detailed report, with synopsis and recommendations, to inform the future direction of the IHSO project. This will be produced in the Historic England 'Research Report' format. Copies of the report will be deposited with the Ironbridge Gorge Museum Trust, Historic England and the ADS; the project archive will also be deposited with ADS. All documentation will meet relevant government accessibility standards.
- VII. Online seminar of results. Two one-hour seminars (one at the beginning and one at the end of the project) to inform key stakeholders and members of the industrial heritage network.

1.3 Limitations

As noted above, this survey was based on the sites selected for the 1998 study.²⁷ Additional sites that fall under the remit of the IHSO were added to the survey; however the full dataset (Appendix 1) of 682 sites remained representative rather than comprehensive. This meant that it was not possible to fully meet all of the aims and objectives, in particular:

- Measuring changes of employment was only possible within the sample of questionnaire and interview returns (71 sites), which did not generate a sufficiently large sample for meaningful analysis against national employment trends over the periods in question.
- Visitor numbers were not returned for all 71 sites, and it was therefore not possible to look in detail at the wider picture of visitor numbers before and after the Covid pandemic.
- It is not possible to extrapolate from this sample for the sector as a whole.

In addition, completion of the following elements was delayed or constrained by availability of resources and information during the course of the project:

- Data acquisition through questionnaires and interviews (see 2.3 and 2.4)
- Analysis of data pertaining to marketing and promotion
- Setting the review of the English experience in the wider UK and international context.

The sample of 682 sites is not a comprehensive list of all designated industrial heritage sites in England that are open to the public. It has been possible to obtain detailed data on a minority of those sites, and not all data is comparable — so not all sites have been subjected to the same level of analysis. Therefore extrapolation of the results of this study to the general experience of industrial heritage in England is not recommended. This is discussed further at 2.6 below.

²⁷ PLB Consulting 1998, 14-18

2 Methodology

2.1 Project approach

The project was undertaken by Heritage Innovation Limited, under the supervision of a project board consisting of Shane Gould (Historic England) and Mike Nevell (IHSO Support Officer). The project board was responsible to a steering group, which included representatives from the following organisations.

- Arts Council England
- Association of Independent Museums
- Association for Industrial Archaeology
- Canal and River Trust
- English Heritage
- National Lottery Heritage Fund
- National Trust
- Science Museum Group

The steering group also included Nick Booth, representing the Ironbridge Gorge Museum Trust as the employer of the IHSO Support Officer and lead partner on the project.

2.1.1 Stakeholders

The following stakeholders were identified at the outset of the project:

- Managers of the 682 industrial heritage sites, including employees and volunteers working for the organisations responsible for their care and maintenance
- Trustees of industrial heritage sites and their owning/managing organisations
- Local authorities and other public or quasi-public bodies, and private owners caring for industrial heritage sites
- The wider industrial heritage/archaeology sector, including those organisations represented on the steering group and other bodies such as: Association for Industrial Archaeology, Association of British Transport and Engineering Museums, Heritage Alliance, Mobile Heritage Advocacy Group
- Partners involved in the care and support of industrial heritage sites, such as: the Canal and River Trust, English Heritage, Society for the Protection of Ancient Buildings, Heritage Trust Network and the National Trust and other charitable bodies and NGOs.

2.1.2 Project team

The project was managed by Dr Paul Belford, who also undertook the following elements:

- Project design, management and liaison with the steering group and stakeholders
- Desk-based research (2.2)
- Co-design of questionnaires (2.3)
- Interview lead (2.4)
- Data collation, analysis and review
- Report writing, editing and review; wider public dissemination (2.5).

This work was supported by Zoe Arthurs, who undertook the following elements:

- Liaison with the IHSO and site owners/managers for the distribution of questionnaires and timing and organisation of the interviews
- Co-design of questionnaires (2.3) and collation of data received via Google Docs

- Review and editing of interview transcripts, and collation of information from interviews
- Data collation and analysis for parts of report sections 3.5, 3.8 and 3.9
- Review and comments on draft recommendations and highlight reports

2.1.3 Project lifecycle

The project was designed in stages to ensure delivery of the products (deliverables) and activities listed at 1.2.3. These stages were:

- **Stage 1. Project Management.** Purpose: to ensure that the project is managed according to the objectives set out in the specification and brief, and in accordance with public value as set out in HEAG065 and HEAG068. Scope: inception meeting, communications plan, highlight reports, in-project liaison meetings, end of project closure meeting, ADS compliance, archiving, invoicing and miscellaneous correspondence. Output: product (deliverable) I.
- **Stage 2. Questionnaire.** Purpose: to obtain data on industrial heritage sites. Scope: design and preparation of questionnaire, client consultation, review, finalisation; dissemination of questionnaire, chasing responses, correspondence with subjects relating to questionnaire; collation of replies to produce database of sites. Output: products (deliverables) II and III.
- **Stage 3. Online interviews.** Purpose: to obtain data on industrial heritage sites. Scope: design of interview; selection of interview subjects, including liaison with client to finalise list; interviews with Industrial Heritage Sites; interviews with IHSO Steering Group; transcripts of recorded interviews. Output: product (deliverable).
- **Stage 4. Digital dissemination and social media.** Purpose: public/stakeholder awareness of the project. Scope: preparation of blog posts for IHSO website, plus social media posts; preparation of article for Historic England Research Magazine and AIA News. Output: product (deliverable) V.
- **Stage 5. Final report and archiving.** Purpose: final report and archive. Scope: preparation of draft report, revision, final report, and archiving. Output: product (deliverable) VI.
- **Stage 6. Online seminar of results.** Purpose: stakeholder engagement. Scope: preparation of seminar presentations and supporting documentation; delivery of seminars. Output: product (deliverable) VII.

Some project stages were sequentially dependent. For example Stage 3 was not possible until Stage 2 had been completed.

Two issues arose during the course of the project that were not apparent when the project design was prepared. They were:

- Organisations had not always updated the IHSO with new details when contacts and other information had changed; therefore it took longer than anticipated to get responses from many organisations for the questionnaire stage. This had an impact on the timing of the interview stage, which was pushed back into the summer holidays. It was necessary to adjust the timetable around availability of organisations which the project board wished to include.
- The extent of changes to the database since 1998 was underestimated, and so an additional stage of desk-based research was required to understand these changes and provide context for the wider report.

2.2 Desk-based research

2.2.1 Scope

One of the key aims of the project was to understand the changes that had taken place in the sector since the 1998 and 2008 reports. Given that data from the questionnaire and interview would only be partial, it

was therefore necessary to undertake baseline data collection on all of the sites inventoried in 1998. This was intended to enable:

- Understanding of the representativeness of the questionnaire and interview sample;
- More focussed question and discussion during the interview process;
- More comprehensive understanding of the broader sectoral context within which the results of the survey could be placed.

This desk-based element also made it possible to directly compare the actual numbers of industrial heritage sites in 2024 with those listed in earlier surveys — rather than extrapolating from partial survey data.

2.2.2 Approach

The extent to which desk-based research would be required was not identified at the outset of the project, as the response rate to the survey was not known. However as the project went on it became clear that additional basic information was required about all 608 sites which had been inventoried in 1998, plus the additional sites which are now under the purview of the IHSO.

The work used the lists of sites given in Figures 1-8 of the 1998 report as a starting point. These were broken down by region. Each site was checked against the following:

- Lists of unsupported sites provided by the IHSO, and informal conversations with the Project Board and members of the Steering Group;
- Questionnaire returns and interview transcripts;
- Internet search starting with the 1998 site name as a search term, refined as necessary;
- Informal conversations with heritage sector colleagues with particular local knowledge.

Additional desk-based research was also undertaken on those sites which had responded to the questionnaire. This was either to clarify particular information, or to provide further detail, for example on financial and governance issues. This entailed examination of charity documents and accounts filed with the Charity Commission and at Companies House, as well as reports and other documents available on the site owners' or managing organisations' websites.

2.3 Questionnaires

2.3.1 Format and content

The questionnaire was designed using Google forms. It asked 108 questions covering six areas:

- General information
- Governance, operations and income
- Staffing and volunteers
- Visitors and access
- Marketing and promotion
- Condition, conservation and interpretation

These comprised a mixture of multiple-choice and free-text questions; some multiple choice questions also had a free text element. The full questionnaire is provided in Appendix 3.

2.3.2 Distribution and response

Over 600 questionnaires were emailed by the IHSO on behalf of the project. Direct handling of contact data by the Heritage Innovation team was considered a potential threat to confidentiality of third parties, and so

presented a risk non-compliance with GDPR regulations. Of these, 88 bounced back.

A total of 61 questionnaire responses were received (**Appendix 4**), representing a return of around 10%. Some of these were from different parts of the same organisation — for example there were three separate responses from National Trust sites. Some organisations responded who had no direct involvement with the management of designated industrial heritage sites, but who had an overview of a particular aspect of that organisation's operations.

2.3.3 Analysis

Fifty-one questionnaires were received by the original deadline of 31 May 2024. On the advice of the project board, late arrivals were accepted until 18 July 2024, and their information was added to the dataset. Some preliminary analysis was undertaken on the 51 timely responses, but it was not possible to undertake the full analysis until the results of the interviews could be added to the data from the questionnaires. Therefore most of the analysis was undertaken between 9 September 2024 and 11 November 2024.

2.4 Interviews

2.4.1 Format and content

The interviews were semi-structured. A list of subject areas was agreed with the IHSO steering group, and this was used to guide the interviews. The following question prompts were prepared and circulated to interview subjects prior to interview.

<i>Subject area</i>	<i>Prompt(s)</i>
Overview	Please give an overview of your site, its purpose / aim / mission etc. Does it have a USP? What makes it unique or comparable to other sites in the area, or with a similar theme?
Operational models	What works / doesn't work at present? How could this be better supported — either by existing partners or new ones?
Income generation and funding	How do you manage income and fundraising? Is the current situation sustainable? What would improve financial resilience?
Staffing	How many staff do you have? Is this enough? What areas are understaffed? Are you able to recruit new staff? If not, why not?
Volunteers	Is your site reliant on volunteers? If so, how is this safeguarded? What is working / not working? Where is the next generation of volunteers going to come from?
Knowledge and skills	Are there any gaps now? What are they? What do you think the gaps will be in the future? What / who might be able to help?
Access / accessibility	To what extent is access and/or accessibility for your staff / visitors / volunteers a priority? If so, how can this be supported? If not, why not?
Facilities	What facilities do you have for visitors? And for staff and volunteers? Are these accessible? What do you lack, and what more do you think could be done?

Subject area	Prompt(s)
Curriculum	Is the site promoted as a resource for educators? Does this drive income — and if so to what extent? Would you like to engage more / less with schools? If so, what are the obstacles to achieving this?
Condition of buildings and landscape(s)	General trends, including causation and plans. Who is responsible for building / site maintenance and conservation? Is there a conservation plan? Do you have links with appropriate heritage and conservation professionals? What support do you receive from your local authority, or from national bodies?
Conservation	Follow-up questions from the previous topic if needed (many questions may already be answered)
Collections, including plant and machinery	How are collections managed? Who is responsible for maintaining plant and machinery? What is your conservation philosophy? How sustainable is your approach? What are the operational challenges? Are you able to source expertise and parts for repair and maintenance? If not, what are the main obstacles? Is the right fuel available — and is it affordable?
Interpretation	What are the primary modes of interpretation — panels, leaflets, in-person, digital — or a combination of these? Could this be diversified or expanded, and if so how?
Marketing	What is your approach to marketing? How do you promote your site — newspapers, website, magazines? How much confidence and expertise do you have in this area?
Web and social	How do you manage social media? Is this a priority for the site? Do you run analytics and surveys? How much footfall is driven by online bookings and information? Is this something you need more support with — or do you see it as tangential?
Covid impact and recovery	General reflection on the current situation
Climate emergency	How is climate change directly affecting your specific site? What measures have you taken — or would you like to take — to mitigate this? What obstacles are there to achieving your aspirations?
Designation	Does designation help or hinder? Can Historic England or other bodies do more to support?
Aspirations	Where do you see yourselves in ten years' time and how are you going to get there? What recommendations would you like to see from this project that would promote positive action?

Inevitably there was a degree of flexibility in the extent to which individual areas, themes or questions were explored in detail. This depended partly on existing knowledge of the subject's area of expertise, and partly on the responses given during the interview. Factors affecting this variability included:

- Whether the interview subject was responding on behalf of a site, or as part of the IHSO steering group, or as a stakeholder;
- Whether the interview subject was from an organisation which had already completed a questionnaire (in which case some factual information was not discussed in detail at the interview);
- The level of responsibility which the subject had for the site or area of knowledge in question.

All interviews took place remotely using proprietary videoconferencing software (Zoom). Interviews generally lasted about an hour. Subjects were also given opportunities and prompts to respond with additional information, thoughts on the interview process, and wider reflections on the sector as a whole.

2.4.2 Types of interview

A total of 15 formal interviews were conducted with 18 subjects. Some subjects represented sites, others represented organisations — and some subjects provided answers from both perspectives. Some interviews involved more than one subject; for data protection reasons they have not been named in this report. The table below lists all of the formal interviews that were conducted.

<i>Interviewee</i>	<i>Respondent type</i>	<i>Interview date</i>
Stockton and Darlington Railway	Site	18 June 2024
Crofton Beam Engines	Site	24 June 2024
Barge Workshop (Bude)	Site	24 June 2024
Pen Museum (Birmingham)	Site	28 June 2024
Churchill Forge (Kidderminster)	Site	28 June 2024
Canal and River Trust	Steering Group	3 July 2024
Ironbridge Gorge Museum Trust	Site / Steering Group	16 July 2024
Geevor Tin Mine	Site	16 July 2024
Society for the Protection of Ancient Buildings	Wind and Watermills Group	16 July 2024
Lake District National Park	Authority	18 July 2024
Severn Valley Railway	Site	25 July 2024
National Lottery Heritage Fund	Steering Group	15 August 2024
Science Museum Group / ABTEM	Steering Group	15 August 2024
London Museum of Water + Steam	Site	15 August 2024
Woodhorn Colliery	Site	9 September 2024

In addition to these formal interviews, a range of conversations were had with people in the sector who expressed views about the survey project, and about the state of the sector in general. These included representatives from Arts Council England, the Association of Independent Museums and the National Trust. A total of 12 people engaged with the project in this manner, all of whom wished to remain anonymous.

2.4.3 Analysis

Transcripts of the interviews were used to provide data which was incorporated into the analysis along with the questionnaire data. It was not possible to undertake the full analysis until the results of the interviews

could be added to data from the questionnaires. Therefore most of the analysis was undertaken between 9 September 2024 and 11 November 2024.

2.5 Reporting and dissemination

2.5.1 Data management

There were 71 detailed responses providing information which could be analysed. This sample included 61 questionnaire responses, and information about ten additional sites which was gleaned through the interview process. Although there were a total of 18 interview subjects, not all of these were added to the sample because some had already responded to questionnaires, and some were responding on behalf of an organisation which was not directly responsible for the management of sites.

Data from the questionnaires was processed using Apple Numbers spreadsheets, and was distributed among the project team as CSV files. The interviews were transcribed in two stages:

- Initial transcription using the AI-powered transcription facility built into the proprietary video conferencing software
- Final transcript involving human editing and sense-checking by the project team

The final transcript was then distributed among the project team as a plain text file, which was used as the basis to extract data. The project team used a mixture of free reading and keyword text searching to identify key information.

Analysis, review and quality assurance was divided between the team. Where necessary supplementary information was obtained from public records. This included detailed information on governance, finance and visitor numbers. Sources used included published returns to the Charity Commission and filings at Companies House. Where necessary additional information (such as governing documents, business plans and other information) was obtained directly from the websites of specific organisations.

2.5.2 Reporting

Report-writing was undertaken between 1 August 2024 and 14 November 2024. Interim reports were provided to the project board and steering group. This draft report was written by Paul Belford, and circulated to the project board for comment on 14 November 2024. Comments were received on 14 February 2025 and the final report was completed on 31 March 2025.

2.5.3 Wider engagement

An online seminar for stakeholders was held on 26 March, and a similar presentation was delivered to the IHSO Steering Group on 18 April. A project review was provided to the IHSO Steering Group on 17 October. The IHSO project published blogs post on 2 April and 7 July; news items were published on the Heritage Innovation website on 2 April and 27 May. These were supported by social media posts.

A presentation with some result highlights was presented to the Association for Industrial Archaeology conference in Cardiff on 5 October 2024. A joint meeting was held on 9 October with consultants undertaking work on governance and resilience work in World Heritage Site, convened by Historic England.

2.6 Quality review

2.6.1 Representativeness of the sample

The overall sample of 682 sites can be considered to be broadly representative of industrial heritage sites that are accessible to the public in England. However it does not comprise a comprehensive list.

One of the central aims of the current project was to review the status of the 608 sites on the 1998 list. Despite the idiosyncrasies of that list (as discussed above) this was used as the starting point. It was not possible to expand the inventory significantly in a way which would have rebalanced those inconsistencies. Therefore the sample used in 2024 also suffers from many of the same issues as its 1998 counterpart.

A further 74 sites were added to the sample for the 2024 survey. These derived from regional lists prepared by the IHSO, which included additional sites which had become part of the day-to-day IHSO casework. Figure 1 shows the numbers of sites in each region.

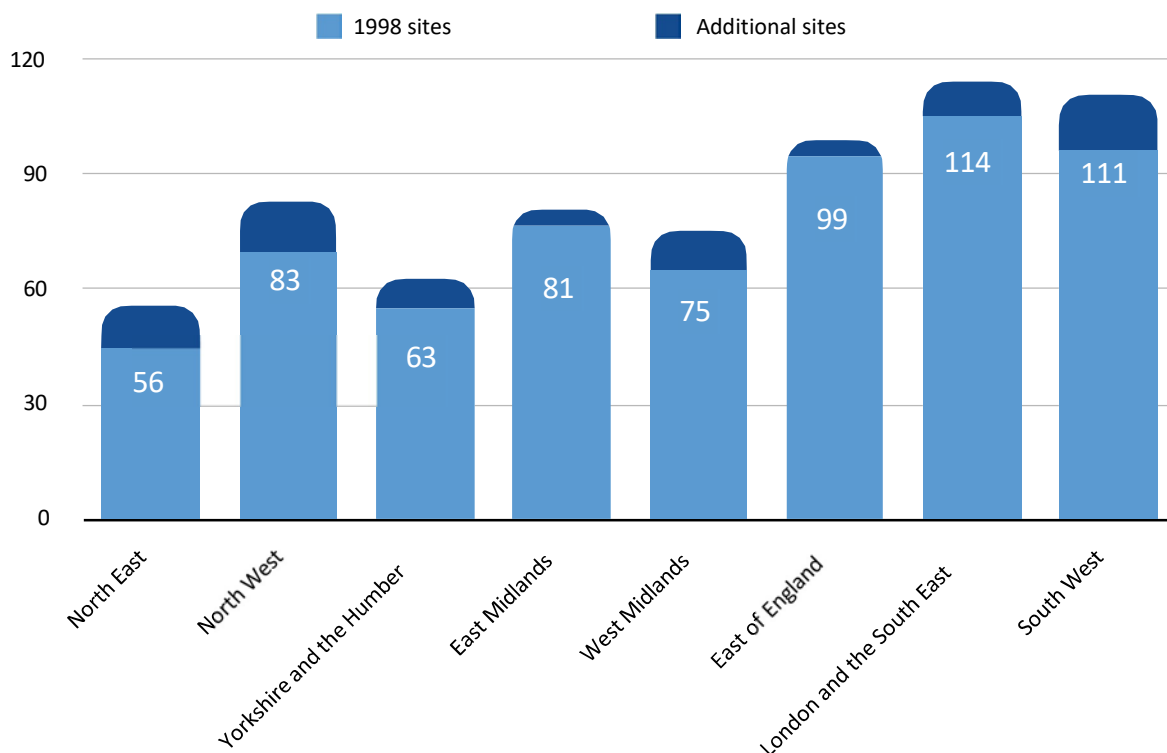


Figure 1. Sample of industrial heritage sites — numbers by region 1998 and 2024 (n = 682)

The regional distribution of 682 sites in the larger sample was not reflected in the smaller sample of 71 sites which provided data through the questionnaire and interview process. Sites from the West Midlands and North West were significantly over-represented in the smaller sample (21% and 23% respectively) compared to the larger one (11% and 12% respectively). Conversely, the East of England was significantly under-represented in the sample of 71 sites (1%) when compared to the sample of 682 sites (15%). The regional distribution of both samples is shown in Figure 2.

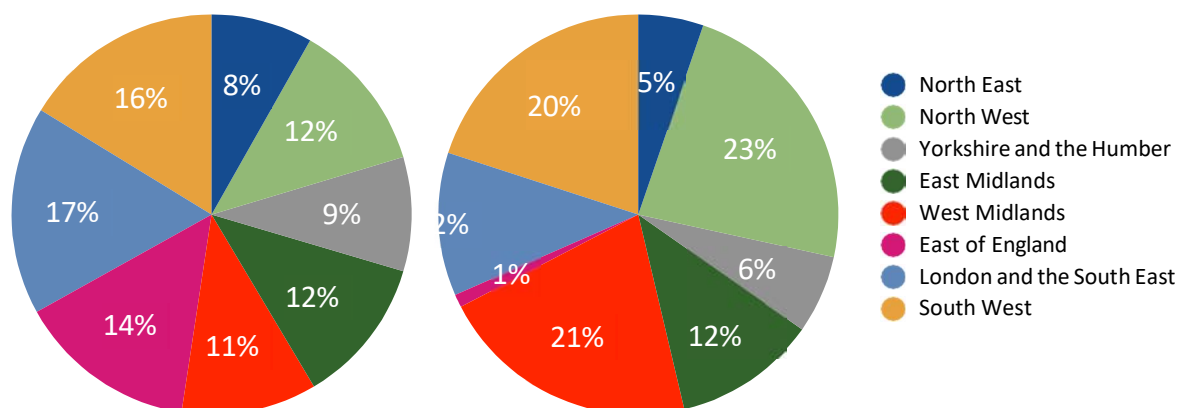


Figure 2. Differences in regional distribution between large and small samples (n = 682 / 71)
 Left: regional distribution of the large sample of 682 sites. Right: regional distribution of the small sample of 71 sites.

Sites in the larger sample of 682 range from places which are openly accessible (such as former lead smelting sites in upland areas) to sites which are privately owned and not open to the public (many former mills). Only 353 sites (52% of this sample) operate specifically as industrial heritage attractions which are regularly open to the public. Inevitably the smaller sample of questionnaire responses was biased towards sites with this function — so they represented 60 of the 71 sites (85%) in this sample (Figure 3).

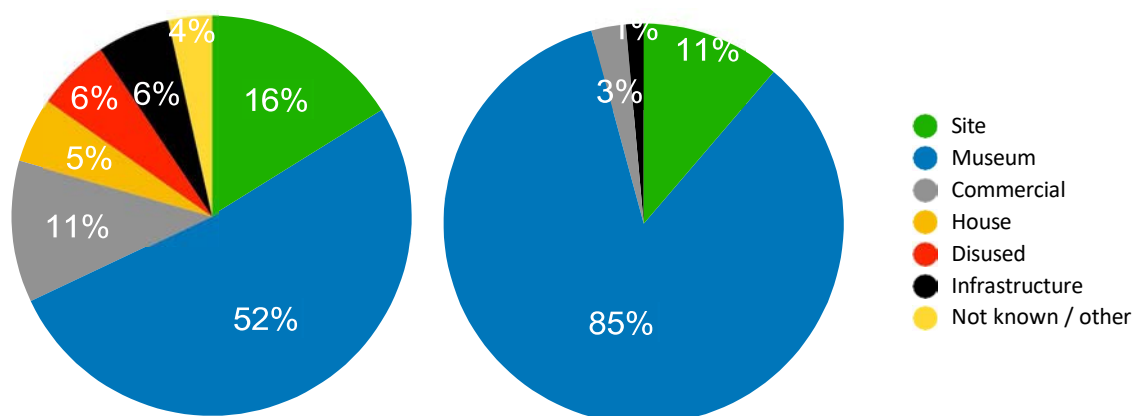


Figure 3. Differences in site function between large and small samples (n = 682 / 71)
 Left: proportions of different site types in the large sample of 682 sites.
 Right: proportions of different site types in the small sample of 71 sites.

Definitions for the different categories shown here are provided in the relevant sections of the report. However it is important to note here that the term ‘museum’ is used broadly, and refers to a wider range of sites than only those which are accredited museums.

2.6.2 Usefulness of questions and responses

The questionnaire was complex, and some sites found it challenging to complete. Some comments in the free text feedback section reflected this, as did anecdotal remarks from incidental conversations. In some cases, the people who had been charged with completing the questionnaire did not have all the necessary information to do so. Therefore the response rate was probably much lower than it might have been with a shorter and more focussed questionnaire.

Some questions overlapped, and different aspects of the same issue were tackled in different ways through the questionnaire. Some questions were not always phrased clearly, and better use might have been made of drop-down boxes and other tools to simplify the ordering of responses. Together, these issues meant that data collation and analysis was made more difficult and took longer than it might otherwise have done.

2.6.3 Accuracy and scalability of the results

As noted above the large sample of 682 sites is representative rather than comprehensive. It does provide a fair sample of designated industrial heritage sites in England that are open to the public. The high-level analysis of all 682 sites was performed systematically and so the accuracy of that analysis is considered to be good.

The small sample of 71 sites contained a more variable response rate. This was partly due to the lack of precision in some of the questions; it was also a result of the different levels of knowledge of the individual respondents. The quality of questionnaire responses is noted in Appendix 3. The majority of the responses (78 out of 108, or 72%) were considered to be of 'good' quality, 28 (or 26%) were 'fair', and 2 (1.9%) were 'poor'.

The information that was collected on ownership, governance, access and function contains sufficient data points to be scalable to the general experience of industrial heritage. However most of the specific data on finance, visitors, staff, volunteers and conservation is derived from relatively small datasets (typically between 35 and 58 responses) so is not suitable for extrapolation to the wider sector.

2.6.4 Lessons

Two key lessons can be identified from this project.

- The project relied on an external dependency, namely the provision of timely and accurate contact information for data collection. A shorter and more representative sample of sites could have been developed prior to the commencement of the project, and potential respondents given more notice and/or information about the process.
- The design of the questionnaire did not permit sufficiently robust data collection for some areas. This could have been simpler and more focussed, covering less ground in more depth. Alternative software and more systematic approaches to task management may have mitigated this; solutions could be considered for future projects.

Both of these lessons are addressed in the recommendations (section 5 below).

3 Results

In the following section sites included in the study are highlighted in bold whereas the terminology included in some tables is further explained in 3.3 below.

3.1 Ownership

3.1.1 Overview

The 682 sites in this study are owned by a wide range of organisations. Nationally, site ownership is fairly evenly spread across the private, public and third sectors.

Within each sector there are considerable variations in organisational size and complexity, with entities ranging from large national (or even international) bodies, down to parish councils, small unincorporated volunteer organisations and individual owners (Figure 4).

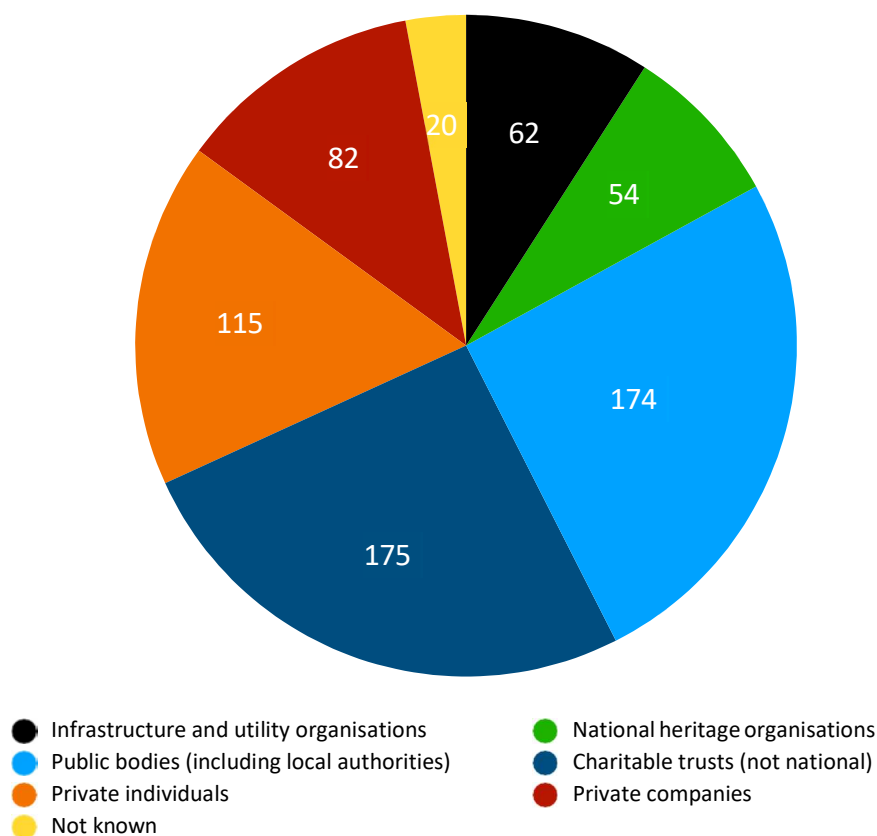


Figure 4. Ownership of industrial heritage sites in England — national overview (n = 682)

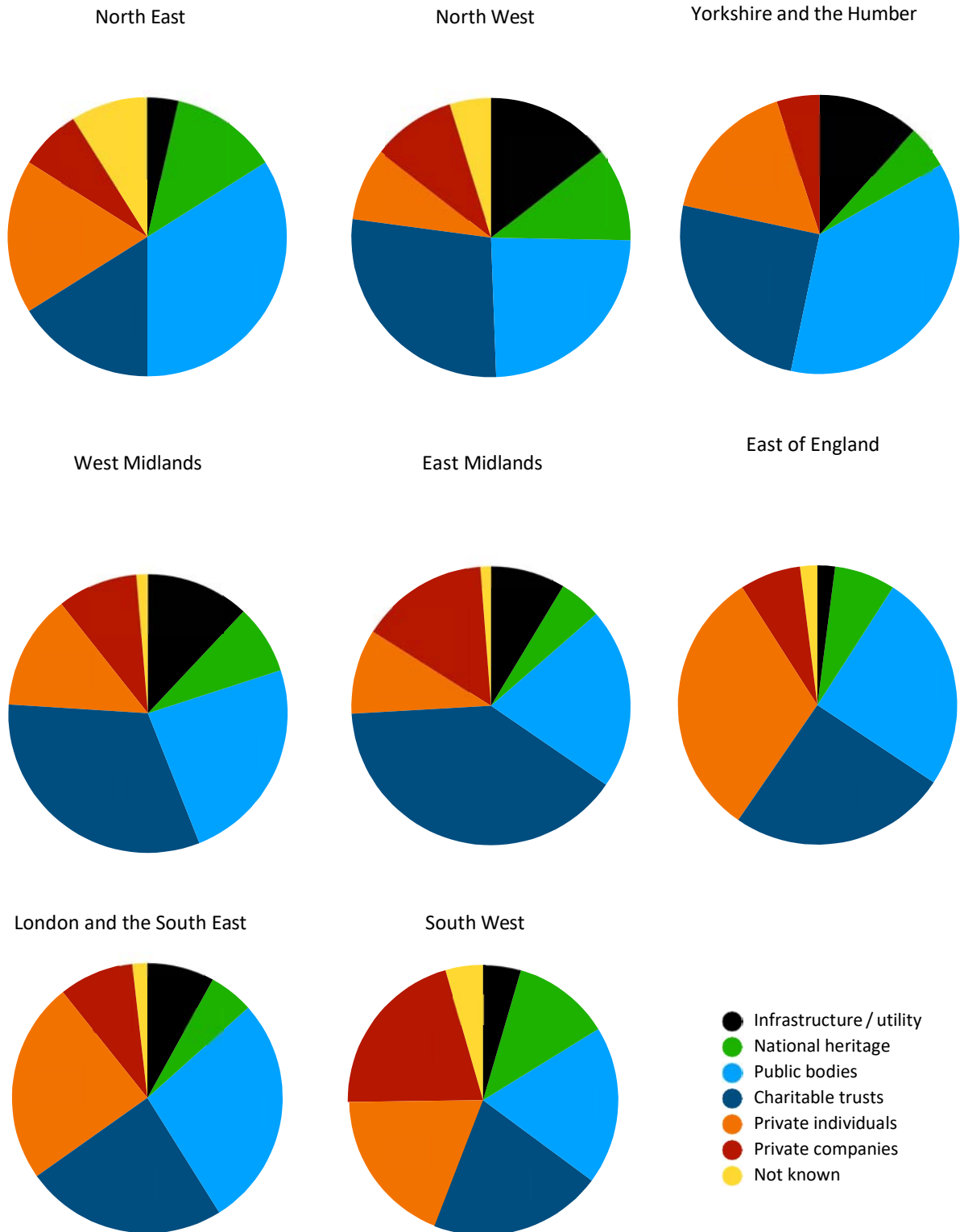


Figure 5. Ownership of industrial heritage sites in England by region (n = 682)

There is some regional variation in ownership across the sample (Figure 5). For example the proportion of sites in public ownership is highest in Yorkshire and the Humber and lowest in the South West, whereas the highest proportion of sites owned by private individuals is highest in the East of England and lowest in the North West.

3.1.2 Infrastructure and utility organisations

Infrastructure and utility organisations own 62 of the 682 sites in this study, or 9% of the total. Whilst most of these sites are (or were) part of transport or utilities infrastructure, some are legacy ownerships which have been transferred due to reorganisation and/or merger.

Half of these are owned by the Canal and River Trust, with the remainder split between various other organisations (Figure 6).

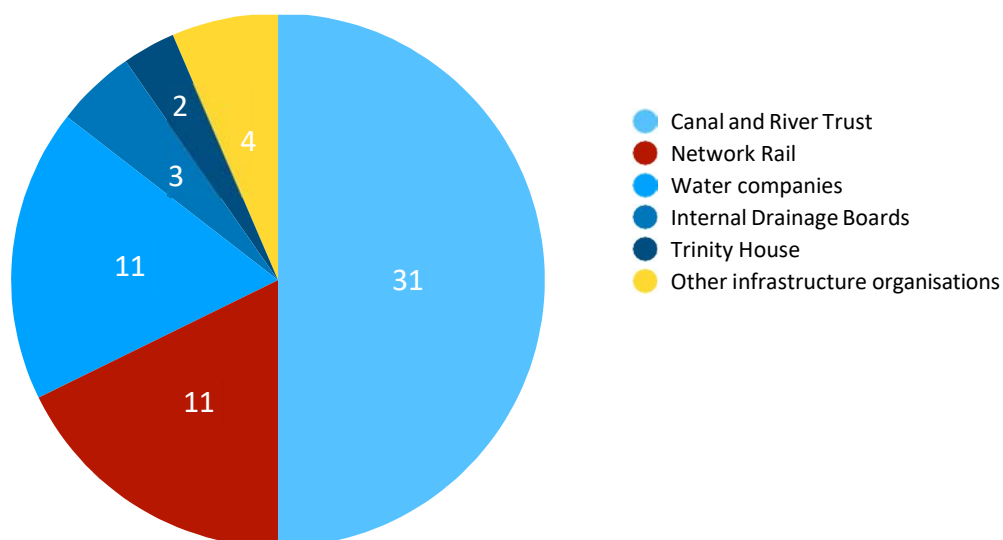


Figure 6. Industrial heritage sites owned by infrastructure and utility organisations (n = 62)

Canal and River Trust

The Canal and River Trust is one of the largest owners and operators of industrial heritage assets in the UK. However the inclusion of waterways assets in the 1998 inventory was inconsistent (see 1.1.2 above), and this is reflected in the present survey. The Canal and River Trust estate includes 2,757 designated heritage assets in England and Wales; this study includes 31 of those sites.²⁸ This represents around 5% of all the sites in this study, and approximately 1% of all the designated sites owned by the Canal and River Trust. These are listed in the table below.

Name	Use	Access	Region
Anderton Boat Lift	Infrastructure	Public	North West
Ashby Canal	Infrastructure	Open	East Midlands
Awbridge Bridge	Site	Open	West Midlands
Bingley Five Rise Locks	Infrastructure	Open	Yorkshire and the Humber
Bugsworth Canal Basin	Infrastructure	Open	East Midlands
Bunbury Locks Bridge	Infrastructure	Open	North West
Caen Hill Locks	Infrastructure	Open	South West

²⁸ <https://canalrivertrust.org.uk/specialist-teams/caring-for-our-heritage>

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Claverton Pumping Station	Infrastructure	Public	South West
Cosgrove Aqueduct	Infrastructure	Open	East Midlands
Dundas Aqueduct	Infrastructure	Open	South West
Engine Arm Aqueduct	Site	Open	West Midlands
Glasson Basin	Infrastructure	Open	North West
Gloucester Waterways Museum	Museum	Public	South West
Hanwell Lock Flight	Infrastructure	Open	London and the South East
Harecastle Tunnels	Site	Open	West Midlands
Kennet and Avon Canal	Infrastructure	Open	South West
Leeds Canal Basin	Infrastructure	Open	Yorkshire and the Humber
Marple Aqueduct	Infrastructure	Open	North West
National Waterways Museum	Museum	Public	North West
Rochdale Nine Locks	Infrastructure	Open	North West
Sedgwick Aqueduct	Infrastructure	Open	North West
Smethwick Engine House	Site	Open	West Midlands
Stanley Ferry Aqueduct	Infrastructure	Restricted	Yorkshire and the Humber
Stop House Braunston	Museum	Public	East Midlands
Stoke Bruerne Canal Museum	Museum	Public	East Midlands
Three Bridges (part)	Infrastructure	Restricted	London and the South East
Thwaite Mills	Disused	Private	Yorkshire and the Humber
Trent and Mersey Canal	Infrastructure	Open	North West
Whaley Bridge + Bugsworth	Infrastructure	Open	East Midlands
Wrenbury Lifting Bridge	Infrastructure	Open	North West
Wootton Wawen Aqueduct	Infrastructure	Open	West Midlands

Network Rail

Network Rail is arguably the largest owner and operator of industrial heritage assets in the UK. However these have never been assessed *en masse*; and as noted above (1.1.2) the inclusion of Network Rail assets in the 1998 list was inconsistent. Therefore only 11 are represented among the 682 sites, 1.6% of the total. They are listed in the table below.

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Bank Top Station	Infrastructure	Public	North East
Bristol Old Station	Commercial	Restricted	South West
Bristol Temple Meads Station	Infrastructure	Public	South West

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Brunel's Passenger Shed	Commercial	Restricted	South West
Clay Cross Tunnel	Infrastructure	Private	East Midlands
The Fans Museum	Museum	Public	North East
Filey Railway Station	Infrastructure	Public	Yorkshire and the Humber
Huddersfield Station	Infrastructure	Public	Yorkshire and the Humber
Shore Road Pumping Station	Infrastructure	Restricted	North West
Southall Railway Centre	Commercial	Private	London and the South East
Three Bridges (part)	Infrastructure	Restricted	London and the South East

Water companies

The inventory includes 24 pumping stations, of which 11 are owned by the various water companies. The remainder are in various ownerships depending on their original purpose and the corporate trajectory of legacy organisations. Typical examples include:

- Former water company assets which have been sold to charitable trusts — for example the **Kew Bridge Steam Museum** (LSE) and **Westonzoyland Pumping Station** (SW).
- Disused municipal waterworks assets which are now in local authority ownership — for example **Coleham Pumping Station** (WM) and **Eastney Engine Houses** (LSE).
- Pumping stations that were not part of the water supply system and/or were owned by other infrastructure organisations — for example **Crofton Beam Engines** (SW) and **Shore Road Pumping Station** (NW).

Most sites are still part of the water supply infrastructure, and many have arrangements for occasional opening or guided tours, usually through an arrangement with a charitable trust or volunteer group (see 3.2.4 below).

The 11 assets owned by water companies represent 1.6% of the 682 sites included in this study. They are listed in the table below.

<i>Name</i>	<i>Region</i>	<i>Use</i>	<i>Access</i>	<i>Owner</i>
Blagdon Waterworks	SW	Museum	Restricted	Bristol Water
Bratch Pumping Station	WM	Infrastructure	Private	Severn Trent Water
Claymills Pumping Station	WM	Museum	Public	Severn Trent Water
Connaught Pumping Station	LSE	Disused	Private	Southern Water
Crossness Pumping Station	LSE	Museum	Public	Thames Water
Kempton Steam Museum	LSE	Museum	Public	Thames Water
Maple Brook Pumping Station	WM	Infrastructure	Private	South Staffs Water
Mill Meece Pumping Station	WM	Museum	Public	Severn Trent Water
Springhead Pumping Station	YH	Infrastructure	Private	Yorkshire Water
Sutton Poyntz	SW	Museum	Public	Wessex Water

<i>Name</i>	<i>Region</i>	<i>Use</i>	<i>Access</i>	<i>Owner</i>
Twyford Waterworks	LSE	Museum	Public	Southern Water

Pumping stations are an iconic and highly visible part of the historic water supply infrastructure; however water companies own numerous other heritage assets (such as reservoirs, aqueducts, pipelines and valve houses) were not included in the 1998 list.

Internal Drainage Boards

There are 112 Internal Drainage Boards in England which are responsible for managing water levels in low-lying areas. Mainly concentrated in eastern England, their origins can be traced back to medieval land reclamation schemes; their modern status as public bodies was established under the Land Drainage Act 1930. They currently operate under the terms of the Land Drainage Act 1991, in close co-operation with DEFRA and the Environment Agency. Internal Drainage Boards own three industrial heritage sites inventoried as part of this project. They are:

- **Dogdyke Pumping Station (EM)**. Operated as a museum by the Dogdyke Pumping Station Preservation Trust, but also maintained as a reserve pumping station by the Witham Third District Internal Drainage Board.
- **Pinchbeck Engine Museum (EM)**. Operated as a museum directly by the Welland and Deepings Internal Drainage Board. The historic engine house no longer has an operational function, although the site where it is located forms part of the modern infrastructure.
- **Stretham Old Engine (EE)**. Operated as a museum by the Stretham Engine Trust under a 99-year lease (granted 1988) from the Waterbeach Level Internal Drainage Board.

Trinity House

Trinity House is an independent corporation which is responsible for the construction, management and maintenance of lighthouses, light vessels and maritime navigation in England, Wales, the Channel Islands and Gibraltar. Two industrial heritage sites identified in the 1998 list are operational lighthouses owned by Trinity House. They are both automated, and controlled remotely from Trinity House's Planning Centre in Harwich (Essex). They are:

- **Lizard Point Lighthouse (SW)**. The Lizard Lighthouse was built in 1752, and automated in 1998. The site features a small Heritage Centre which is run by a separate organisation, although this is currently closed.
- **Pendeen Watch Lighthouse (SW)**. Built in the 1890s, Pendeen Lighthouse was automated in 1995. There is no public access to the site; however the former lighthouse keepers' cottages are used as holiday lets.

Industrial heritage sites owned by other infrastructure organisations

There are four sites in the 2024 inventory which are owned by other infrastructure bodies. These are mainly legacy ownerships which result from the present-day infrastructure organisation being formed from an antecedent formerly in private or local authority ownership and subsequently merged and/or de-merged into or from the parent organisation. They are:

- **Charlestown Harbour (SW)** is an operational harbour which lies within the Cornwall and West Devon Mining World Heritage Site. It is privately owned by Charlestown Harbour Limited, a company incorporated in 2006 but inheriting ownership from predecessor bodies.
- **Fakenham Gasworks Museum (EE)** is owned by National Gas, a company which owns and operates the UK gas transmission system and which was formerly part of the privatized National Grid concern (ownership is in transition from National Grid to National Gas in 2024-25 following regulatory review). The site is held on a long lease and operated by the Fakenham Town Gas Works Museum Trust, which was established as a charity in 1986 and converted to a CIO in 2020.

- **Museum of Transport Greater Manchester** (NW) is owned by Transport for Greater Manchester, an executive arm of the Greater Manchester Combined Authority. Its ownership of the site was inherited through the legacy of the former Manchester Corporation, latterly Greater Manchester County Council. The museum is operated by a separate charity — the Greater Manchester Transport Society — which was established in 1980.
- **Three Bridges** (LSE), also known as Windmill Bridges, is a location in Southall where three overlapping bridges carry a road, the Grand Junction Canal and a railway. This configuration was designed by Isambard Kingdom Brunel and is a Scheduled Monument. Ownership is split between the London Borough of Ealing, the Canal and River Trust and Network Rail.

There are also a number of bridges, viaducts and non-operational aqueducts in the inventory which are open to pedestrian traffic only. These are owned by a variety of public bodies but in the context of this study they are considered as ‘sites’ (that is, monuments in the landscape) rather than ‘infrastructure’.

3.1.3 National heritage organisations

In this report national heritage organisations are public (state) or third-sector bodies which have a national remit for conservation and public engagement with heritage. They have diverse origins and governance models, but each has a strong national portfolio of cultural heritage places of which these industrial heritage sites form a small but significant element.

Together these account for 54 sites, representing 8% of the total of 682 sites (Figure 7).

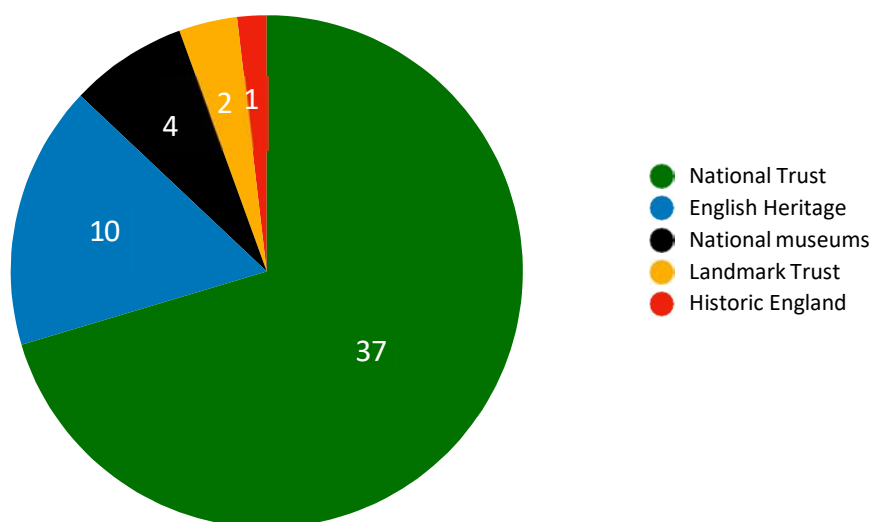


Figure 7. Industrial heritage sites owned by national heritage organisations (n = 54)

National Trust

The National Trust owns 37 of the 682 sites in this study, representing just over 5% of the sample. These are not evenly distributed across the country: 12 are in the South West, but only one is in the West Midlands. All 37 sites owned by the National Trust are listed in the table below.

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Acorn Bank Watermill	Museum	Public	North West
Alderley Edge Mines	Site	Open	North West
Bembridge Windmill	Museum	Public	London and the South East
Botallack Mine	Site	Open	South West
Boar Mill Corfe Castle	Disused	Private	South West
Bourne Watermill	Museum	Public	East of England
Calke Abbey Estate	Museum	Public	East Midlands
Castle Point Lime Kilns	Site	Open	North East
Cothele Quay	Museum	Public	South West
Cragside	Museum	Public	North East
Dunham Massey Sawmill	Museum	Public	North West
Dunster Watermill	Museum	Public	South West
East Pool Mine	Museum	Restricted	South West
Finch Foundry	Museum	Public	South West
Flatford Mill	Facility	Restricted	East of England
Gibson Mill	Museum	Public	Yorkshire and the Humber
Hogget Gill Lead Smelter	Site	Open	North West
Horsey Windpump	Museum	Public	East of England
Houghton Watermill	Museum	Public	East of England
Levant Mine and Beam Engine	Museum	Public	South West
Lode Mill	Museum	Public	East of England
Nether Alderley Mill	Museum	Public	North West
Park Watermill Batemans	Museum	Public	London and the South East
Piles Mill	Disused	Private	South West
Pitstone Windmill	Museum	Public	London and the South East
Porthesco Serpentine Works	Site	Open	South West
Quarry Bank Mill	Museum	Public	North West
Ravenscar Alum Works	Site	Open	Yorkshire and the Humber
River Wey Nav / Dapdune Wharf	Infrastructure	Open	London and the South East
Shalford Mill	Museum	Public	London and the South East
Shugborough Watermill	Museum	Public	West Midlands
Souter Lighthouse	Museum	Public	North East
Stainsby Mill Hardwick	Museum	Public	East Midlands

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Wheal Betsy	Site	Open	South West
Wheal Coates	Site	Open	South West
White Mill Dorset	Museum	Public	South West
Winchester City Mill	Museum	Public	London and the South East

English Heritage

In its present form English Heritage was established in 2015 as a charity which manages over 400 properties that are owned by the state. For the purposes of this study these sites are considered to be in the ownership of English Heritage. Ten sites of the 682 in this study are owned by English Heritage, representing 1.5% of the total. These are mainly located in the Midlands, with none in the South East or South West. They are listed in the table below.

<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Region</i>
Berney Arms Windmill	Museum	Restricted	East of England
Burton Agnes Old Hall	Museum	Public	Yorkshire and the Humber
Cantlop Bridge	Site	Open	West Midlands
Derwentcote Steel Furnace	Site	Open	North East
Iron Bridge	Site	Open	West Midlands
J W Evans Silverworks	Museum	Restricted	West Midlands
Mortimers Cross Watermill	Museum	Public	West Midlands
Saxtead Green Windmill	Museum	Public	East of England
Sibsey Trader Windmill	Museum	Public	East Midlands
Stott Park Bobbin Mill	Museum	Public	North West

National museums

Four sites in this study are owned by national museums, all in the north of England. These represent 0.6% of all 682 sites. They are:

- **Locomotion** (NE). This museum is located near the Stockton and Darlington Railway and was formerly known as the Timothy Hackworth Victorian Railway Museum. It became part of the National Railway Museum in 2004, and is now part of the Science Museum Group.
- **Merseyside Maritime Museum** (NW). The Merseyside Maritime Museum is part of National Museums Liverpool. It opened in 1980 on a trial basis, and was fully open by the mid-1980s. It occupies part of the Albert Dock in the centre of Liverpool.
- **National Museum of the Royal Navy** (NE). This museum in Hartlepool is one of five museums across the country which make up the National Museum of the Royal Navy. It opened in 1994 and was formerly in local authority ownership; the current arrangements date from 2016.
- **Science and Industry Museum** (NW). This Manchester museum dates back to 1969, and opened on its current site in 1983. The result of collaboration between Greater Manchester Council and UMIST, the museum became part of the Science Museum Group in 2012.

Landmark Trust

The Landmark Trust is an independent charity established in 1965. It acquires, restores and conserves historic buildings which are then rented out as holiday lets. Although most of its estate is in England and Scotland, there are also a handful of properties in Wales, Belgium, Italy and the United States. The Landmark Trust owns two sites in this study, namely:

- **Brinkburn Priory Mill (NE)**. A water mill formerly part of the medieval priory, and disused by the 1920s. The priory (but not the mill) was taken into state care in 1965, and is now an English Heritage property; the mill was acquired by the Landmark Trust in 1990.
- **Lundy Island Lighthouse (SW)**. This lighthouse is one of three on Lundy; it was first lit in 1820 and went out of use in 1897. It was then used mainly as a holiday cottage under a variety of ownerships before being acquired by the Landmark Trust in the late 1960s when they took over the management of the island, which is owned by the National Trust.

Historic England

Historic England own the former Ditherington Flaxmill (latterly the Shropshire Maltings and now known as the Shrewsbury Flaxmill Maltings). It acquired the site in 2005 when it was known as English Heritage; when English Heritage was split in 2015 to separate regulatory and curatorial functions, the site remained in the possession of Historic England who subsequently facilitated a comprehensive programme of conservation and restoration.

3.1.4 Public bodies

This category refers to public sector bodies (other than infrastructure organisations) which own industrial heritage sites, whose primary purpose is not heritage management and conservation. There are 174 sites in this group, representing 25.5% of the 682 sites (Figure 8). The overwhelming majority (168, or 96.6%) of these are owned by local authorities, of which 113 (67.3%) manage their industrial heritage sites directly. The remainder (55, or 32.7%) manage them indirectly (see 3.2.2).

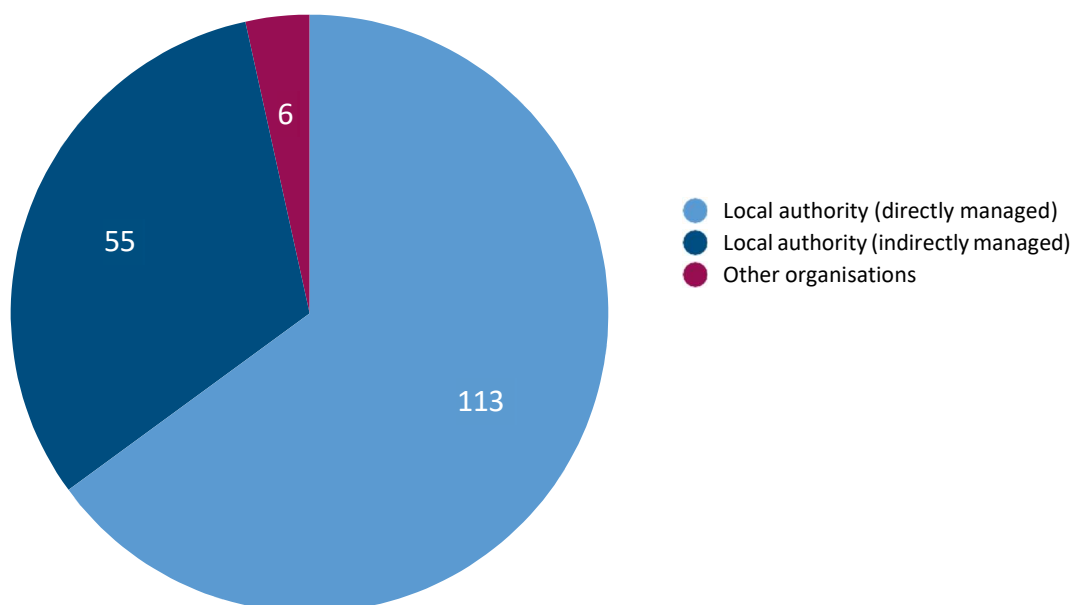


Figure 8. Sites in public ownership other than infrastructure and utilities (n = 174)

Local authorities

In this report the term local authority is used to describe three types of organisations:

- County councils, borough councils or unitary authorities (large local authorities)
- District councils, parish councils and other smaller local authorities
- National Parks

No distinction is made in this section (or in Appendix 1) between them, although some case studies elsewhere in this report refer to specific local authorities and to the relationships between these different tiers of local government.

There is some regional variation in the proportion of sites owned by local authorities. The South West has the lowest percentage of sites in local authority ownership (17%) whereas Yorkshire and the Humber has the largest (38%). The regional breakdown is shown in the table below.

<i>Region</i>	<i>Number of sites owned by local authorities</i>	<i>Sites owned by local authorities as a % of all sites in that region</i>	<i>Sites owned in that region as a % of all sites owned by local authorities</i>
North East	19	33.9%	11.3%
North West	21	25.3%	12.5%
Yorkshire and the Humber	24	38.1%	14.3%
East Midlands	17	20.5%	10.1%
West Midlands	17	22.7%	10.1%
East of England	23	23.2%	13.7%
London and the South East	28	24.8%	16.7%
South West	19	17.1%	11.3%

Local authority ownership of sites tends to emerge as a result of three processes. Sometimes there can be serendipitous overlap between two or more of these, but one tends to be the dominant driver. They are:

- Sites are acquired by local authorities on an *ad hoc* basis at a point of risk, as a means of preventing heritage loss.
- Sites are acquired or developed by local authorities as a deliberate strategic action in order to deliver a positive cultural heritage outcome for citizens.
- Sites are inherited through property transfer, merger, organisational failure or some other reason which is not related to the heritage value of the asset itself.

There is a long history of local authorities acquiring sites at a point of risk. For example **Charney Bassett Watermill** (LSE) was acquired by Berkshire County Council before 1910; since 1974 it has been owned by Oxfordshire County Council (who lease it to Charney Bassett Parish Council).

However most sites that have come into local authority ownership in this way have done so in two main waves. The first was in the 1940s and 1950s, when a number of sites — mostly, but not exclusively, corn mills in southern England — became disused and were acquired by (or passed on to) local councils. The second wave was during the 1960s, 1970s and 1980s. Many were subsequently restored with the assistance of volunteers and/or preservation trusts. This category is dominated by wind and water mills, but also includes quite large and complex sites (such as pumping stations), or monuments on land that is now in the public domain.

Most sites in local authority ownership appear to have been created by local authorities as part of a coherent cultural heritage strategy to improve community wellbeing and education. Many of these developments took place in response to local volunteer pressure, or emerged from volunteer or charity-led restoration efforts. In many places the process of creating unitary authorities brought together a mixture of museums and heritage assets that were formerly controlled by county and district or borough councils. For example in Northumberland, all of the museums merged under a single banner of Museums Northumberland.

Typically this category of sites appear to be most at risk of subsequent disposal by local authorities. A number of sites in the 1998 list that were formerly in local authority ownership have since been sold to private individuals. There is no evidence for any significant increase in the rate of sales over the last 26 years. When properties are sold, the evidence suggests that local authorities proceed cautiously to ensure that a suitable buyer is found who can invest appropriately in the property and ideally return it to public access.

Other organisations

Six non-heritage public bodies (or quasi-public bodies) which are not local authorities also own industrial heritage sites listed in the inventory. These are legacy ownerships which result from the particular history of the sites and entities involved. They are:

- The Crown Estate is a collection of lands and holdings in the United Kingdom belonging to the British monarch as a corporation sole (in other words the office of monarch not the person), making it 'the sovereign's public estate', which is neither government property nor part of the monarch's private estate. The Crown Estate owns **St Benet's Level Windpump** (EE), which is managed by tenants as part of Ludham Hall Farm.
- Environment Agency. The Environment Agency was established in 1996 by merging several bodies, including the National Rivers Authority (NRA) which itself had come into being in 1989 during the privatisation of the former regional water authorities. As part of that transition the NRA became the owner of **Cobham Mill** (LSE). The mill is maintained, operated and opened to the public by the Cobham Mill Preservation Trust.
- Forestry Commission. The Forestry Commission is a government department which was established in 1919 to increase timber resources after the first world war. It is both a regulator of forestry activities and a significant landowner. It is the landowner of the **Charterhouse Lead Works** (SW) which is a site with open access.
- Land Trust. The Land Trust originated as the successor body to a number of government regeneration agencies, whose history can be traced back to the English Industrial Estates Corporation (1936) and the Commission for New Towns (1961). It has been a charity since 2010. Due to its involvement in coalfield regeneration during the 1980s and 1990s, it is the owner of **Pleasley Pit** (EM). The museum is operated on its behalf by another charity — Pleasley Pit Trust Limited — which was established in 1999.
- National Health Service. NHS Sussex, an integrated care system, is the owner of **Chailey Windmill and Museum of Local Artefacts** (LSE). After closure in the 1940s the windmill eventually came into the ownership of the Brighton Health Authority, who granted a 99 year lease on the site to Chailey Parish Council in 1987. NHS Sussex is the successor body to the Brighton Health Authority. The museum is managed by a volunteer group.
- University of Durham. The university acquired a medieval fulling mill in **Durham** (NE) in 1833 and subsequently used it as an archaeology museum; the site is now closed to the public.

It seems quite likely that these and similar organisations own other designated industrial heritage sites which are open to the public, but they were not included in the 1998 list.

3.1.5 Charitable trusts

There are 175 sites owned by charitable trusts, representing 26% of the total of 682 sites. In this report the term ‘charitable trust’ refers to ordinary registered charities, community interest organisations (CIO), community interest companies (CIC) and similar not-for-profit vehicles. Almost all of these are formally constituted and registered with the Charity Commission.

This category is for charitable trusts that are concerned with a specific site or area, or which own a small group of associated sites. Examples include regional building preservation trusts (such as the Cultura Trust), or a museum such as Ironbridge which has 10 sites within a wider portfolio of historic properties. It does not include national heritage charities such as the National Trust or English Heritage, or other national bodies which are constituted as charities, such as the Canal and River Trust. These are discussed elsewhere in this report.

There is some regional variation in the proportion of sites owned by charitable trusts. The North East has the lowest percentage of sites which are owned by charitable trusts (16%) whereas the East Midlands has the largest (35%). The regional breakdown is shown in the table below.

<i>Region</i>	<i>Number of sites owned by charitable trusts</i>	<i>Sites owned by charitable trusts as a % of all sites in that region</i>	<i>Sites owned in that region as a % of all sites owned by charitable trusts</i>
North East	9	16.1%	5.1%
North West	21	25.3%	12.0%
Yorkshire and the Humber	15	23.8%	8.5%
East Midlands	29	34.9%	16.6%
West Midlands	24	32.0%	13.7%
East of England	26	26.3%	14.9%
London and the South East	28	24.8%	16.0%
South West	23	20.7%	13.1%

Most of the industrial heritage sites in this category are owned by charities that are specifically concerned with the conservation and presentation of heritage. The majority of these have been set up to look after a particular site, and have a very limited thematic or geographical focus. There are a few cases in each region where an industrial heritage site forms part of wider portfolio, for example when it is owned by a BPT.

There are also a handful of industrial heritage sites which are owned by charities whose primary purpose is not heritage-related. For example Brunel’s atmospheric pumping station at **Starcross** (SW) is owned and occupied by the Starcross Fishing and Cruising Club. Similarly **Clayrack Windpump** (EE) — a Norfolk ‘hollow post’ drainage mill relocated from its original site in 1981 — is on the estate of the How Hill Trust, an environmental study centre for the Norfolk Broads. It is maintained by the Norfolk Windmills Trust. **Clifton Suspension Bridge** (SW) is owned by the Clifton Suspension Bridge Trust, whose primary purpose is the maintenance of the bridge as a pedestrian footbridge (although it is also a heritage asset).

3.1.6 Private owners

The 2024 survey identified 197 of these sites, representing 29% of the total of 682 sites. Of these the majority — 115, or 58% of the 197 — were owned by private individuals; the remaining 82 (42%) were owned by private companies.

Private individuals

Most of the 115 sites in private ownership are wind and water mills. Some of these are operated as heritage attractions and are open to the public. There is also a significant corpus of mill buildings which have been restored and repurposed as private houses. Some mills were restored by individuals and have never been open to the public; others were restored with the intention of providing public access, but have proved unsustainable as visitor attractions and have subsequently become private houses (see also 3.6 below).

There is considerable variation in the proportions of industrial heritage sites in the sample owned by private individuals, with a much higher rate of private ownership in the East of England and London and the South East. This is shown in the table below.

<i>Region</i>	<i>Number of sites owned by private individuals</i>	<i>Sites owned by private individuals as a % of all sites in that region</i>	<i>Sites owned in that region as a % of all sites owned by private individuals</i>
North East	9	16.1%	7.8%
North West	7	8.4%	6.1%
Yorkshire and the Humber	10	15.9%	8.7%
East Midlands	8	9.6%	7.0%
West Midlands	10	13.3%	8.7%
East of England	31	31.3%	27.0%
London and the South East	27	23.9%	23.5%
South West	13	11.7%	11.3%

Private companies

A total of 82 sites in the 2024 inventory are owned by private companies. These fall into three categories:

- Sites which are owned by a private company and in use for their original purpose, being run as commercial industrial premises. Examples include water-powered mills (about half of those in the inventory are operated as commercial flour mills), a handful of textile mills, some railway maintenance facilities, and some pumping stations owned by the various water companies. Many of these have a degree of public access, often restricted to a small part of the site or occasional guided tours, but some have no access at all.
- Sites which are owned by a private company and managed by them as part of a property portfolio. Some sites have a relict link with manufacturing industry. For example **Leigh Spinners** (NW), a textile mill complex in Greater Manchester, is owned by Leigh Spinners Limited whose founder John Horrocks built the mill in 1913. However the site is managed by the Leigh Building Preservation Trust (LBPT), who hold a long-term lease from Leigh Spinners Limited. Peter Horrocks (grandson of the founder) sits on the LBPT

Board, and his company still uses part of the mill for manufacturing operations.²⁹ The rest of the complex is being restored and redeveloped as mixed-use development for small businesses; the site includes a small heritage centre. Other owners have no connection with industrial heritage at all, but a public-facing industrial heritage element is provided by a separate charity. For example **North Mill Belper** (EM) is owned by FI Real Estate Management Limited, and run as a mixed-use business space containing a variety of manufacturing, service and health industry tenants. A small visitor space and occasional guided tours are run by the Belper North Mill Trust, an independent charity partly supported by Amber Valley Borough Council and Belper Town Council.

- Sites which are owned by a private company but where the industrial heritage element is partly or wholly controlled by a charitable trust under a long-term lease. In these cases the private companies are nominal owners of sites, but have little to do with their day-to-day operation as heritage attractions. For example Wm Morrisons Supermarkets Limited owns the premises of the **Bolton Steam Museum** (NW), which is run by the Northern Mills Engine Society. Similarly **New Hall Mill** (WM) is owned by Rubery Owen Holdings Limited, but managed by the New Hall Water Mill Preservation Trust which is an independent charity.

Again there is some regional variation in the pattern of this type of ownership, with the largest concentration in the South West, followed by the East Midlands.

<i>Region</i>	<i>Number of sites owned by private companies</i>	<i>Sites owned by private companies as a % of all sites in that region</i>	<i>Sites owned in that region as a % of all sites owned by private companies</i>
North East	4	7.1%	3.5%
North West	10	12.0%	8.7%
Yorkshire and the Humber	3	4.8%	2.6%
East Midlands	13	15.7%	11.3%
West Midlands	8	10.7%	7.0%
East of England	7	7.1%	6.1%
London and the South East	13	11.5%	11.3%
South West	24	21.6%	20.9%

3.2 Governance

3.2.1 Overview

Governance refers to the strategic oversight and policy-setting responsibilities of a board or governing body. Its primary role is to establish the vision, mission and ethical framework within which the site is managed. This study has identified three dominant modes of governance for industrial heritage sites:

- Public bodies which own and manage sites
- Private companies and private individuals which own and manage sites
- Charitable trusts as managers and/or operators, both of sites which they own and sites which others own

²⁹ Leigh Spinners Mill (see <https://spinnersmill.co.uk/index.php/lbpt>).

In all three modes sites may be managed directly or indirectly. Most sites tend to fall into one or the other of these groups, although heritage railways have a variety of governance arrangements which fall across private company and charity models. Across the sample of 682 sites, just over half (348, or 51%) are managed by charities (Figure 9).

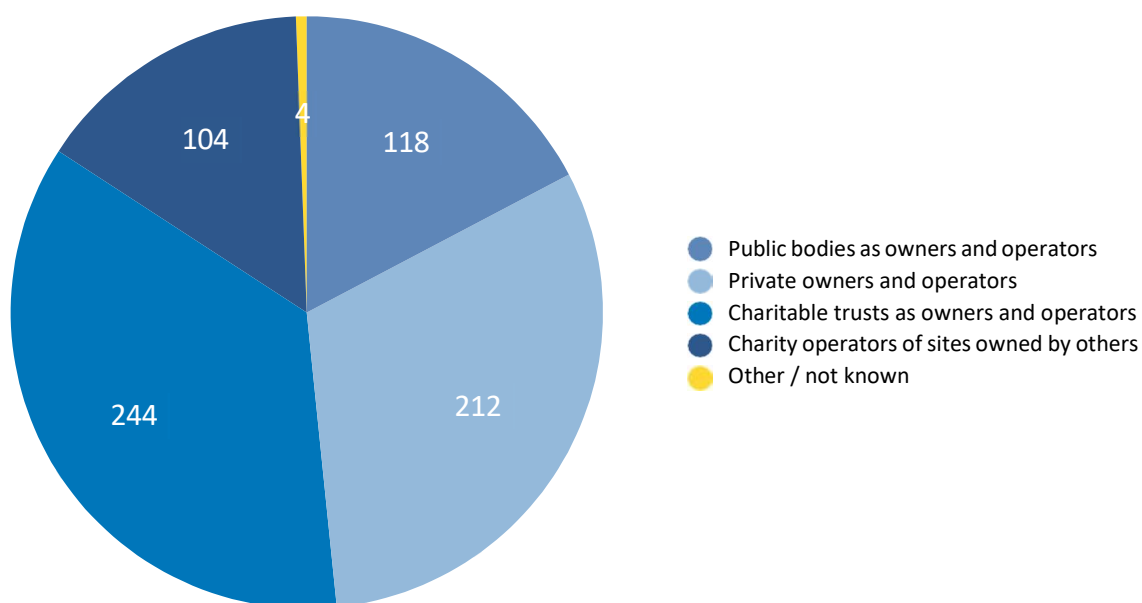


Figure 9. Different modes of governance - all sites (n = 682)

The proportion of sites managed by charities was much higher in the sample of questionnaire and interview responses — 56 out of 71, or 79% (Figure 10). The survey found that sites in local authority or charitable control tended to have more transparent approaches to governance than those in private ownership, or owned by large public bodies. This is reflected in the focus and content of this report.

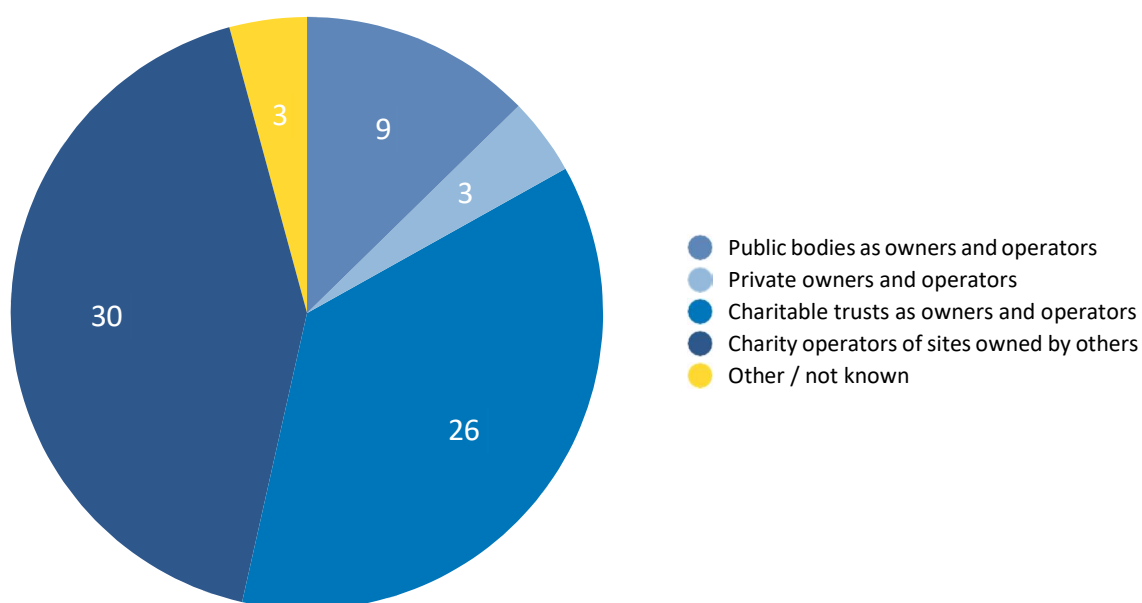


Figure 10. Different modes of governance - questionnaire and interview sample (n = 71)

3.2.2 Public bodies

As noted above (3.1.4), public bodies own 174 of the 682 industrial heritage sites in the sample (26%). Of these, 168 are owned by local authorities: 113 (67%) are directly managed and 55 (33%) are managed indirectly (Figure 11). The remainder are owned by public bodies which are not local authorities. The questionnaire and interview sample was not representative of the wider dataset, with the majority of sites in local authority ownership in that sample being managed indirectly.

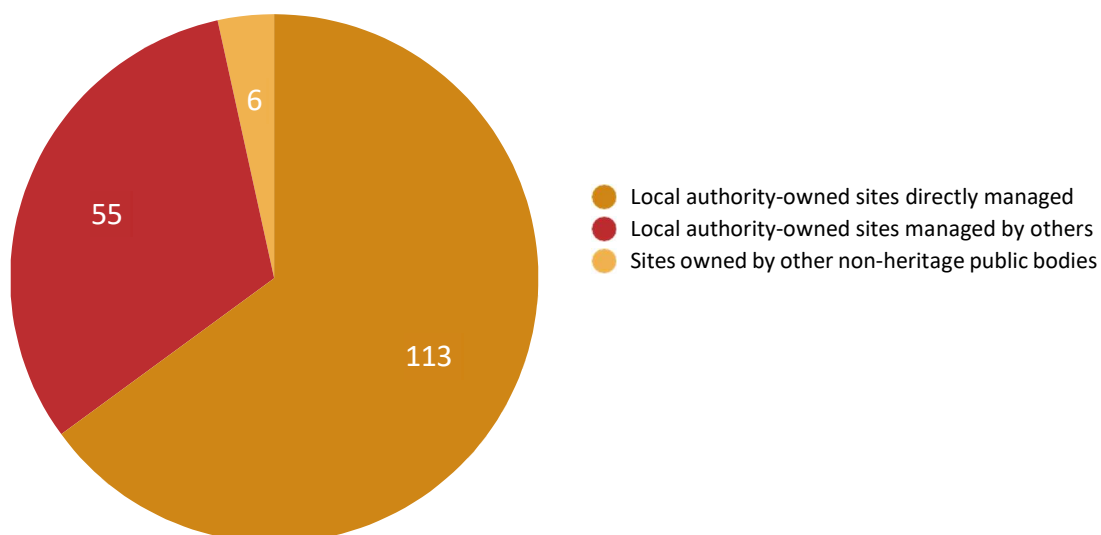


Figure 11. Governance of sites in public ownership (n = 174)

Local authorities which directly manage their cultural and heritage services do so either as single authorities, or by working together with others to create regional services. Examples of the former represented by sites in this sample include:

- **Leeds Industrial Museum (YH)** at Armley Mills, owned and managed by Leeds Museums and Galleries, a service directly operated by Leeds City Council responsible for eight sites
- **Abbey Pumping Station (EM)**, owned and managed by Leicester Museums and Galleries, a service directly operated by Leicester City Council and responsible for seven sites
- **Barge Workshop Bude (SW)**, owned and managed by Bude-Stratton Town Council who are responsible for three cultural heritage sites.

The Discovery Museum (NE) is an example of a site operated by a regional consortium — in this case Tyne and Wear Archives and Museums (TWAM). TWAM is a regional service which is responsible for managing nine museums and galleries, as well as the county archives. They also share use of a store at Beamish Museum, which is an independent charitable trust. TWAM are supported by the four local authorities in Tyneside, together with Newcastle University.

In both scenarios industrial heritage sites are part of an often complex portfolio of museums, archives and other cultural assets. Public sector governance takes place within well-established frameworks which regulate personal and corporate accountability, integrity, conflicts of interest and financial management. Therefore these sites have good governance arrangements, and are well supported in terms of maintenance, marketing and financial management.

In some cases local authorities manage their industrial heritage portfolio through an in-house trading company. These are often established primarily to run leisure centres and other community facilities, but may also include some museums and other heritage sites. For example Redditch Borough Council

established Rubicon Leisure in 2018 to manage nine community facilities, including the **Forge Mill Needle Museum** (WM) which is part of the Bordesley Abbey Visitor Centre. Elsewhere similar arrangements exist with charities (see 3.2.4 below).

Most industrial heritage sites managed by public bodies are in local authority cultural services departments or equivalent directorates. However in some cases governance comes under an entity whose primary purpose is not culture or heritage. These include a public infrastructure bodies: such as Network Rail, Internal Drainage Boards, and other organisations including the Crown Estate (which is neither a public nor private body). One site — **Chailey Windmill and Museum of Local Artefacts** (LSE) — is owned by the National Health Service and leased to a parish council.

3.2.3 Private individuals and organisations

Private individuals

Most of the sites which are owned and operated by private individuals are wind and water mills, and many of these open to the public occasionally (for example on mills open days) or infrequently. Some of these are run as holiday accommodation, and so enable restricted access to paying guests and their visitors.

Sites owned and operated by private individuals tend to have the least transparent governance arrangements. Some properties which operate as working mills and/or holiday lets are registered as small businesses, and so a certain amount of information about the control and finance is in the public domain. A handful of the 682 sites are owned by individuals as part of a significant inherited property portfolio and operated as commercial concerns. Examples include:

- **Buckler's Hard** (LSE). A former shipbuilding settlement in Hampshire, Buckler's Hard is owned by Ralph Douglas-Scott-Montagu, 4th Baron Montagu of Beaulieu and operated as part of a trading company.
- **Euston Watermill** (EE). An 18th century watermill designed to emulate a church, Euston is part of the Euston Hall Estate owned by Henry Oliver Charles FitzRoy, 12th Duke of Grafton and operated as part of the estate portfolio.

Private companies

A small number of the 682 sites are operated by private companies whose primary role is not heritage conservation. These are mostly breweries and public houses; a few are large buildings (former mills) which are sub-let and these are discussed separately. Some examples of industrial sites under non-heritage private management include:

- **SS Robin at Trinity Buoy Wharf** (LSE). The site is owned by the London Borough of Tower Hamlets and is on a 125-year lease to the Trinity Buoy Wharf Trust (TBWT). The TBWT sub-lease the wharf Urban Space Management — a private company — which manages the site.
- **Paultons Park Watermill** (LSE) is part of a commercial theme park which occupies an historic estate; it was restored in 2011-13 and forms part of the visitor offer.
- **Tolgus Tin Mill** (SW) is owned and managed by Cornwall Gold, a private company which runs heritage experiences as part of a wider commercial operation which includes jewellery production and sales, retail and food/drink offers.

3.2.4 Charitable trusts

Charitable trusts are responsible for governance and management of the majority of industrial heritage sites in this survey (348 out of 682). Their primary function is to secure funding and manage resources effectively, usually by leveraging a combination of public grants, private donations and revenue generated from ticket sales, gift shops, and event hosting to finance their operations. Charitable trusts have an educational remit, and often employ professional conservators, curators and interpretation specialists.

A total of 56 of the 71 questionnaire and interview responses came from charities. These can be grouped into five broad categories (Figure 12).

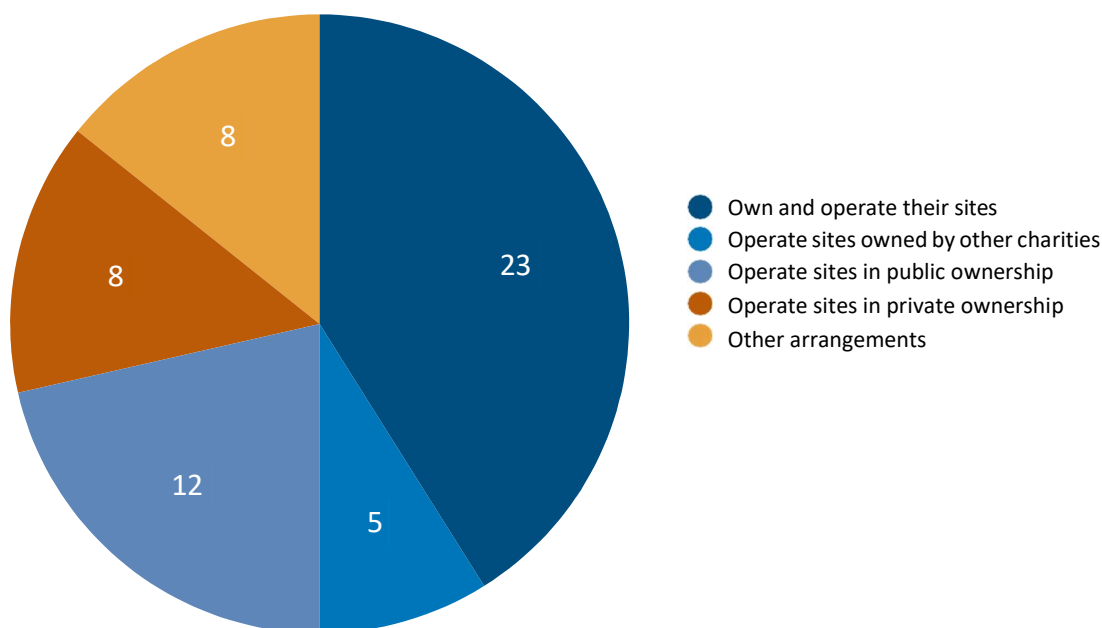


Figure 12. Numbers of charitable trusts operating sites in different ownerships (n = 56)

Charitable trusts operating their own sites

This category includes sites which are technically leasehold but where the nature of the lease or other arrangements makes the tenure of the charitable trust extremely secure. This includes many heritage railways, and large-scale open air museums, including **Beamish Museum** (NE) and the **Black Country Living Museum** (WM). It also includes complex multi-owner sites, such as the **Royal Gunpowder Works at Waltham Abbey** (LSE). Here the freehold is partly owned by the Ministry of Defence, the local authority and the National Heritage Memorial Fund; it is leased to the Waltham Abbey Royal Gunpowder Mills Charitable Foundation who manage the site through a trading subsidiary. There are also some smaller sites with extremely long leases. For example the **Gunton Park Sawmill** (EE) was leased by the then owners (a private family who had held the estate since 1670) to the Norfolk Windmills Trust for 999 years from 1979.

In the wider sample, 348 (51%) of the 682 sites are managed by charities, and 244 of these (70%) are owned by the charity in question (which can include national heritage bodies [Appendix 1]). The majority of these charities are concerned with the ownership and operation of a single site, but in some cases a charity operates multiple sites. The largest of these is the National Trust, but other examples include:

- **Ironbridge Gorge Museum Trust (WM)**. The Ironbridge Gorge Museum Trust operates 10 museum sites and owns a substantial portfolio of other properties within the Ironbridge Gorge World Heritage Site. These include listed buildings and scheduled monuments, among them nine of the 682 sites listed in **Appendix 1**. Since 1998 a number of sites and listed buildings have been sold to private buyers, and this trend has accelerated since 2020. This has generated income in the short term but limits potential revenue generation in the longer term.
- **South Yorkshire Industrial History Society (YH)**. Formerly the Sheffield Trades Historical Society, this charity owns four properties, all relating to the metallurgical industries. The largest, which operates partly as a visitor attraction is **Wortley Top Forge**, the oldest surviving water-powered heavy iron forge in the world on its original site; the Society also owns **Rockley Furnace**, Hoylandswaine Nail Forge and the **Bower Spring Cementation Furnace** in Sheffield.
- **Cambridge Past Present and Future** is a charity founded in 1928 (as the Cambridge Preservation Society) with the aim of preserving the built heritage and environment in and around Cambridge. It owns more than 220 ha of land and four cultural heritage sites, including **Hinxton Watermill** and **Bourne Windmill** (both EE).
- **Pakenham Water Mill** and **Theltenham Windmill** (both EE) are two of three historic properties owned by Historic Suffolk, a charitable trust set up to look after historic buildings in the county.

Charitable trusts operating sites on behalf of other charities

Some charitable trusts operate industrial heritage sites on behalf of other charities. It has not been possible to quantify these in the scope of the present study. A few examples illustrate the variety of such arrangements within the sample.

- **Flatford Mill (EE)** is watermill which is famous as the home and sometime subject of the landscape painter John Constable. In 1943 it became the first centre of the Field Studies Council (FSC); the site is actually owned by the National Trust and is leased to the FSC in a long-term arrangement.
- **The Pen Museum (WM)** is operated by the Birmingham Pen Trade Heritage Association, a CIO incorporated in 2018. The site is owned by the Midlands Industrial Association Limited, a Registered Society under the Co-operative and Community Benefit Societies Act 2014. The Midlands Industrial Association Limited was first registered in 1981, and its primary purpose is 'to stimulate growth and assist in the alleviation of unemployment and dereliction within the West Midlands area', which it achieves through the repurposing and management of formerly redundant industrial property.
- **Thwaite Mills (YH)** is a site with a complex history of ownership and governance. It was built by the Aire and Calder Navigation Company in the 1820s, and so ownership passed to British Waterways and then to the Canal and River Trust. A restoration project was begun in the mid-1970s by the Thwaite Mills Society; however for financial reasons the project was taken on by the then West Yorkshire County Council. The site opened as a museum in 1990, operated by Leeds City Council under a 50-year lease from what was then a public body — British Waterways. In 2012 British Waterways was mutualised to become the Canal and River Trust, and at the same time the Thwaite Mills Society was wound up. Leeds City Council ran the site as part of its portfolio of museums and galleries until 2024, when the lease was terminated by mutual agreement.
- **Gayle Mill (YH)** is owned by the Cultura Trust, formerly the North of England Civic Trust. The Trust bought the mill in 2003, and began a comprehensive programme of restoration and reconstruction. Once the work was complete in 2008 a separate charity — the Gayle Mill Trust — was set up to manage the building

and public-facing operations, From 2018-21 the mill was closed for further refurbishment; after which it re-opened under the direct management of the Cultura Trust. The Gayle Mill Trust still exists as a charity but 'now has no association with the mill in Gayle'.³⁰

- **Little Cressingham Mill** (EE) is owned by Norfolk Historic Buildings Trust and leased to the Norfolk Windmill Trust. It currently has no cap or sails.
- **Acorn Bank Watermill** (NW) is owned by the National Trust, but since 2020 has been operated by a separate 'Acorn Bank Watermill Trust' set up by the former NT volunteers.



Figure 13. Abbeydale Industrial Hamlet, Sheffield
Photograph © Heritage Innovation Limited

Charitable trusts operating sites in public ownership

A total of 104 sites (15% of all 682 sites) are owned by public bodies but managed on their behalf by charitable trusts (which can also include national heritage bodies). These fall into two broad types.

The first type are generally large charities formed specifically to operate groups of heritage assets in public ownership. These organisations have usually been created as an initiative of, or supported by, the public body itself. In most cases the owners are local authorities and the operators are charitable trusts, but there are a variety of other models. For example English Heritage is a charity established in 2015 by the government to manage over 400 heritage properties which are owned by the state.

A typical example of the larger local authority model is the Sheffield Museums Trust, which was formed in 2021. The Sheffield Museums Trust was the result of the merger of Sheffield Galleries and Museums Trust and Sheffield Industrial Museums Trust — both of which had been created in the mid-1990s to operate museums that had been part of Sheffield City Council's portfolio. The former Sheffield Industrial Museums Trust was responsible for three museums: **Kelham Island Museum**, **Abbeydale Industrial Hamlet** (Figure 13) and Shepherd Wheel. The new combined trust also runs the Weston Park Museum (a traditional historical museum), the Graves Gallery (a 19th century art gallery) and the Millennium Gallery (a gallery for contemporary art and design).

³⁰ Cultura Trust (see <https://www.gaylemill.org/about-gayle-mill.php>); Gayle Mill Trust 2023.

The second type in this category are smaller charities which are responsible for maintaining and managing individual sites which are leased from public bodies (usually but not always local authorities). In many cases their initial restoration was partly or largely undertaken by volunteers, and these groups remain significant stakeholders in the site.

These volunteer restoration groups often formed the nucleus of an independent trust, most of which are now formally constituted as not-for-profit organisations. At the time of the 1998 survey many of these were not formally organised; however since then most have registered with the Charity Commission, either as traditional charities or community interest companies. The majority of these have at least one Board post which is filled by a local authority nominee (not always formally stipulated in the governing document), although in practice this connection rarely inhibits independent decision making.

One of the main reasons for the formalisation of these groups has been to enable local authorities to agree leasehold arrangements with them; it also facilitates funding opportunities for both parties. Formalisation of the organisations and leaseholds has probably been driven by the degree of risk in such arrangements which has been identified by local authorities. However it is also to the benefit of the charitable trusts themselves. The questionnaire sample shows that there have been two broad ‘waves’ of such formalisation — one in the late 1970s and early 1980s, and another in the 2010s (Figure 14).

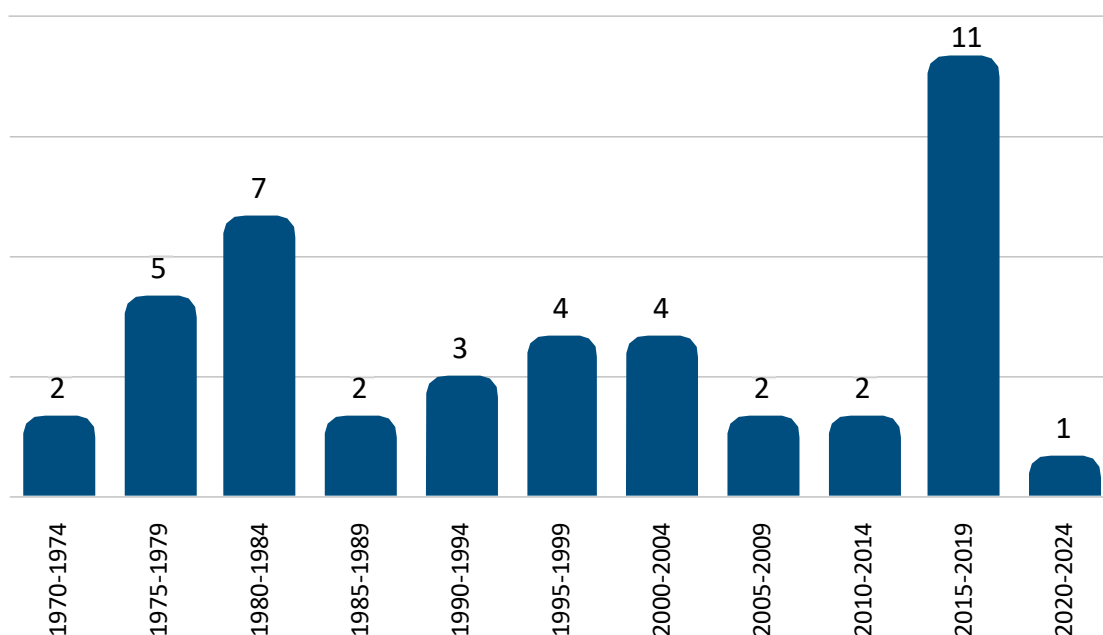


Figure 14. Establishment dates for charitable trusts running local authority sites (n = 43)
Dates of registration with the Charity Commission. Numbers show total in each five-year period.

The lease arrangements between these charitable trusts and local authorities are somewhat varied. Historically most leases have tended to be quite short, with 25 years being a common term. However from the 1980s some longer terms were introduced. For instance North East Lincolnshire County Council granted a 99-year lease of **Waltham Windmill** (YH) in 1981 to the Waltham Windmill Trust; similarly **Geevor Tin Mine Museum** (SW) is on a 99 year lease from Cornwall Council. In 2009 Telford and Wrekin Council granted a 125-year lease of **Wappenshall Wharf** (WM) to the Shrewsbury and Newport Canals Trust.

Sometimes a local volunteer group undertakes visitor operations, but is not a leaseholder and is not responsible for maintenance or site management. Examples include:

- **Bestwood Winding Engine House** (EM). Located in the Bestwood Country Park, this colliery engine house is owned and maintained by the local authority. Initial restoration involved a team of volunteers, and occasional tours are provided by volunteers working under the aegis of the Friends of Bestwood Country Park.
- **Charney Watermill** (LSE). The mill is owned by Oxfordshire County Council and leased by them to Charney Bassett Parish Council; it is opened to the public by a small group of volunteers.
- **Chatterley Whitfield Heritage Centre** (WM). The extensive remains of the former Chatterley Whitfield Colliery are owned and managed by Stoke-on-Trent City Council. Most of the site is closed to public access for safety reasons; however a group known as The Friends of Chatterley Whitfield run a small heritage centre near the site and offer occasional tours.
- **Shirley Windmill** (LSE). The mill is owned and maintained by Croydon Council, and is staffed and managed on open days by the Friends of Shirley Windmill, an unincorporated volunteer organisation.
- **Wimbledon Windmill** (LSE). The windmill is owned by the Conservators of Wimbledon and Putney Commons (a body created in 1871 to manage the open space), and is managed on their behalf by an unincorporated volunteer group.

There are a few examples where single-site groups have grown to encompass the operation of several sites, and some of these have gone on to work in close co-operation with a local authority. For example the Norfolk Windmills Trust cares for 21 buildings across Norfolk, thirteen of which are owned or leased by Norfolk County Council.

Finally there are a handful of examples where non-heritage charities operate sites owned by local authorities, where the heritage element is secondary to the primary purpose of the charity. These include:

- **Southern Maltings** (EE) is owned by East Hertfordshire Council, and run by the Ware Arts Centre Limited, a charity whose primary purpose is the 'production of educational plays' and 'the encouragement of the arts and crafts'. They have been involved with the conservation and development of the site as a community venue since the 1980s, and signed a 30 year lease with the Council in 2016.
- Surrey County Council own the **Brockham Limeworks** (LSE), a 45-hectare former chalk quarry which includes a set of Scheduled lime kilns. The site is managed by the Surrey Wildlife Trust.

Charitable trusts operating sites on behalf of other public bodies

A number of other public bodies own industrial heritage sites which are opened to the public — and sometimes maintained and managed — on their behalf by independent charitable trusts. Examples include:

- **Claverton Pumping Station** (SW). Managed and opened on behalf of the Canal and River Trust by the Claverton Pumping Station Group — descended from the original volunteer group which restored the site in 1967.
- **Cobham Mill** (LSE). Operated on behalf of the Environment Agency by the Cobham Mill Preservation Trust. This arrangement has been in place since 1990, when a lease was granted to the Trust by the former National Rivers Authority.
- **Dogdyke Pumping Station** (EM). Operated on behalf of the Witham Third District Internal Drainage Board by the Dogdyke Pumping Station Preservation Trust. This arrangement has been in place since 2009.

- **Museum of Transport Greater Manchester (NW).** Operated on behalf of Transport for Greater Manchester (an executive arm of the Greater Manchester Combined Authority) by the Greater Manchester Transport Society, which became a registered charity in 1980.
- **Pleasley Pit (YH).** Operated on behalf of the Land Trust by the Pleasley Pit Trust Limited. This arrangement has been in place since 1999.

Between 2015 and 2022 public access to **Shrewsbury Flaxmill Maltings (WM)** (Figure 15) was managed by the Friends of the Flaxmill Maltings, a charitable trust set up with the support of site owners Historic England and the local authority (Shropshire Council). Historic England took over the direct management of public access in 2022 and the Friends charity was wound up.³¹ The visitor experience is now run by the English Heritage Trust.'



*Figure 15. Shrewsbury Flaxmill Maltings.
Photograph © Heritage Innovation Limited*

Charitable trusts as operators of sites in private ownership

Some industrial heritage sites are owned by private companies or individuals, and partly or wholly run by charitable trusts. It has not been possible to quantify these in the scope of the present survey; however there are at least 30 among the sample of 682, and many of these are significant sites — both in terms of their scale and their historic importance. These fall into two broad categories.

The first category are sites which are owned by private companies which have little or no direct involvement in the management or presentation of the industrial heritage. The industrial heritage sites themselves are wholly or largely run as heritage attractions by an independent charitable trust. Examples include:

³¹ Austin 2022.

- **Bolton Steam Museum** (NW). The buildings and premises of the Bolton Steam Museum are owned by Wm Morrisons Supermarkets Limited and leased by them to the Northern Mills Engine Society, a charity which manages the museum as a public visitor attraction. The charity actually pre-dates the current museum, having been founded in 1966; the museum was first opened in 1983 at Mornington Road, before being relocated to its current site in 1991.
- **Combe Mill Oxfordshire** (LSE) is owned by His Majesty King Charles III and forms part of the Blenheim Palace estate which is tenanted by Charles James Spencer-Churchill, 12th Duke of Marlborough; the mill is run by a preservation society.
- **Lowfield Heath Windmill** (LSE). This mill was dismantled in 1987-90 due to the expansion of Gatwick airport, and rebuilt in the grounds of a privately-owned zoo. The zoo closed in 2001, and its landholdings sold for housing development; however the developer agreed to lease the mill and 0.8ha of surrounding land to the Lowfield Heath Windmill Trust, who maintain the site and open it to the public.
- **New Hall Mill** (WM) is owned by Rubery Owen Holdings Limited, a large manufacturing conglomerate. It is surrounded by, but not part of, the New Hall Valley Country Park (owned and managed by the local authority), and the mill itself is managed by the New Hall Water Mill Preservation Trust which is an independent charity.
- **Sandfields Pumping Station** (WM). The pumping station was made redundant in 1997 and the site was sold to a housing developer as part of a larger land deal. A volunteer group was formed, and formally constituted in 2015 as the Lichfield Waterworks Trust. It maintains the site under an access arrangement with the private landowner.
- **Sturminster Newton Mill** (SW) is part of the Pitt-Rivers estate and is operated on their behalf by volunteers from the Sturminster Newton Heritage Trust.
- **Whitchurch Silk Mill** (LSE). Whitchurch Silk Mill has been owned by Ede and Ravenscroft since 1971; it was restored by the Hampshire Building Preservation Trust in the late 1980s, and opened as a working museum under the management of Whitchurch Silk Mill Trust, in 1990.

The second category are sites owned by private companies and partly occupied by them, but where a heritage element is maintained and/or managed for visitors by a charitable trust. Examples include:

- **Leigh Spinners** (NW). This a vast former textile mill complex in Greater Manchester is owned by Leigh Spinners Limited whose founder John Horrocks built the mill in 1913. However the site is managed by the Leigh Building Preservation Trust (LBPT), who hold a long-term lease from Leigh Spinners Limited. Peter Horrocks (grandson of the founder) sits on the LBPT Board, and his company still uses part of the mill for manufacturing operations.³² The rest of the mill is being restored and redeveloped as mixed-use development for small businesses; the site includes a small heritage centre which is run by the LBPT.
- **North Mill Belper** (EM). Strutt's North Mill is owned by FI Real Estate Management Limited, and run as a mixed-use business space containing a variety of manufacturing, service and health industry tenants. A small visitor space and occasional guided tours are run by the Belper North Mill Trust, an independent charity partly supported by Amber Valley Borough Council and Belper Town Council.
- **Water Pumping Stations**. This category includes all of the water and sewage pumping stations with public access that are owned by water companies, but where historic parts of the site are no longer part of the water supply infrastructure. The heritage elements are restored, maintained and opened to the public by volunteer groups. Usually (but not always) the volunteer group is a charitable trust, often with support from the water company and the local authority. In some cases these are well-established arrangements with long leases and a degree of secure tenure. For example the **Claymills Pumping Station** (WM)

³² Leigh Spinners Mill (see <https://spinnersmill.co.uk/index.php/lbpt>).

was made redundant in 1992, and the following year leased by Severn Trent Water to the Claymills Pumping Engine Trust; the lease was renewed in 2013 for a further 60 years. These are listed at 3.1.2 above.

There are some cases of sites in private ownership which were formerly run by a charitable trust but where arrangements have subsequently changed. For example the **Thurne Dyke Windpump** (EE) was restored in 1949 by a private individual, and leased by them to the Norfolk Windmills Trust from 1964. On their death in 2007 the mill was inherited by another private individual, who ended the arrangement with the Trust in 2014 and now operates the mill directly.

3.2.5 Heritage railways

As noted above, governance arrangements for heritage railways tend to be varied and complex, and usually involve a combination of one or more charitable trusts and one or more wholly private companies. This is partly a result of the history of individual railways, and partly a consequence of different ownership of different asset types: land, trackbed, buildings, locomotives, rolling stock and so-on. The relationships between the two types of entity vary.

The scope of this report precludes a full analysis: only 31 of the 682 sites could be defined as ‘heritage railways’ or contained heritage railway elements (such as preserved locomotives or rolling stock). Nevertheless the following case studies provide a good indication of the complexity of governance arrangements for heritage railways.

At the simple end of the spectrum, the **Rother Valley Railway** (LSE) is operated by the Rother Valley Railway Limited — a private limited liability company — but 99% of its voting shares are owned by the Rother Valley Railway Heritage Trust, a registered charity which also owns the freehold of the trackbed. The charity provides grants to the limited company. The **Seaton Tramway** (SW) has a similar governance structure but markets itself as a seaside visitor attraction rather than an ‘industrial heritage’ site, and has a more commercially-oriented operational philosophy. The charity which owns and operates the site — Modern Electric Tramways Limited — was established in 2015, and has a trading subsidiary (Seaton Tramway Enterprises Limited) which generates the charity’s income.

The **West Somerset Railway** (SW) is operated by the West Somerset Railway plc — a private limited company which is partly owned by two charities: the West Somerset Railway Association and the West Somerset Railway Heritage Trust. Neither charity has majority control of the company, which also has other private shareholders. The freehold of the trackbed, buildings and other land is owned by Somerset Council, and is leased by the local authority to the West Somerset Railway plc.

More complex again, but still at the charity end of the spectrum, is the **Didcot Railway Centre** (LSE). The centre is operated by the Great Western Society Limited (GWSL) — a charity and limited company — which is responsible for the site and buildings, and owns some items of rolling stock and artefacts. It is also the body which manages museum accreditation. The GWSL has five subsidiary entities, two of which are dormant. The three active subsidiaries have a high degree of overlap with the GWSL. They are:

- Great Western Retail Sales Limited, a conventional subsidiary trading company;
- Great Western Preservations Limited, a separate but linked charity and limited company which owns most (but not all) of the centre’s collection of locomotives, carriages and wagons;
- Great Western Trust, a registered charity whose trustees are appointed solely by GWSL, and which owns the centre’s collection of artefacts and archives.

Other heritage railways are owned and controlled by private companies. Thus **the Severn Valley Railway** (WM) is controlled by Severn Valley Railway (Holdings) plc, which manages a series of subsidiary trading companies and charities. Similarly the **Bluebell Railway** (LSE) has a group structure, at the top of which is the Bluebell Railway Preservation Society (BRPS). This is not a registered charity, as its name might suggest; it is instead a private limited company with an exemption from using the word 'Limited' in its company name. BRPS has 79.7% ownership of Bluebell Railway plc, which operates the railway — and also has two subsidiary companies, now dormant. BRPS is also responsible for appointing the single Director of another subsidiary company (BRT Trustee Limited) the function of which is to act as the single trustee (or Governor) of the Bluebell Railway Trust, which is the only registered charity in the group structure. The Bluebell Railway Trust's function is to distribute donations, legacies and gift aid to support the operation of the railway in the most tax efficient way.

Some heritage transport operators — such as the **Dartmouth Steam Railway** and **River Boat Company** (SW), featuring railways, buses and boats — operate on a purely commercial basis.

3.3 Function

3.3.1 Overview

The sample contains sites which have a wide range of different uses. As noted elsewhere, not all of the 682 sites are publicly accessible, and of those only 463 (68%) primarily identify as heritage attractions (Figure 16). The following definitions have been used for site functions:

- **Site.** Monument, ruin or structural remains which are not part of a larger heritage attraction. Most of these are in remote upland areas, but some are in urban parks and other locations. Most, but not all, of these are accessible to the public (see 3.6 below). Nationally, these represent 110 sites, or 16% of the total.
- **Museum.** Place run primarily as a heritage attraction and open to the public on a more or less regular basis. Nationally, these represent 353 sites, or 52% of the total. The question of access is discussed at 3.6 below. It is important to note that only 45% of sites in this category are accredited museums; moreover many exist as a 'heritage' element within a predominantly non-heritage context.
- **Commercial.** Privately owned leisure or non-leisure use such as shops, pubs, offices, warehouses, holiday accommodation (including caravan parks and AirBnBs), flour mills and so-on. These often have restricted access to customers (in the case of shops, pubs and holiday accommodation), or are entirely inaccessible (in the case of warehouses and offices). Nationally, these represent 78 sites, or 11% of the total.
- **House.** Private dwellings — house, houses or apartments. Nationally, these represent 36 sites, or 5% of the total.
- **Disused.** Intact building (as opposed to a site, monument or ruin) with no occupier, and not part of any other commercial business, museum, facility or house. These are not formally accessible and interpreted. Nationally, these represent 40 sites, or 6% of the total.
- **Infrastructure.** Public use for modern transport, communications or service industries. Nationally these represent 40 sites, or 6% of the total.
- **Not known / other.** In some cases it was not possible to determine the current use of the site. Some buildings are also used for functions that are not defined above, such as facilities for arts or therapy. These are often run by local authorities or charities on behalf of local authorities; their occupancy of former industrial buildings is often incidental to the heritage value. Nationally, these represent 25 sites, or 4% of the total.

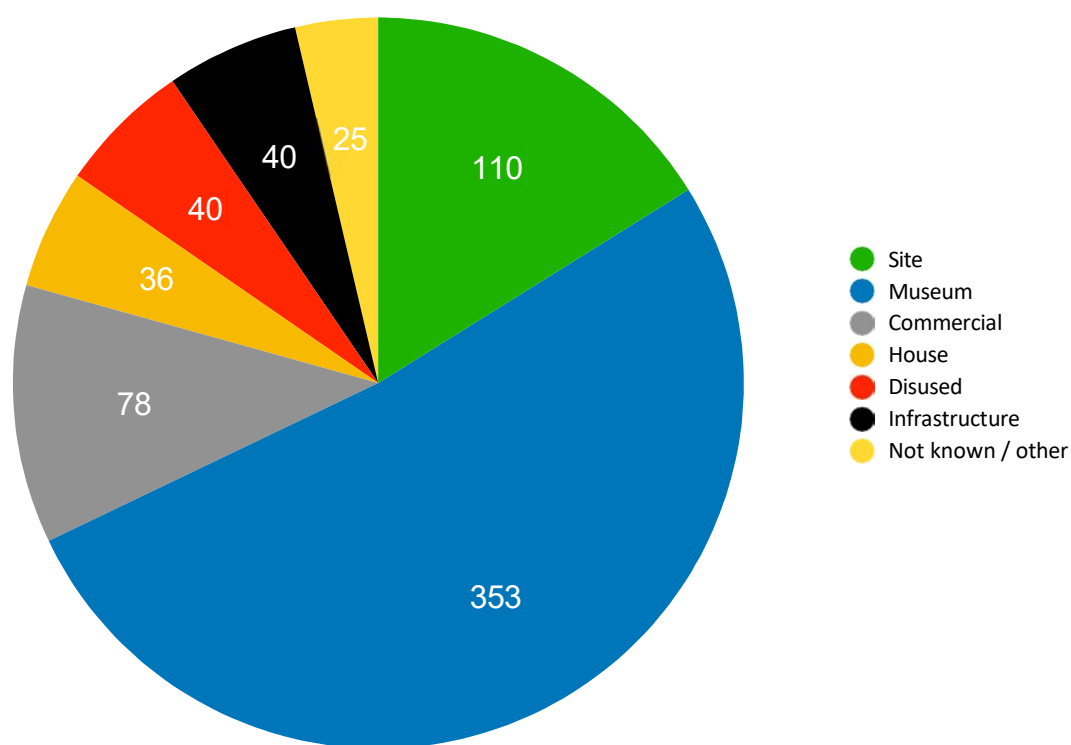


Figure 16. Function of industrial heritage sites in England — national overview (n = 682)

3.3.2 Regional variation

There is considerable regional variation across the sample (Figures 17 and 18). The West Midlands has the highest proportion of museums among its sites; proportions of open sites are highest in the north and west, and lowest in the south and east.

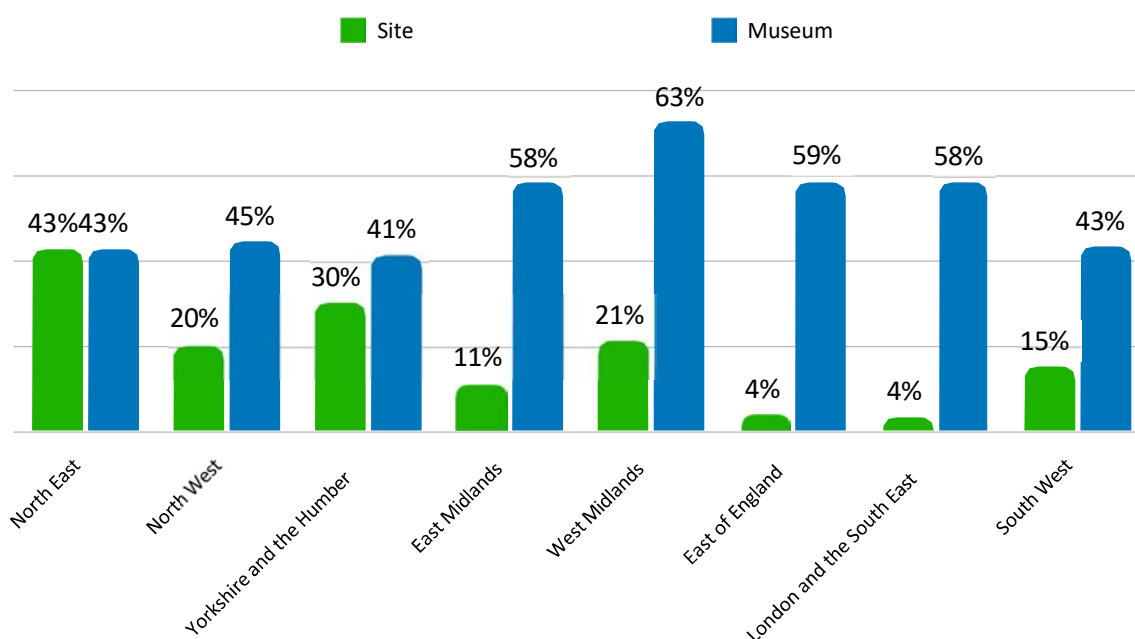


Figure 17. Function of industrial heritage sites — sites and museums by region (n=682)

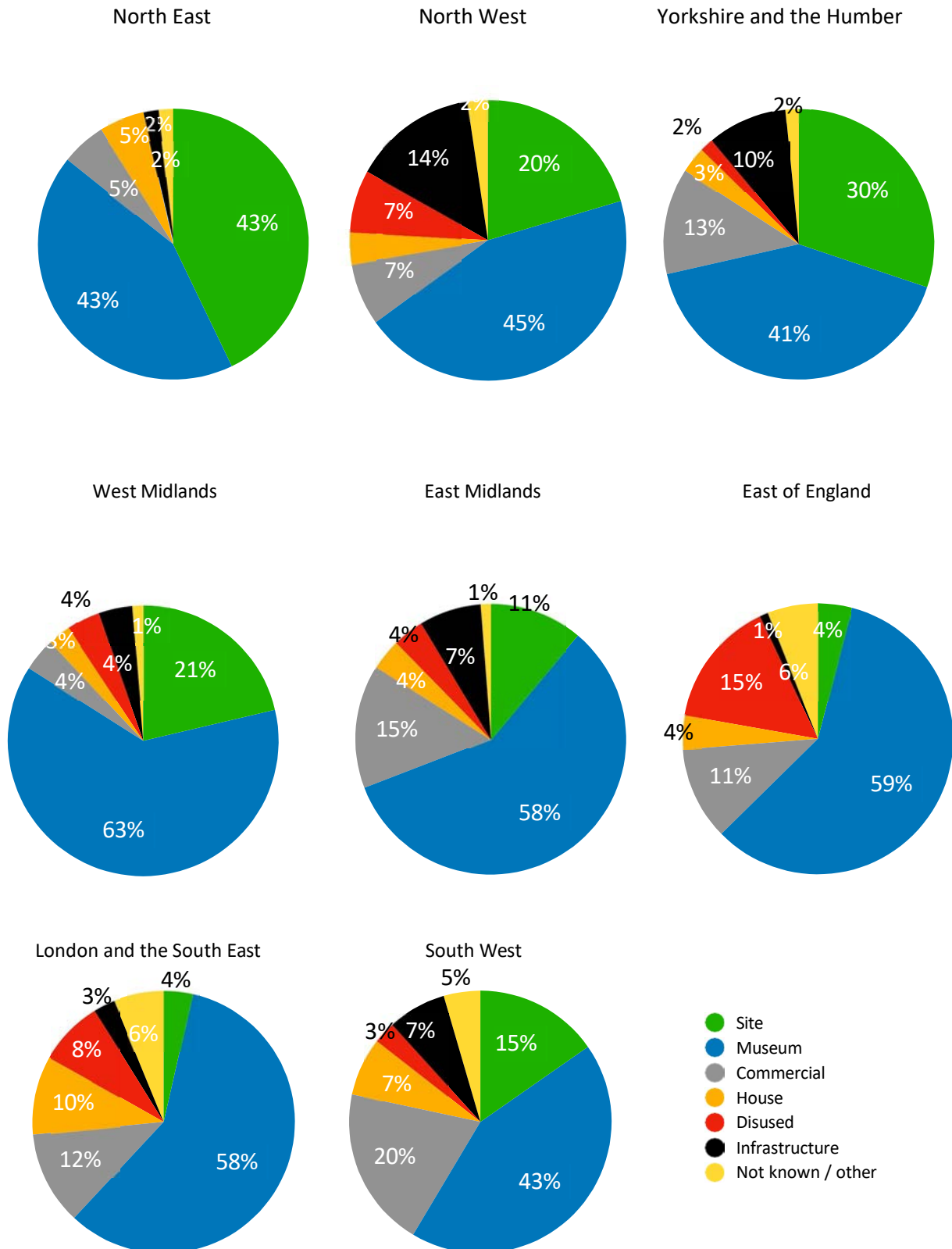


Figure 18. Function of industrial heritage sites in England by region (n = 682)

This variation is not surprising given the greater population density of London and the South East, and the relatively large areas of open upland with public access in the north of England — particularly the North East and North West.

3.4 Finance

3.4.1 Overview

A total of 348 of the 682 sites (51%) operate as charitable enterprises for which accurate financial data is obtainable in the public domain. A further 78 operate as part of commercial entities, either in their own right (for example pubs and restaurants) or as part of a larger organisation (such as breweries, hotels and office/retail spaces), for which financial data may be available depending on their company status and domicile.

The scope of the survey precluded a comprehensive analysis of the financial situation for all 426 sites for which financial data is likely to be available. Financial data was obtained through the questionnaire; however responses were often incomplete or inaccurate. Therefore independent financial data for 50 sites was obtained from information in the public domain, primarily the Charity Commission and Companies House (**Appendix 2**). These represent 12% of the 426 sites which operate as clearly definable financial entities.

Collectively this sample had an annual turnover of just under £25,000,000 during each of the three years 2020-2023. Both income (arithmetic mean £24,598,219) and expenditure (arithmetic mean £24,772,543) steadily increased during this period (Figure 19). More detail is provided for each of the 50 sites at 3.4.2 and 3.4.3 below.

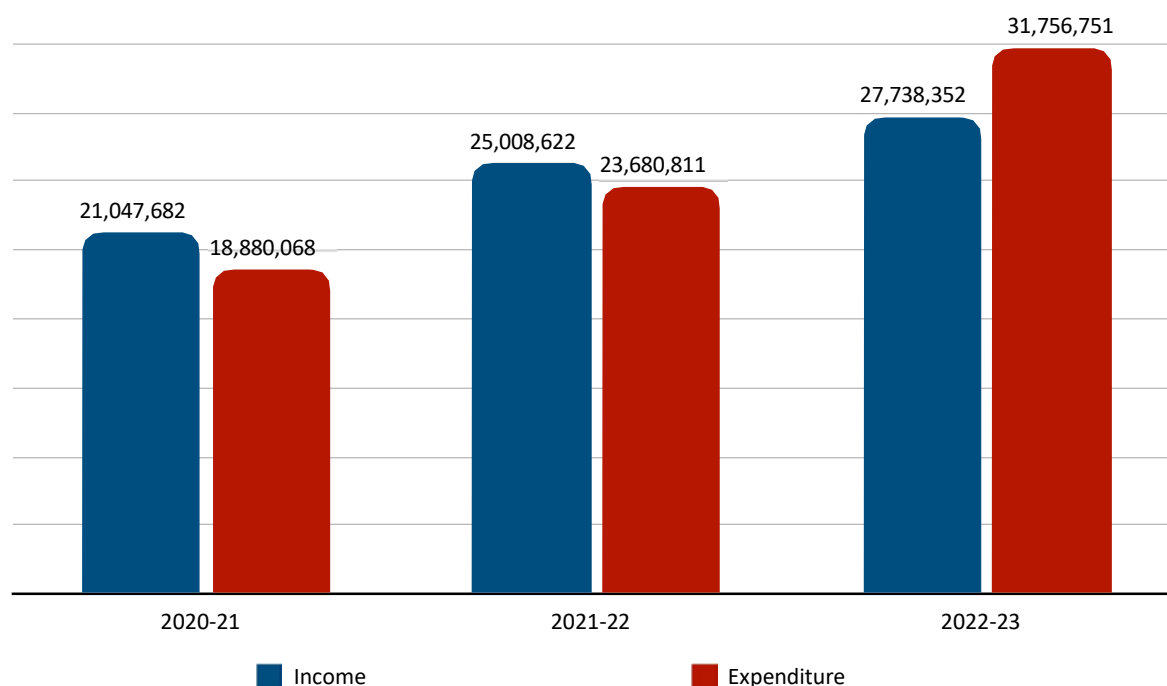


Figure 19. Combined income and expenditure for industrial heritage sites 2020-23 (n = 50).

It is important to stress that figure is derived only from this study of this sample, and it is not possible or desirable to extrapolate from this figure to estimate the financial impact of the industrial heritage sector as a whole. This is because:

- There is considerable variation of scale within the sample. Annual income ranged from £4 to £10,140,000; expenditure from £586 to £13,500,000 per year. Only three sites had income above £2,000,000; and only four were regularly below £5,000. Of the 150 data points representing income per site per year, 50 fell between £5,000 and £39,999 and 47 fell between £40,000 and £199,999.

A further 2 fell between £200,000 and £499,999.

- Around one third of the sample (some 214 of the 682 sites) are monuments in public open space, disused, in use for infrastructure, or are of unknown status. Whilst such sites do make a contribution to the national economy it is beyond the scope of this study to measure this.
- The variation in the scale and activity of the sites in the sample of 50 is not representative of the sample of 426 economically active sites (as defined above). The limitations of the scope and representativeness of this sample are set out in 1.3 and 2.6 above.
- The 682 sites themselves are only broadly indicative of the nature and extent of industrial heritage sites that are open to the public in England. As noted elsewhere this sample is neither a definitive and absolute list of all sites, nor is it a representative list.

3.4.2 Income

Income was measured for each of the three years 2020-2023. There was considerable variation in annual income between the 50 sites in the sample; some sites also had notable year-to-year variations which resulted from specific grants. The highest income for any individual site in any year was £10,140,000 and the lowest was £4. The highest arithmetic mean annual income was £8,780,000 and the lowest £1,845.

The median mean income for all 50 sites was £67,625. The arithmetic mean was £491,964, however the harmonic mean income for all 50 sites was £21,405, indicating that the majority of incomes in the sample are at the lower end of the range. Six sites had mean incomes of less than £10,000, and another six had mean incomes greater than £1,000,000. When these outliers are eliminated from the sample, the arithmetic mean income for the 38 sites is £121,610 and the harmonic mean £44,975. Income distribution for those 38 sites is shown in Figure 20.

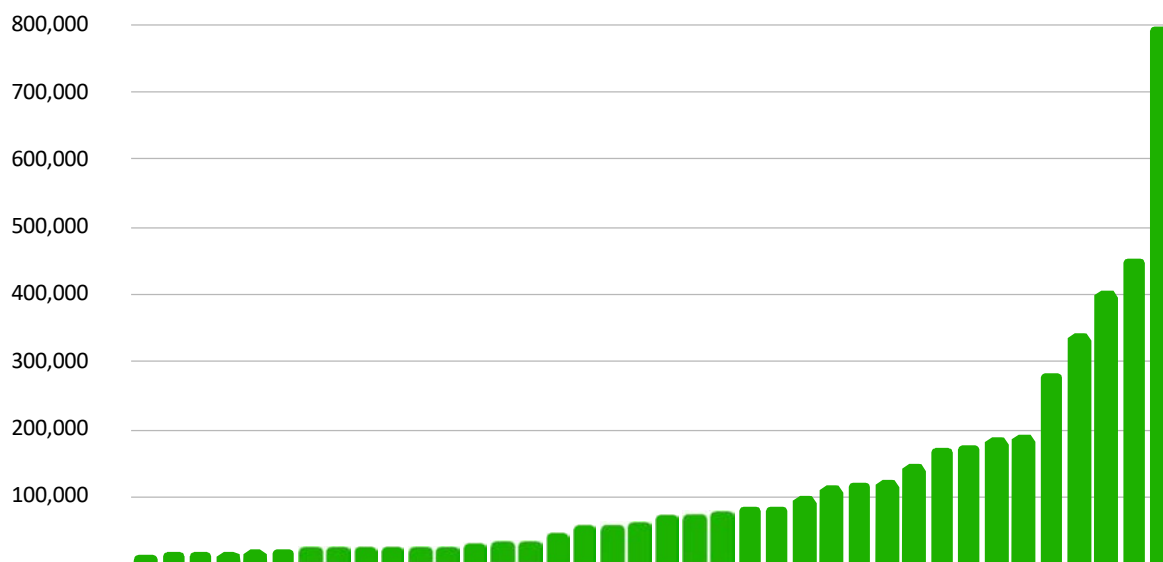


Figure 20. Mean income distribution around the median (n = 38)

The majority of sites in the sample had a mean annual income of less than £200,000 — 39 of the 50 sites fell into this category. Of those, 31 had a mean annual income below £100,000. Income distribution for those 39 sites is shown in Figure 21.

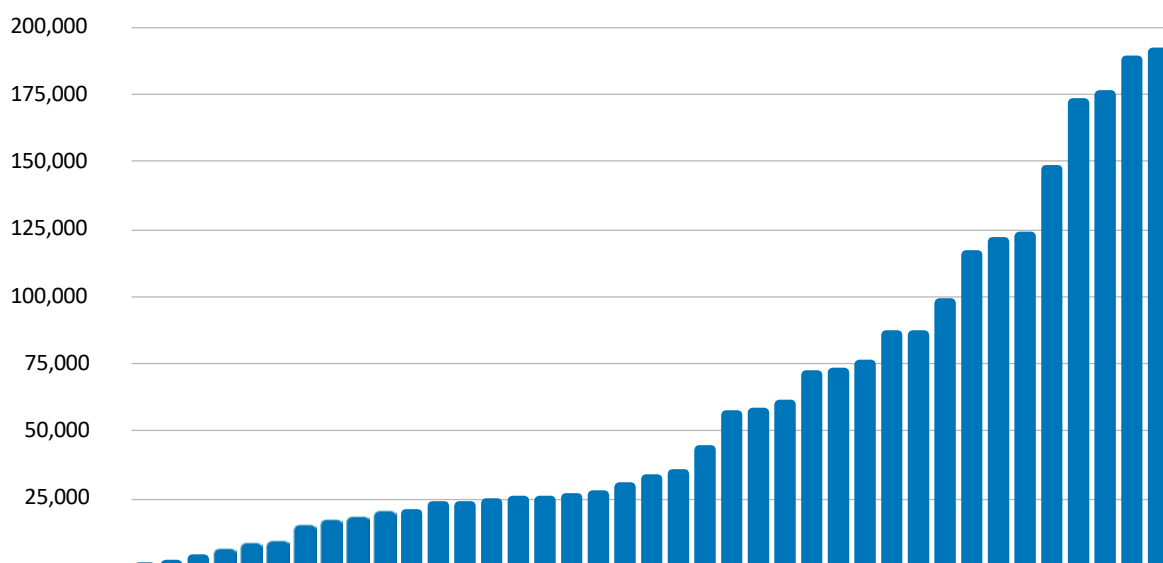


Figure 21. Mean income distribution of sites with annual income below £200,000 (n = 39)

Longitudinal analysis of income change over the three years 2020-2023 was undertaken for the cohort of 50 sites. This measured income in 2022-23 against the arithmetic mean for the three-year period. This showed that 20 sites (40%) had seen income decline during that period, 26 sites (52%) had seen an increase in income, and four sites (8%) had experienced no change in income (Figure 22).

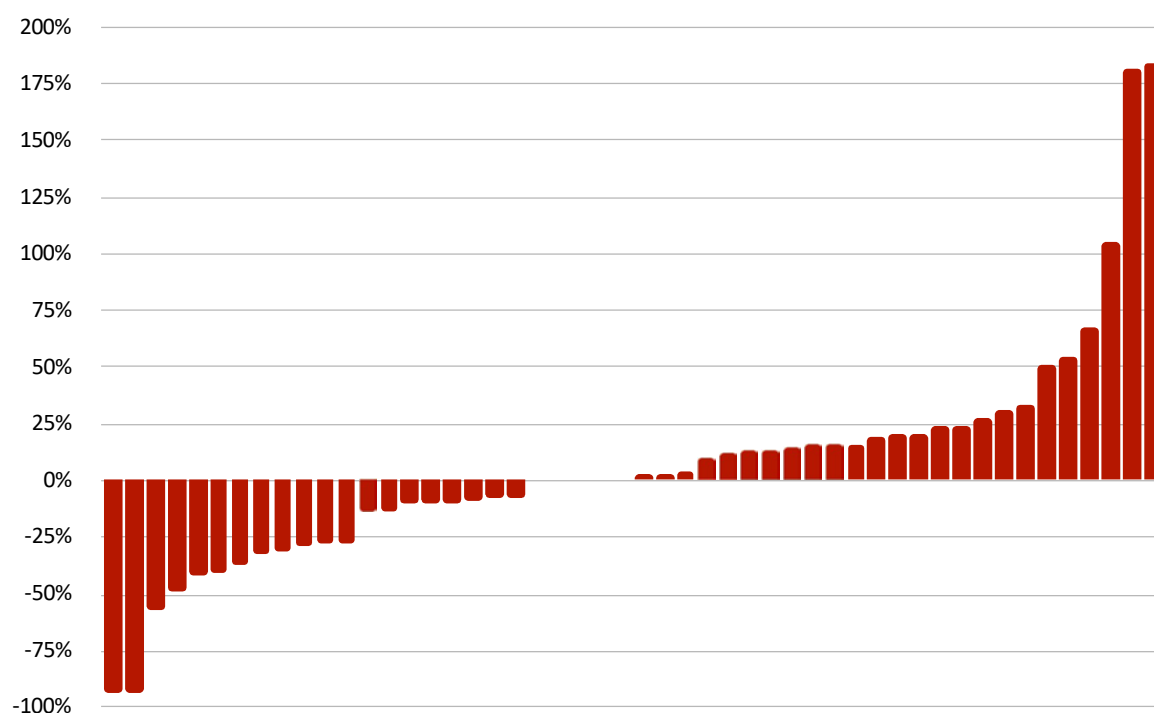


Figure 22. Income change: 2022-23 income as percentage of the 2020-23 mean (n = 50)

Operational income

Financial analysis has been undertaken for 50 of the 426 sites which operate on a commercial basis and for which financial data will be available. Most of these 50 industrial heritage sites received the bulk of their operational income from admissions fees (ticket sales). In some cases these were tied to gift aid through an annual pass; many also had membership schemes. These schemes allow individuals to visit frequently and often come with exclusive benefits, such as discounts and members-only events.

In general, larger sites, or sites which were part of a larger organisation, were more likely to offer a variety of more sophisticated admission options.

Around 68% of sites in the sample have a catering offer. This ranges from tea made by volunteers on open days — as at **Crofton Beam Engines** (SW) and **Salford Brass Mill** (SW) — to sophisticated multi-site catering facilities. Many sites — around 64% of the sample — also have gift shops selling a mixture of site-specific and generic merchandise, books and souvenirs. Sometimes these are connected to particular site histories and/or regional and local identities. These facilities are discussed in more detail at 3.6.3 and Figure 62 below.

Income is also derived from special events and corporate hire, including weddings and filming. In some cases this can provide a significant proportion of income. For example **Southern Maltings** (EE) is owned by East Hertfordshire Council, and run by the Ware Arts Centre Limited, a charity whose primary purpose is the ‘production of educational plays’ and ‘the encouragement of the arts and crafts’. They have been involved with the conservation and development of the site as a community venue since the 1980s, and signed a 30 year lease with the Council in 2016. About 30% of their income comes from room hire, the remainder from a combination of events, fundraising and other activities. The industrial heritage is an important element in the character and ‘sense of place’ of the venue, but it is not the primary focus of activities there.

An impression of the importance of secondary income to industrial heritage sites was gained from combining evidence from questionnaires and interviews, representing 71 sites. This found that a clear majority of sites (48, or 68%) estimated that they usually received between between 21% and 50% of their income from secondary spending. Around a quarter of these (18, or 25%) stated that they had received between 31% and 40% of their income in this way (Figure 23).

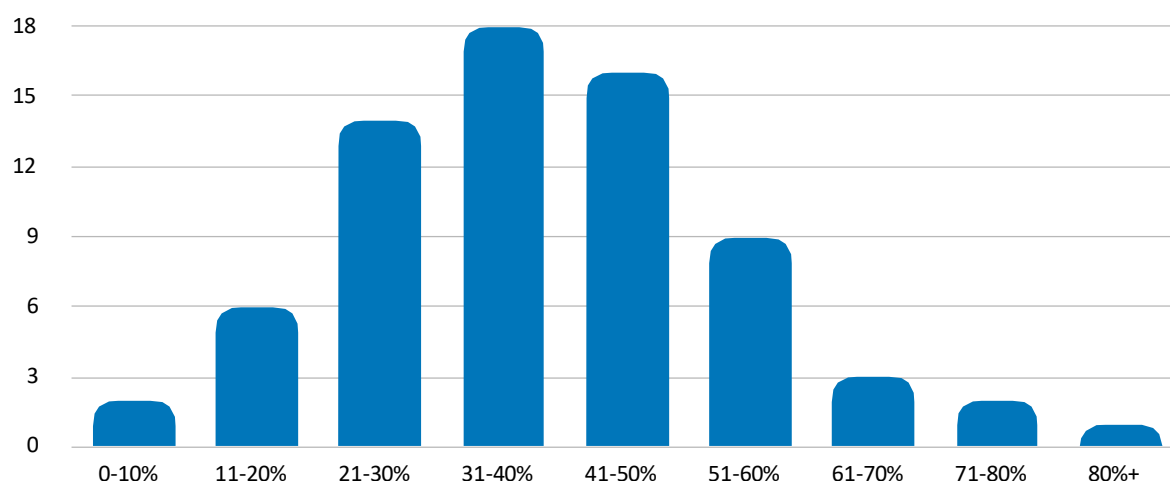


Figure 23. Percentage of income from secondary spending (n = 71).

Almost half of the 50 sites in the sample (23 or 46%) have established trading companies which operate as a subsidiary to the main charity. These subsidiaries are typically structured as separate limited companies wholly owned by the charity. This arrangement provides several tax advantages:

- Protection of charitable tax reliefs. Charities are generally exempt from paying tax on most of their income and gains, provided it's used for charitable purposes. By channelling non-charitable trading (selling goods outside their charitable purpose) through a subsidiary, charities can avoid risking their tax exemptions.
- Gift Aid on profits. A key advantage is that trading subsidiaries can donate their taxable profits to the parent charity. Through Gift Aid these donations are deductible for the subsidiary, reducing its corporation tax liability to zero. The charity then receives the profits tax-free, as they're exempt from income tax on donations.
- VAT efficiency. Trading subsidiaries can also allow for more effective VAT planning. For example, they may be able to reclaim VAT on costs related to taxable trading activities that the charity itself couldn't reclaim.

Finally it is worth noting that many sites also use their educational offer to generate income, by providing guided tours, educational workshops and hands-on experiences tailored to school curricula. Many have developed close relationships with local schools and other institutions; some sites also partner (or have partnered) with universities or research institutions, which can potentially provide funding for collaborative research initiatives.

Grant funding

There were 53 survey responses which made reference to grants, although 12 of these did not provide sufficient detail for analysis. The 41 sites which returned valid survey responses for this aspect reported receiving a combined total of £3,357,300 of grant aid during the three years from 2020-2023, an arithmetic mean of £81,885 per site. This represented 24% of the combined income (£13,924,823) for those 41 sites during that period.

Covid funding

Nine of the 41 sites which returned valid survey responses about grant funding had made use of the various schemes of government support during the Covid pandemic. Several strands of public funding were available during 2020-21 and subsequently, including:

- Culture Recovery Fund. Administered by the National Lottery Heritage Fund and Historic England, the Culture Recovery Fund launched in 2020, and provided several rounds of grants to help heritage organisations cover essential costs and make safety adaptations. The CRF also offered loans for larger heritage organisations that needed substantial, longer-term financial assistance. Grants ranged from £10,000 to £3,000,000, with several rounds being open until 2022, ultimately distributing over £1.2 billion.
- Heritage Emergency Fund. At the onset of the pandemic in 2020, the National Lottery Heritage Fund created the Heritage Emergency Fund to provide immediate financial relief for heritage sites struggling with sudden income loss. This stop-gap fund offered grants of £3,000 to £250,000 to cover urgent costs and support essential activities.
- Historic England Emergency Response Fund. This was launched in 2020 by Historic England, and was primarily aimed at independent heritage attractions and charitable organisations. It offered grants of up to £25,000 to cover emergency repairs, essential maintenance, and site protection.

It had also been possible to claim discretionary grants and business support grants from local authorities, and to make use of general business support initiatives, such as the Coronavirus Job Retention Scheme (furlough), which helped cover staff wages and VAT deferral options. There was also the opportunity to apply for loans through schemes such as the Bounce Back Loans and the Coronavirus Business Interruption Loan Scheme (CBILS), which provided financial relief for heritage organisations seeking low-interest loans to cover cash flow challenges.

In total the 9 sites in this survey which claimed Covid funding received £493,159, representing 15% of the total amount of grant funding reported by all 41 sites (Figure 24). Covid funding therefore accounted for 3.5% of all income for those 41 sites during the 2020-2023 period.

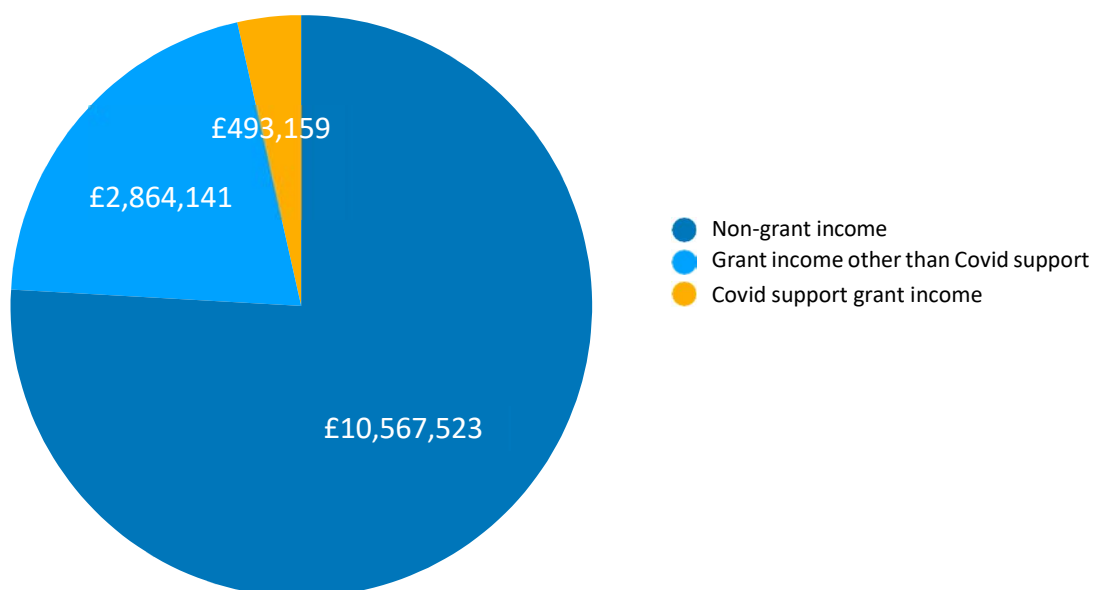


Figure 24. Grant income as a proportion of total income 2020-2023 (n = 41)

Other grants

All 41 sites which reported receiving grant funding did so primarily from the following sources:

- National Lottery Heritage Fund (NLHF). The NLHF offers several funding streams including: Heritage Grants (large-scale projects with grants from £250,000 to over £5,000,000, focused on conservation, community engagement, and sustainable use); Grants for Heritage (small to mid-sized grants from £3,000 to £250,000 for projects that connect people to heritage through preservation and educational programming); Heritage Enterprise (grants from £250,000 to £5,000,000 for projects that transform neglected historic buildings into viable community assets); Heritage Impact Fund (loans up to £500,000 to support financially sustainable heritage projects with significant community or social impact).
- Arts Council England (ACE). ACE offers funding for capital works, including its MEND (Museum Estate and Development) Fund which provides grants from £50,000 to £5,000,000, specifically for urgent maintenance and infrastructure needs of museums and galleries to improve sustainability and visitor experiences. It also has a Capital Investment Programme which provides funding to environmental sustainability, visitor accessibility and resilience of cultural organisations.
- The Art Fund offers Reimagine Grants (up to £50,000 for museums and galleries to innovate, and particularly to adapt heritage spaces for new audiences to address accessibility); Small Project Grants

(up to £15,000 for smaller, specific projects such as exhibitions and educational programmes); Weston Loan Programme (funding for museums to borrow works from national collections, including artefacts, for temporary display).

- Historic England offers a number of grants for Heritage at Risk (up to £500,000 for urgent repairs to historic buildings, monuments, and sites on the Heritage at Risk Register), as well as smaller grants for Capacity Building, Heritage Protection, and smaller repair and maintenance projects.

Other funding has come from local authorities, regional bodies, and a wide range of independent grant-giving bodies including the Association of Independent Museums (AIM), the Association for Industrial Archaeology (AIA), livery companies, and local charities. Presentation by value of grants skews in favour of the ACE MEND fund, which made two substantial awards during this period. A larger number of grants of lower value are made by other organisations. Figure 25 shows the breakdown of non-Covid grant aid by value and by numbers of grants.

The distribution of grant aid across the different strands of activity by the various heritage organisations is discussed in 3.4.4 below.

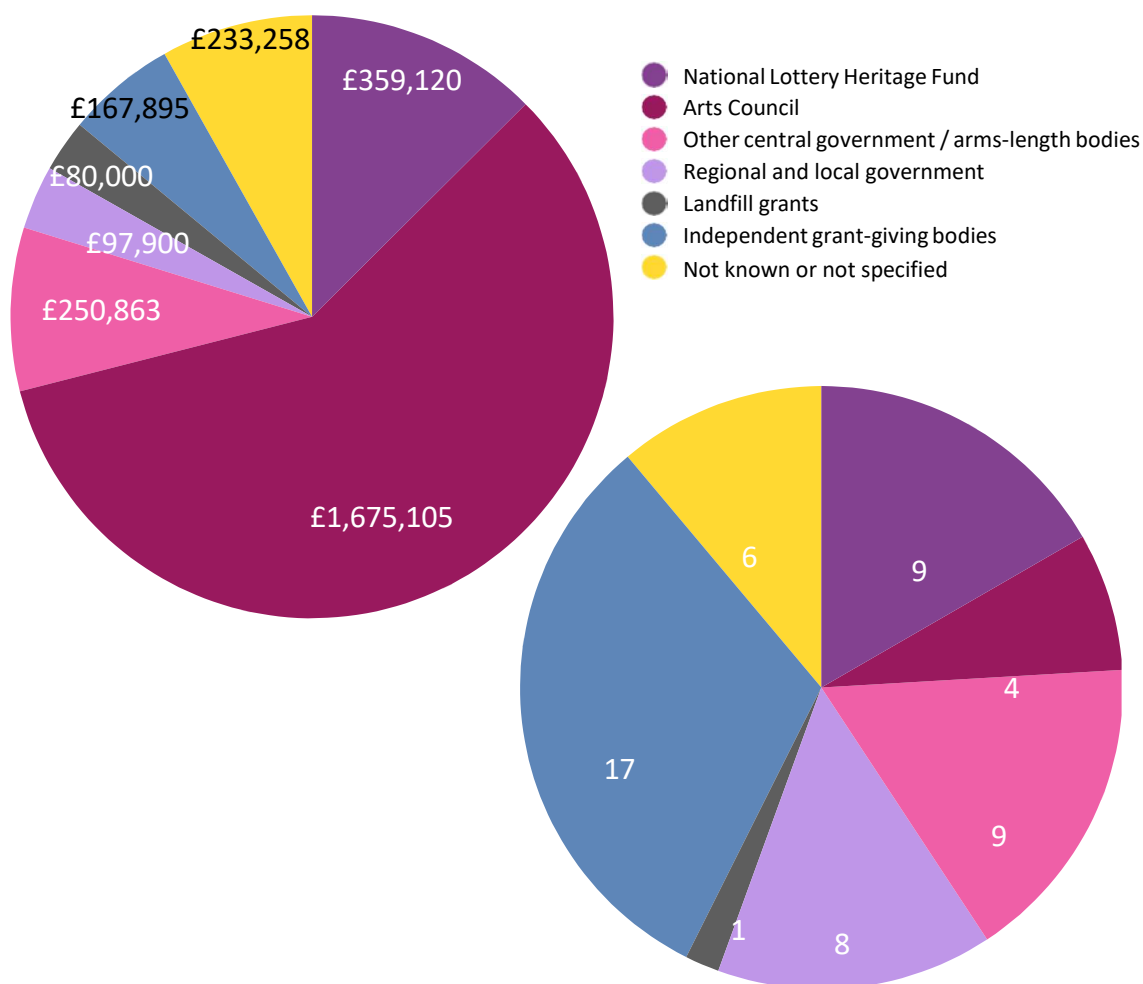


Figure 25. Non-Covid grant aid 2020-2023 by donor (n = 41)
 Top (left): by total value of grants; Bottom (right): by total number of grants.
 Some organisations received grant aid from more than one source.

Other income

Whilst most sites generate income through conventional retail and catering activities, together with corporate hire, a number of locations are also able to generate revenue in other ways. For example, as well as a cafe and tourist information bureau, the **Withernsea Lighthouse Museum** (YH) receives income from telecommunications companies who deploy mobile phone masts on the lighthouse. **Cromford Mills** (EM), which is run by the Arkwright Society, received £65,544 in car park income during 2022-23, representing 10.2% of the total revenue generated by the trading subsidiary in that year.

Other sites have made use of legacies, which is a growth revenue stream for many charities. For example the **Dunkirk Mill Museum** (SW) which is part of the Stroudwater Textile Trust, typically reports £10-20,000 of annual income. In 2022-23 it reported over £350,000, largely made up from a bequest of £336,439 (of unrestricted funds) from the Trust's long-term Patron, Dame Margaret Weston. This was the first instalment; a second instalment is anticipated 'in the near future' but it is not known what the value will be.

Around one third of questionnaire respondents (24 out of 61) reported that they had actively sought commercial support through sponsorship or contributions in kind. Of these, 12 said that they had found it 'very difficult' or 'quite difficult' and 10 said that it had been 'very easy' or 'quite easy'. Thirty respondents reported that they had received income or other support through sponsorship, although for most this represented a small part of their income (Figure 26).

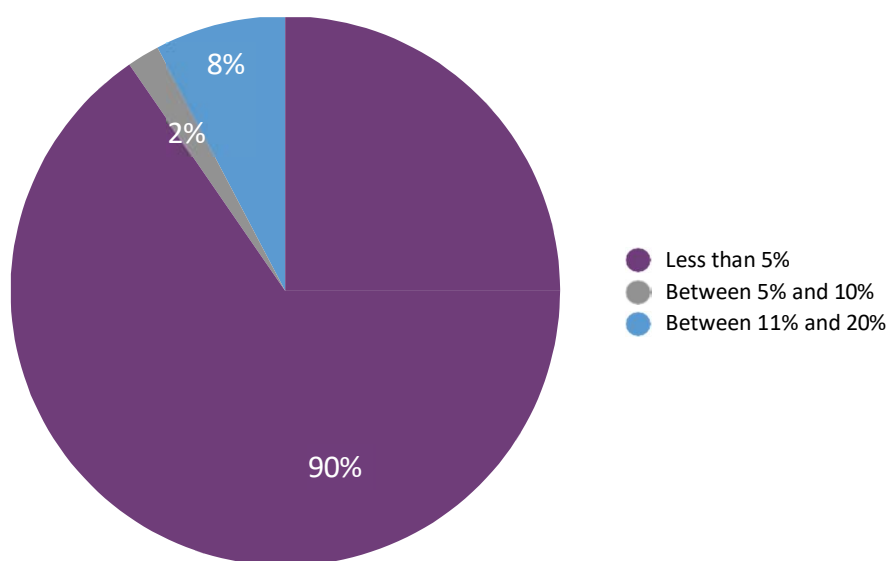


Figure 26. Income from private sponsorship as a proportion of total income (n = 52)

In many cases support was in kind, such as the donation of materials or discounts on purchases. Thirty sites responded to this question, some receiving several types of support; the proportions of different types of support, as indicated by 30 respondents, are shown in Figure 27.

Finally it is important to note that some sites have been able to sell property to release cash in the short term. This option is not available to all sites, and would be a last resort for most charities. Consideration of the sale of assets did not form part of the scope of this study; however it does have implications for the sector, which are discussed further at 3.7 below.

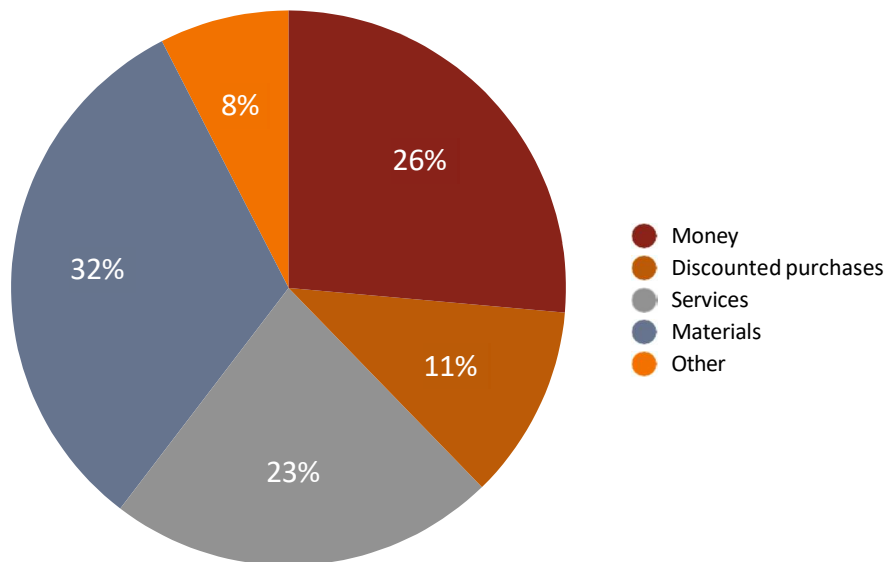


Figure 27. Types of support received through private sponsorship (n = 30)

3.4.3 Expenditure

Expenditure was measured for each of the three years 2020-2023 (Appendix 2). As with income, there was notable variation in annual expenditure between the 50 sites in the sample, and again there were significant year-to-year variations for some sites resulting from particular project expenditure.

The highest expenditure for any individual site in any year was £13,500,000 and the lowest was £586. The highest arithmetic mean annual expenditure was £9,226,667 and the lowest £1,755.

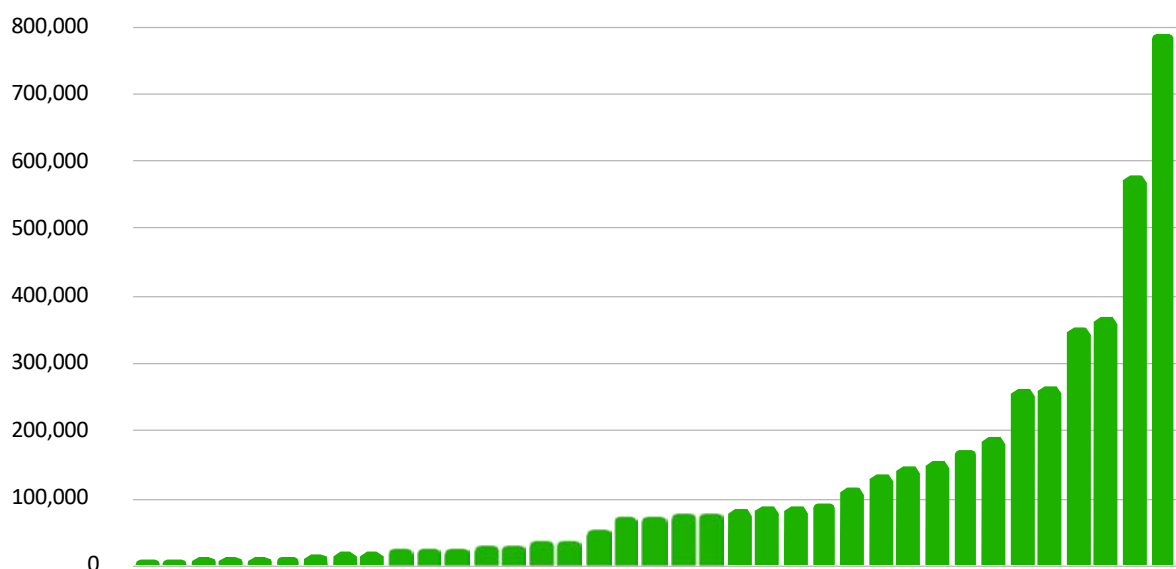


Figure 28. Mean expenditure distribution around the median (n = 37)

The median mean expenditure for all 50 sites was £72,930. The arithmetic mean was £495,451, however the harmonic mean income for all 50 sites was £16,958, indicating that most sites in the sample are operating from a relatively low cost base. Seven sites had mean expenditures of less than £10,000, and six had mean expenditures greater than £1,000,000. When these outliers are eliminated from the sample, the arithmetic mean income for the 37 sites is £124,254 and the harmonic mean £35,598. Expenditure distribution for those 37 sites is shown in Figure 28.

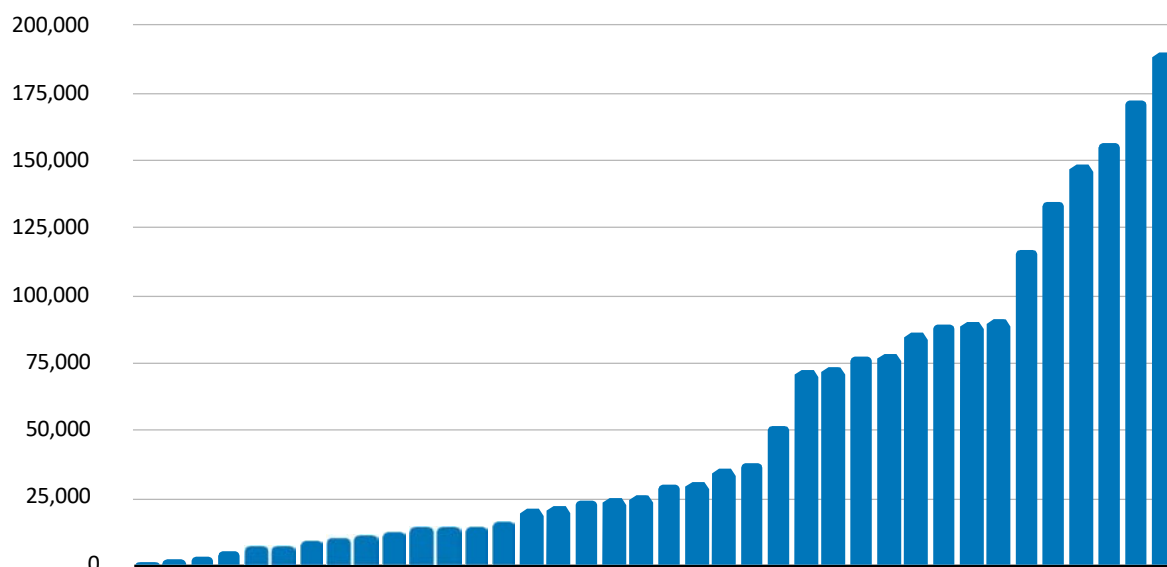


Figure 29. Mean expenditure distribution of sites with annual costs below £200,000 (n = 39)

The majority of sites in the sample had a mean annual expenditure of less than £200,000 — 38 of the 50 sites fell into this category. Of those, 32 had a mean annual expenditure below £100,000. The expenditure distribution for those 39 sites is shown in Figure 29.

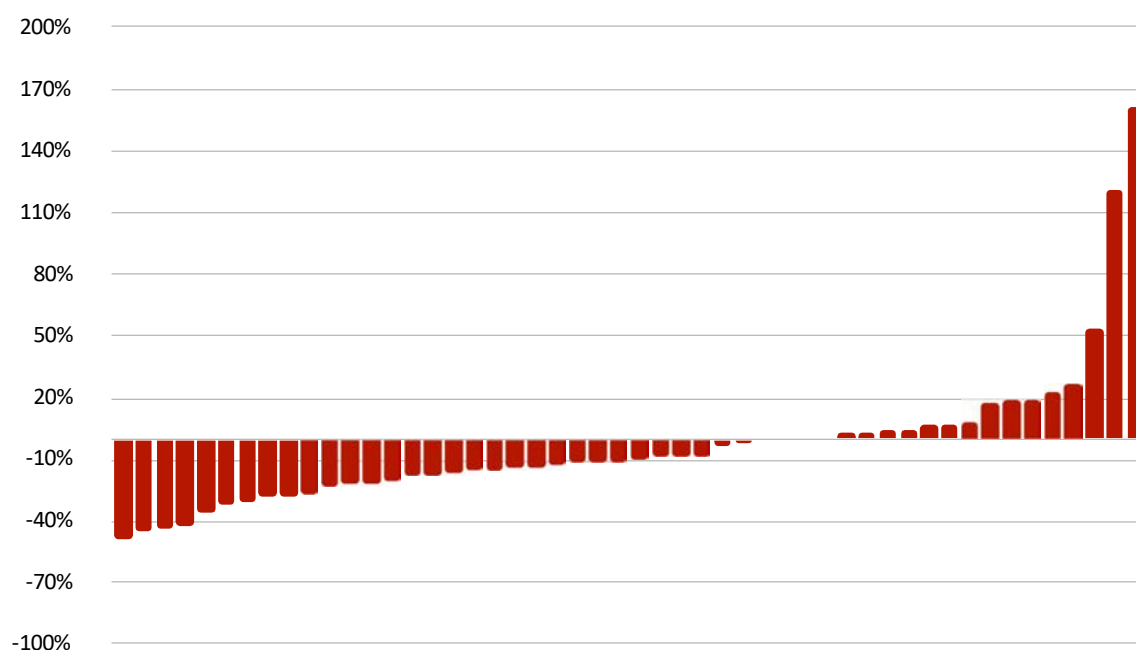


Figure 30. Expenditure change: 2022-23 as percentage of the 2020-23 mean (n = 50)

Longitudinal analysis of expenditure change over the three years 2020-2023 was undertaken for the cohort of 50 sites. This measured expenditure in 2022-23 against the arithmetic mean for the three-year period (Figure 30). This showed that 31 sites (62%) had reduced their expenditure during that period. Of these, seven sites had reduced expenditure by less than 10%, but 19 (38%) had seen expenditure decline by between 11% and 30%, and six (12%) had reduced their spending by more than 30% during that three-year period. In contrast 16 sites (32%) had increased expenditure. Three sites (6%) had made no change to their spending.

Operational expenditure

Operational expenditure varies considerably across the sample cohort. In general, spending on day-to-day operations (as distinct from conservation and maintenance) falls into five main categories. These are:

- **Staffing and volunteer management.** Some sites employ large numbers of staff, others are managed entirely by volunteers. Where staff are employed their salaries make up a significant portion of operational expenses, in some cases up to 50% or more. For example the annual staffing costs for the Black Country Living Museum (WM) are around £5,500,000 (split roughly equally between salaried and hourly staff) out of a total expenditure of around £11,000,000. Managing volunteers, who often play crucial roles in site operations, also involves training, supervision and support costs. This aspect is discussed further at 3.5 below.
- **Utilities.** Electricity, water and heating are essential for most sites, and particularly in older buildings that may not be energy-efficient. Between January 2020 and December 2023, the UK saw a substantial increase in electricity and gas prices. This was driven mainly by global energy market shifts, notably the impact of the Russian invasion of Ukraine in 2022. Gas prices rose by over 130% from 2020 through the height of the crisis in 2022. Although prices subsequently fell, by December 2023 both gas and electricity costs were still over 50% higher than in January 2020. Some sites had fixed-price tariffs which shielded them to some extent, but most have reported increased operating costs.
- **Site services.** Some site services such as cleaning, waste management and security can also contribute significantly to monthly operational costs for some sites.
- **Insurance and compliance.** Commercial property insurance premiums in the UK have increased significantly between January 2020 and December 2023, driven by inflation, supply chain disruptions, climate-related events and rising repair costs. Key factors include heightened costs for building materials and labour, and the impact of severe weather events. In 2022 alone there was an average increase of around 18.5% in commercial property premiums. Insurers have also introduced more robust underwriting practices and higher replacement values to offset the financial risks associated with extreme weather and rising repair costs. Compliance with health and safety regulations also incurs ongoing expenses, especially for sites with complex machinery and/or structures.
- **Marketing and visitor engagement.** Costs include advertising, digital media, promotional materials and event management — some or all of which may be outsourced by most sites. This aspect is discussed in more detail at 3.8 below.

Maintenance and conservation costs

Industrial heritage sites include historic structures and machinery that require ongoing upkeep, repair and conservation. This includes both routine maintenance to prevent deterioration and specialised conservation work to restore buildings, structures and machinery. This section considers the financial aspects; further discussion of conservation management in practice is presented at 3.7 below.

A total of 36 of the 71 questionnaire and interview responses (51%) provided information about expenditure on maintenance. Respondents were asked to provide figures for the last three years (2020-23) and estimates for the next five years (future expenditure is discussed at 3.7.2 below).

Previous expenditure ranged from £1,300 to £3,000,000. The arithmetic mean for the 36 sites was £193,300; the harmonic mean was £9,876 and the median was £30,000. Nine sites (25%) reported expenditure of more than £100,000 during that period; the remaining 27 sites (75%) had all spent less than £75,000. The majority of these (21, or 58% of the 36 sites) had spent less than £50,000; eight of these had spent less than £10,000 on repairs and maintenance between 2020 and 2023 (Figure 31).

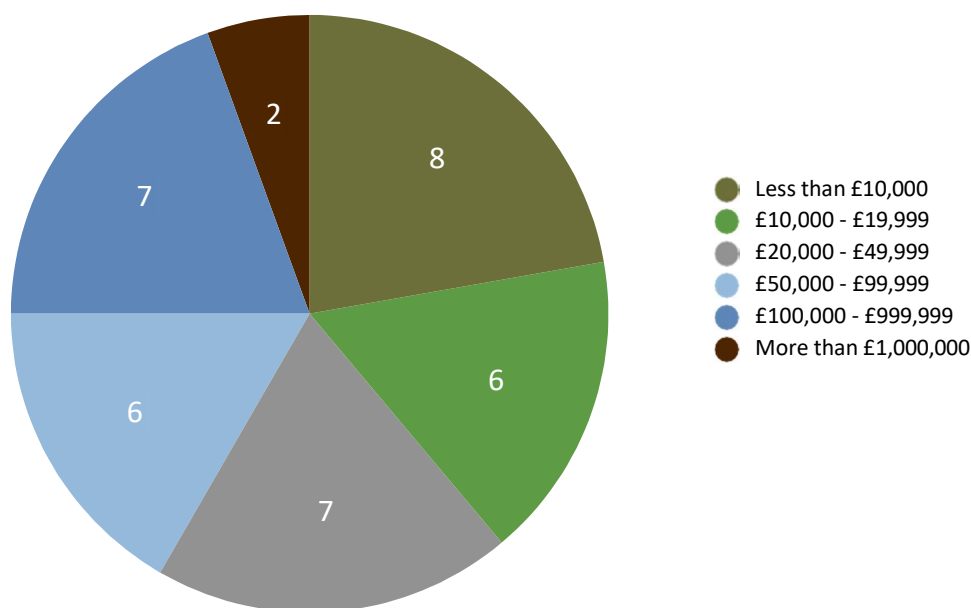


Figure 31. Maintenance expenditure 2020-2023, numbers of sites (n = 36)

These absolute values are helpful in understanding the total maintenance expenditure of the sample; however expenditure on maintenance can only be meaningfully understood in relative terms. In other words, maintenance costs are more usefully expressed as a proportion of overall overall expenditure by a site during the same period.

This analysis was possible for 34 sites. Relative expenditure was measured as the total value of maintenance expenditure expressed in the questionnaire returns against the combined outgoings for the three-year period as stated in public accounts.

The total expenditure on maintenance for all 34 sites was £6,625,938, against total outgoings for the three years from 2020-2023 of £60,275,880. Therefore across the whole sample approximately 10% of expenditure went on repairs, maintenance and conservation of sites and buildings. However there was considerable variation, with the lowest maintenance spend representing only 0.79% of total expenditure, and the highest effectively overspending. The arithmetic mean was 29.48%, the median was 19.26% and the harmonic mean was 7.89%. Most sites spent in this lower part of the range between the median and the harmonic mean: 21 sites (62%) reported expenditure on maintenance of between 5% and 30% of their overall spending (Figure 32).

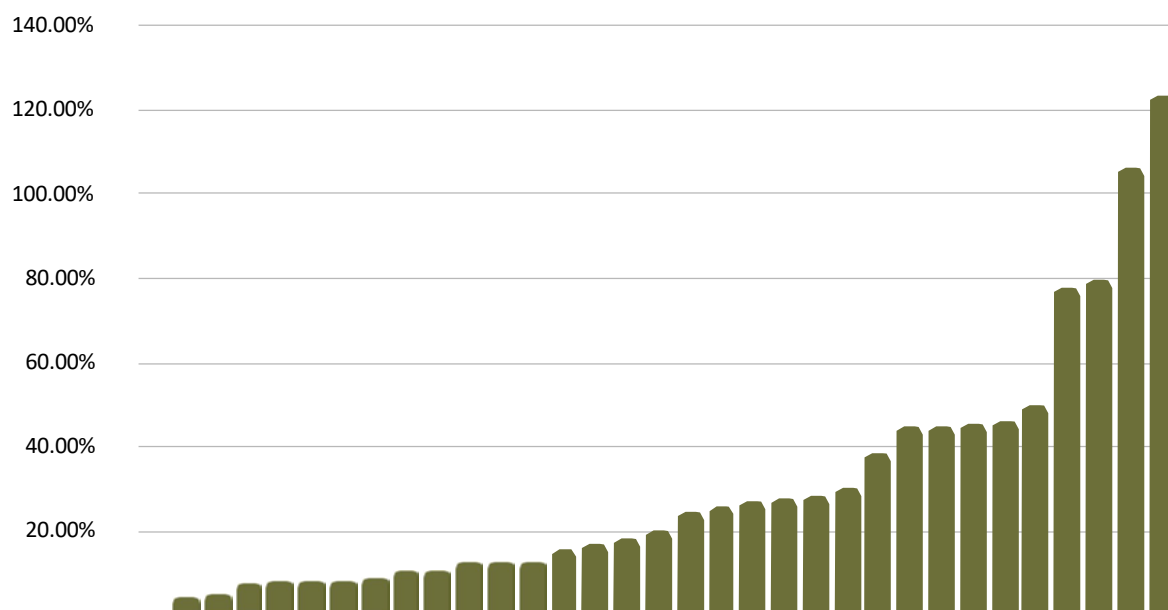


Figure 32. Maintenance expenditure 2020-2023, proportion of overall expenditure (n = 34)

Other liabilities

Most industrial heritage sites have a range of health and safety liabilities. These are usually dealt with as part of the governance and day-to-day management of the site. There is always the potential for sites to incur health and safety costs, but these can usually be managed through partial closures, restricted access and training. For example **Chatterley Whitfield Colliery** (WM), which is owned by Stoke-on-Trent City Council, is largely inaccessible to the general public on safety grounds; a Friends group manages restricted access on open days. On rare occasions the cost of meeting health and safety obligations can bring about the closure of a site. For example **Bursledon Mill** (LSE), which is owned by Hampshire Buildings Preservation Trust, was operated by Hampshire Cultural Trust on behalf of the local authority. However a health and safety review in 2023 advised that significant costs would need to be incurred to permit safe visitor operations in the future, and as a result the mill was closed to the public.³³

A handful of industrial heritage sites also have pension scheme liabilities. For sites in local authority ownership and management these are underwritten by the local authority. Arrangements vary for sites that were formerly in local authority management but are now run by a charitable trust. In most cases pension liability for individuals continues to be underwritten by the local authority, but the charitable trust itself may have a liability which is reported under the accounting standard FRS102. For example **Clifton Suspension Bridge** (SW) contributes to the the Avon Pension Fund (a defined benefit scheme) which is administered by Bath and North East Somerset Council on behalf of its employees.

It has not been possible to consider pension liabilities in detail as part of this project; however this could potentially represent a significant threat to some charities.

³³ Hampshire Cultural Trust statement, 12 February 2024 ([link](#))

3.4.4 Profitability

A high-level review of profitability across the three years from 2020 to 2023 was undertaken for the sample of 50 sites for which full financial information was available (Appendix 2). The analysis was undertaken for the full three-year period and not for individual years. The purpose of this was to understand the degree of profitability — and therefore financial resilience — across the sample. However this information should not be used to extrapolate to the wider sector, for the reasons set out at 3.4.1 above.

Three of the 50 sites were excluded from this specific analysis of profitability. Two of these displayed significant variances during one or more years, as a result of grant funding for capital works which incurred either significant income or expenditure which pushed the cumulative surplus or deficit above 100% of income. They were **East Pool Mine** (SW) and **Levant Mine and Beam Engine** (SW) (other sites also received grant income, but at lower levels, and these are evident from the results). A third site, **Grane Mill** (NW) was excluded because there was insufficient financial data to undertake the analysis. However detailed information for each site is available in the public domain, and is provided in Appendix 2.

The combined expenditure for each of the 47 sites for all three years was subtracted from the combined income to produce a surplus/deficit figure. There was considerable variation among the 47 sites, which ranged from a deficit of £446,667 to a surplus of £216,667 (arithmetic mean £3,056, median £5,813). This figure is only meaningful when set against revenue for each individual site; therefore they are presented as percentages of total income for the same period (Figure 33).

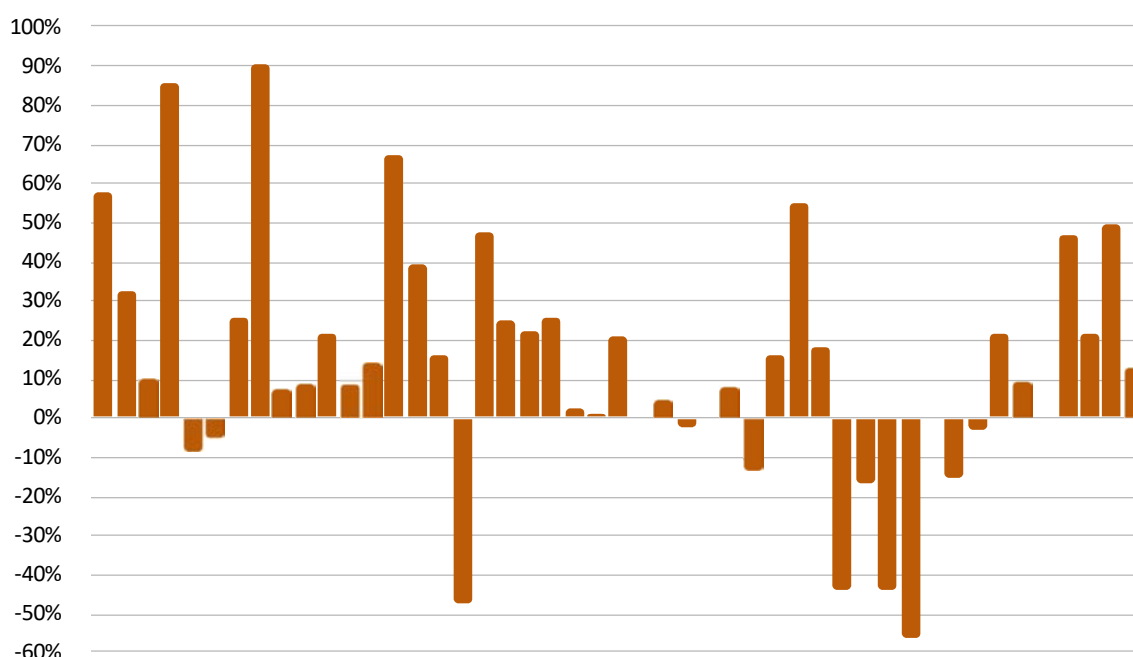


Figure 33. Surplus as a percentage of income (n = 47)

The majority of sites in the sample (35, or 75%) returned a surplus over the three-year period, whilst 12 (25%) returned a deficit. The greatest deficit was 55.8% and the largest surplus was 90.7% (both the result of exceptional movements). The arithmetic mean surplus was 13.7%, and the median was 9.9%

3.4.5 Reserves

Financial reserves provide an essential buffer against financial uncertainties, and act as a safety net during periods of economic downturn, unexpected income failure or unforeseen expenses. Reserves help mitigate these fluctuations, and also serve to demonstrate prudent financial management to potential funders and donors.

It has not been possible to undertake a full analysis of reserves held by all survey sites. However the questionnaire asked for indicative information about the level of financial reserves using four categories. This did not distinguish between restricted and unrestricted funds. For example, **Clifton Suspension Bridge** (SW) — with annual running costs (mainly staffing) of close to £1,000,000 — has over £17,000,000 in net assets after pension liability, but more than £9,000,000 of this is designated funds. Information was returned by 49 sites (Figure 34).

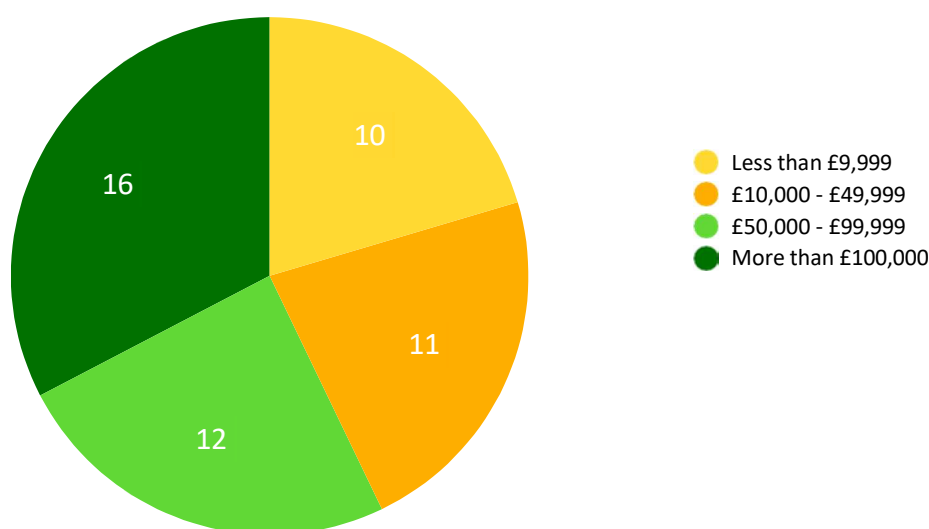


Figure 34. Reserves — actual amounts of reserves held by sites (n = 49)

This figure is only meaningful when set against the operating costs of each individual site. There is no legal requirement for reserves to be set at a particular level. Charity Commission guidance states that there ‘is no single level, or even a range of, reserves that is right for all charities. Any target set by trustees for the level of reserves to be held should reflect the particular circumstances of the individual charity.’³⁴ However a useful rule of thumb is that organisations should hold a minimum of three months’ reserves to allow for an orderly winding up in the event of income ceasing altogether; in the case of larger charities with significant numbers of paid employees consideration should be given to holding larger reserves to accommodate redundancy payments and other legal expenses.

It was possible to analyse the level of reserves against operating costs for 45 sites in the sample. This was done by dividing the mean annual expenditure for 2020-23 by the lowest figure in the band within which each site had declared its reserves. As noted above, no distinction was made between restricted and unrestricted funds; moreover the indicative bands are quite broad and the returned survey data was not checked against public data. Therefore this analysis will tend to underestimate reserves against operating costs. The results are shown in Figures 35 and 36.

³⁴ Charity Commission guidance CC19 — *Charity Reserves: Building Resilience*.

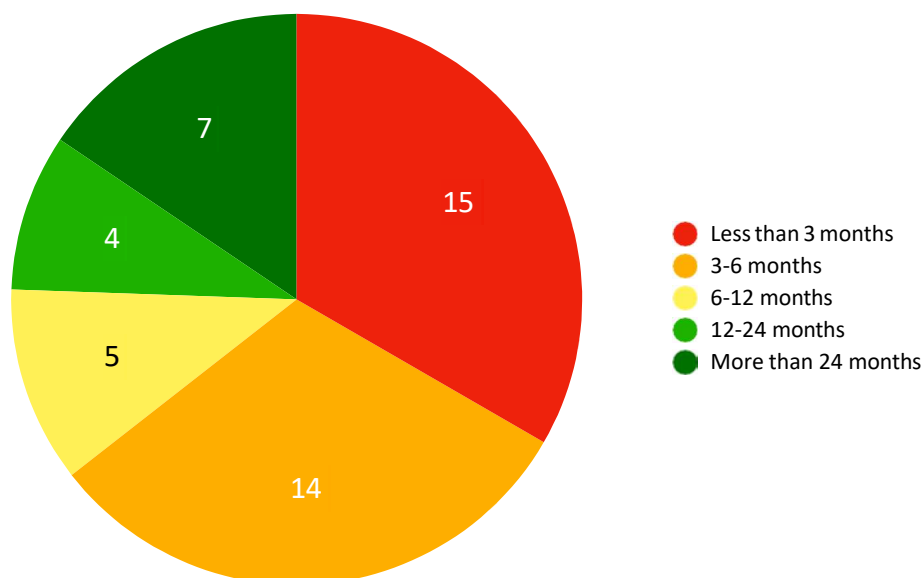


Figure 35. Reserves held expressed as number of months' operating costs (n = 45)

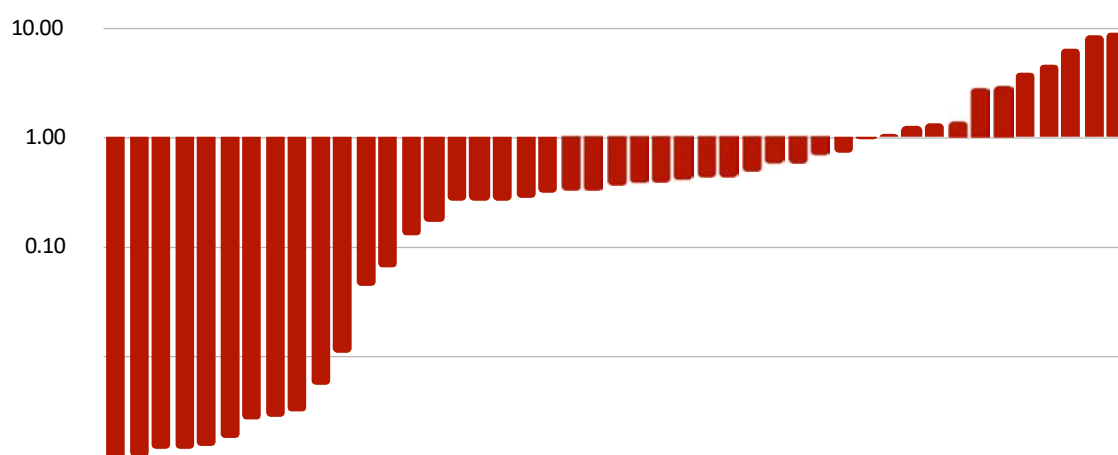


Figure 36. Reserves held expressed as number of years' operating costs (n = 45)
The Y axis is on a logarithmic scale.

This suggests that the majority of sites (29 out of 45, or 64%) in the sample have less than six months' operating costs in reserve, of which one third have less than three months' reserves. In contrast a significant minority (11 out of 45, or 24%) have more than 12 months' operating costs in reserve. As with the other figures presented in this financial analysis, this data should not be extrapolated for the sector as a whole.

3.4.6 Resilience

The sample of returned questionnaires and interviews evidently self-selected for sites which were still operating at the time of the survey. It is clear from the analysis of profitability (3.4.5) that most of those in the sample are in good financial health. However a significant number are more vulnerable for one or more of the following financial reasons:

- **Small reserves relative to operating costs.** A lack of financial buffer can be a risk factor which constrains sites' abilities to cover operating costs during downturns or unexpected expenses — such as weather damage, emergency repairs or essential staff changes. Small reserves can create a cycle where sites are

unable to fund improvements that might boost income, leading to ongoing financial instability.

- **Insufficient turnover to generate additional revenue.** Many sites in the sample rely on seasonal or intermittent visitor income — limiting their ability to invest in the site and/or fund new initiatives that could attract more visitors. This can constrain marketing opportunities and potentially reduce scope for new partnerships..
- **Overwhelming maintenance or other liabilities.** Frequent and often specialised maintenance (see 3.7) can be expensive, and maintenance liabilities can compound over time. Structural repairs, safety improvements and environmental controls may be challenging and often require funding beyond the normal operating budget. Climate change and other factors can increase insurance premiums and other costs.
- **Lack of opportunity for income diversification.** This can be particularly challenging for sites in more rural locations — where opportunities for retail and catering development, event hosting, and commercial rental may be more limited. Generating multiple income streams can help mitigate financial risks; otherwise sites are highly susceptible to changes in tourism, economic conditions, or shifts in public funding priorities.

There may also be other, non-financial, reasons why sites may lack resilience, which are discussed elsewhere in this report.

This study also considers the historical changes that have taken place since the 1998 survey. The desk-based research identified 11 sites of the 608 listed in 1998 (1.9%) which had subsequently closed entirely or primarily for financial reasons. Not all of these closures represented a risk to the industrial heritage. Indeed in some cases — when collections were relocated or buildings repurposed in a more sustainable way — such closures represented a positive heritage outcome. These are listed in the table below.

<i>Name</i>	<i>Opened</i>	<i>Closed</i>	<i>Reason for closure</i>	<i>Subsequent use</i>
British Engineerium	1976	2006	Insolvency	Disused
Bursledon Windmill	1990s	2023	Safety costs	Disused
Haig Colliery Mining Museum	1990s	2016	Insolvency	Commercial / industrial
Nottingham Canal Museum	1981	1998	Local authority cuts	Public house
Shipley Windmill	1958	2009	Local authority cuts	Disused
Snibston Discovery Museum	1993	2015	Local authority cuts	Housing / country park
Steamtown Railway Museum	1967	1998	Change of business	Heritage engineering
Sutton Windmill	1975	2008	Unviable business	Private house
Thwaite Mills	1990	2024	Local authority cuts	Disused
Wetheriggs Pottery	1990s	2006	Business relocation	Zoo until 2014, now disused
Wigan Pier Heritage Centre	1986	2007	Insolvency	Disused

3.5 Management

3.5.1 Overview

Management is the day-to-day implementation of strategic goals and objectives that have been set at a governance level (3.2). The two are distinct but interrelated aspects of organisational leadership. Management focusses on operational efficiency and resource allocation — including staffing and volunteer allocation.

The questionnaire responses provided data for management practice — including staffing and volunteers — for 61 industrial heritage sites (9% of all 682 sites). For many of these, the distinction between management and governance is quite blurred. This is because 29 sites (48% of the sample) have no staff at all: they rely entirely on volunteers, many of whom are also Trustees. A further 21 sites (34% of the sample) have fewer than 10 staff (Figure 37). In many cases these are part-time (see 3.5.3 below).

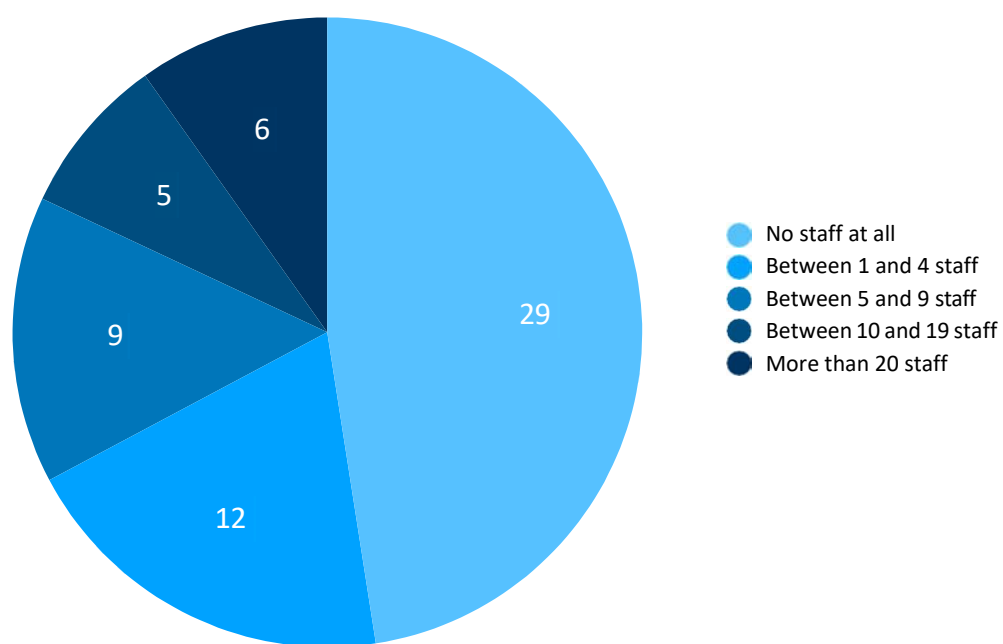


Figure 37. Staffing — actual numbers of paid staff (n = 61)

3.5.2 Policies and planning

Most of the sites which responded to the questionnaire (52 out of 61, or 85%) had a Health and Safety plan and/or policies, which suggests that 15% of them do not. Around half of respondents had a strategic plan, management, business plan or training programme — between 51% and 61% answered this question positively. Sixteen, or 26% had all of these plans; however two sites (3%) had no plans at all (Figure 38).

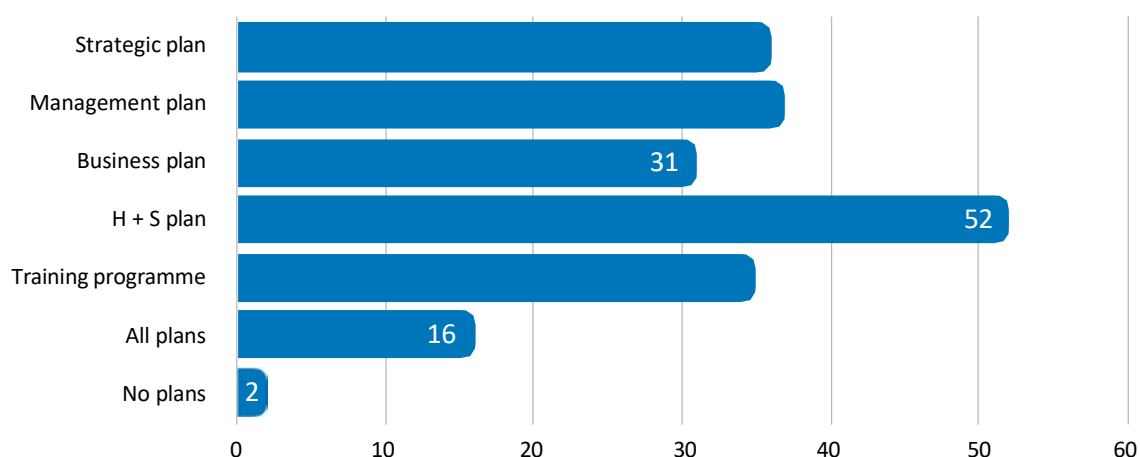


Figure 38. Management plans — numbers of sites with plans (n = 61)

3.5.3 Staff

The 61 respondents reported a total of 505 employees between them, of which 181 (36% were full time and 324 (64%) were part time. The sample reported a total of 232.8 full-time equivalent (FTE) posts, a mean of 3.8 per site.

A clear majority of sites — 36 out of 59 (61%) — reported that day-to-day running was the responsibility of a manager or director; although questionnaire and interview responses suggest that these are not always paid roles. Three sites are managed by a role defined as a curator. Around 29% of people in this role have a relevant degree or equivalent, either in a ‘heritage’ specialisation (museums, archaeology, history or curatorial), or management. The remainder have other qualifications; only five managers had no formal qualifications at all (Figure 39).

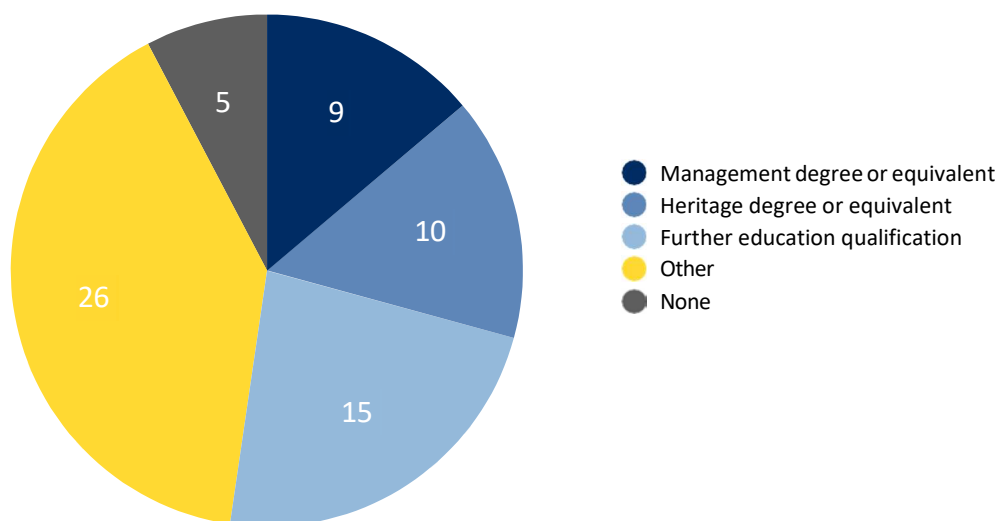


Figure 39. Qualifications of staff with overall management responsibility (n = 65)

The 65 responses shown in the chart represent multiple responses to the qualifications question

Interview responses suggested that many sites where paid staff do have relevant qualifications are employing those staff in multi-faceted roles. There may be few opportunities for those staff to make direct use of their formal qualifications.

Curatorial staff

The majority of sites — 45 out of 71 (63%) — had no curator as part of their permanent team on site. However most sites reported that they were able to obtain curatorial advice or support from external sources. Most of this came from local authority museums services, or from elsewhere in the local authority; other curatorial support came from the Industrial Heritage Support Officer, the Association for Industrial Archaeology or private consultants. A large number of sites (18, or 40%) obtained curatorial support elsewhere — including volunteers with relevant expertise, local archaeology and history societies, or other bodies such as the National Trust. In many cases these are positive and productive partnerships of many years' standing.

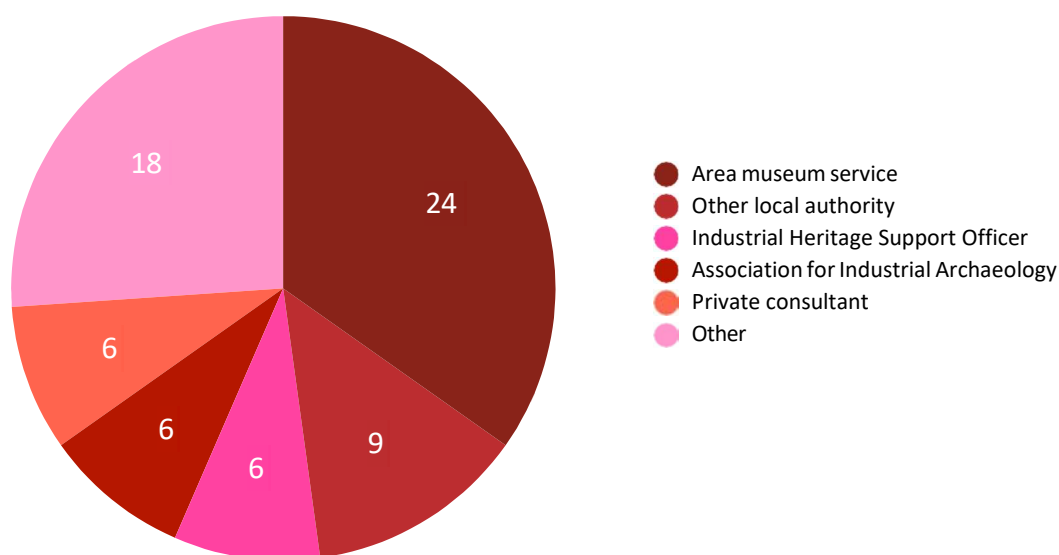


Figure 40. Sources of curatorial advice for sites with no curatorial staff (n = 69)

The 69 responses shown in the chart represent multiple responses to curatorial questions from 45 different organisations.

The 26 sites which reported having paid curatorial staff were principally larger organisations, whether national — such as the Canal and River Trust and the National Trust — or those rooted in particular geographic locations, such as the Ironbridge Gorge Museum Trust.

In some cases there has been a decline in the availability of curatorial advice in recent years. For example the Lake District National Park currently operates with a single part-time employee (0.6 FTE) delivering all historic environment services — including the Historic Environment Record, planning advice and conservation advice. In 2014 these services were delivered by 3 FTE staff. This change — which is reflected in a number of local authorities across the country — has made it harder to deliver non-statutory elements of the role, and placed increased pressure on individuals.

In some cases staff supporting the management of industrial heritage site have no heritage specialism at all. For example at the **Barge Workshop** (SW) run by the Castle Heritage Trust in Bude, the majority of staff are concerned with events, such as weddings.

Education staff

As noted elsewhere in this report 51% of the 682 industrial heritage sites, and 79% of the 71 sites which contributed to the questionnaire and interview process, are managed by charitable trusts. These will all have education of the public as part of their charitable object. A total of 39 sites (64% of the sample of 61 questionnaire responses) indicated that they had some sort of dedicated educational provision, and 29 of these (74%) had an education officer (Figure 41).

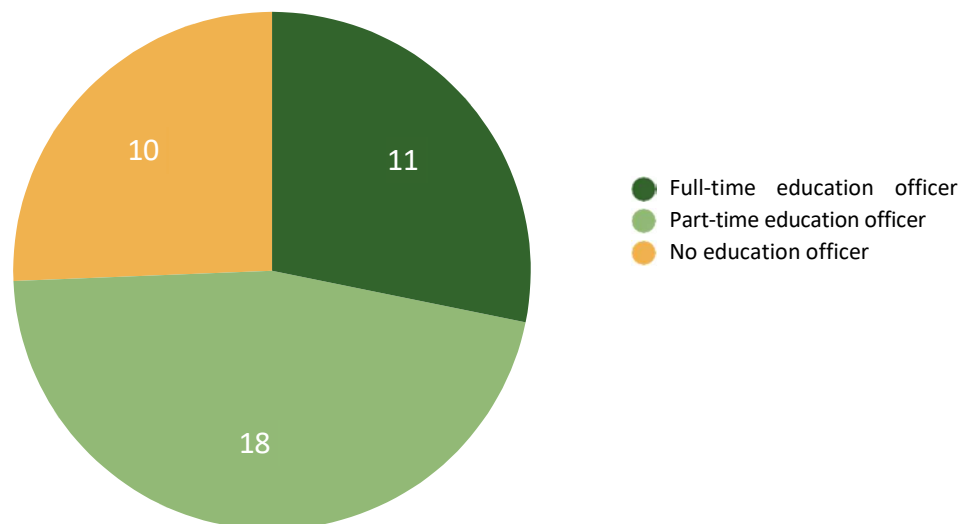


Figure 41. Education staff (n = 39)

Some questionnaire and interview responses suggested that not all of these were paid positions, however it was outside the scope to explore this further in detail. A number of sites provided educational materials, sometimes in addition to, and sometimes instead of, staff (Figure 42).

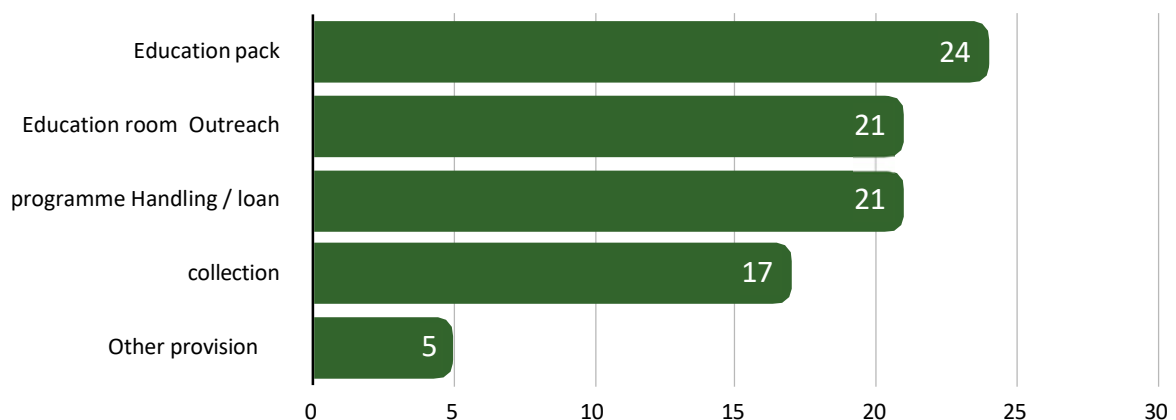


Figure 42. Non-staff education provision (n = 39)

In some cases sites relied on local authority support to deliver some or all of their educational remit. In places where site management was the responsibility of a larger body — such as in the Lake District National Park, or sites managed by the National Trust — it was possible to benefit from education support from the wider organisation. In some circumstances this led to an enhanced educational offer which covered natural history and environmental learning as well as the industrial heritage.

In general, larger organisations were more likely to be able to sustain a dedicated team to deliver educational output; however this was reliant on visitor income providing support for the organisation as a whole. There was some evidence to suggest that smaller sites have been able to expand educational provision under some circumstances. For example **Crofton Beam Engines** (SW) had recently recruited an Education Officer on a 3-day part-time contract. The purpose of this role was to increase engagement, particularly for local stakeholders. This work involved visits to schools, care homes and community cafés; a grant from the Association of Independent Museums provided a subsidy for school transport to the site, and the post-holder developed an education package to increase links to the national curriculum. One outcome of this

development was an increase in children bringing families to visit. The education post has also been able to contribute to broader strategic thinking about increasing visitor numbers, as well as freeing up capacity for other aspects of the site's operation.

Staff recruitment

The survey suggests that staffing levels are often quite marginal. As noted above 48% of sites in the questionnaire sample have no paid staff at all; for sites with paid staff many are performing multiple roles. At all sites there is a heavy reliance on volunteers (3.5.4), and there are clear skills gaps (3.5.5). Fewer than half (24 out of 56, or 43%) of questionnaire respondents felt that their site was adequately staffed for sustainable operations (Figure 43).

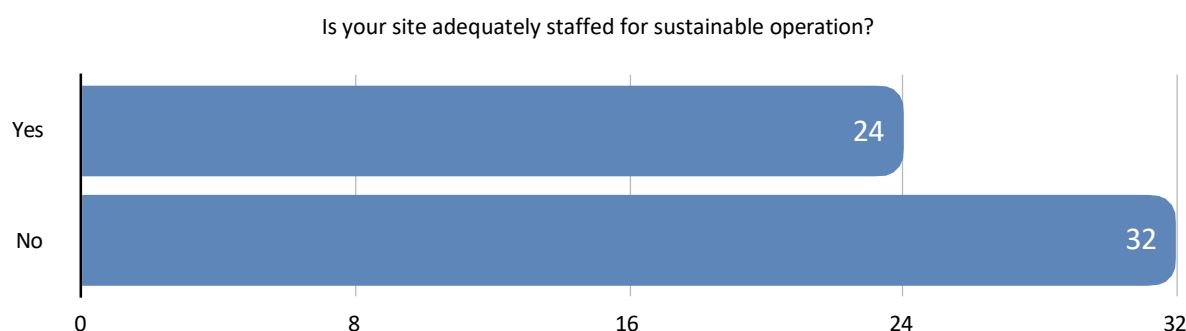


Figure 43. Adequacy of staffing levels for sustainable operation (n = 56)

Interviews identified some challenges to recruitment. For example difficulties in recruiting adequately qualified curatorial staff was highlighted by the **Ironbridge Gorge Museum Trust** (WM). This was partly because the museum's ten sites are situated across a rural or semi-rural location with poor public transport, making access to workplaces more difficult for some potential recruits. The limited ability to offer salaries and employment packages which were competitive with national organisations or sites in more affluent areas was also a factor. It seems reasonable to infer that staff in such situations may not experience the same career mobility as those working in cities, and relocation may prove a further obstacle to emerging professionals wishing to take up employment.

Elsewhere challenges were evident in locations dependent on seasonal visitors. For example around 12% of employment in the South West is dependent on the visitor economy, rising to 60% in some rural areas.³⁵ To combat the challenges posed by large seasonal fluctuations in employment, **Geevor Tin Mine** (SW) has made an ethical commitment to move away from seasonal employment. This provides a benefit to staff, supports community well-being by providing sustainable jobs for local people, and generates more interest in advertised roles. This does require staff flexibility in managing seasonally-variable workloads.

³⁵ HSWLEP 2021

Finally it is worth noting that impact of the Covid pandemic on staffing appears to have been limited, although there were only a small number of respondents to this question. The majority (15 out of 36, or 42%) had retained staff, and a further 7 sites (19%) had gained staff since the pandemic. Fourteen sites (39%) reported that they had lost staff since the pandemic. This is a very small sample, and it has not been possible within the scope of the project to compare this with national trends, nor with the general background level of staff retention. It seems unlikely that industrial heritage sites will have fared significantly better or worse than other businesses since the Covid pandemic.

3.5.4 Volunteers

Almost all of the sites in the sample of questionnaire and interview responses make use of volunteers, and 57 out of 59 (97%) respondents reported having a formal volunteer group. Of these, 55 sites reported a total of 4,114 volunteers (staff to volunteer ratio of 1:5.7 for the whole sample). The arithmetic mean was 74.8 volunteers per site. However two of these sites reported no volunteers, and four reported 400 or more; with these outliers removed the arithmetic mean of the remaining 49 sites was 37.8, the harmonic mean was 22.9 and the median was 30. The distribution of volunteer numbers across those 49 sites is shown in Figure 44.

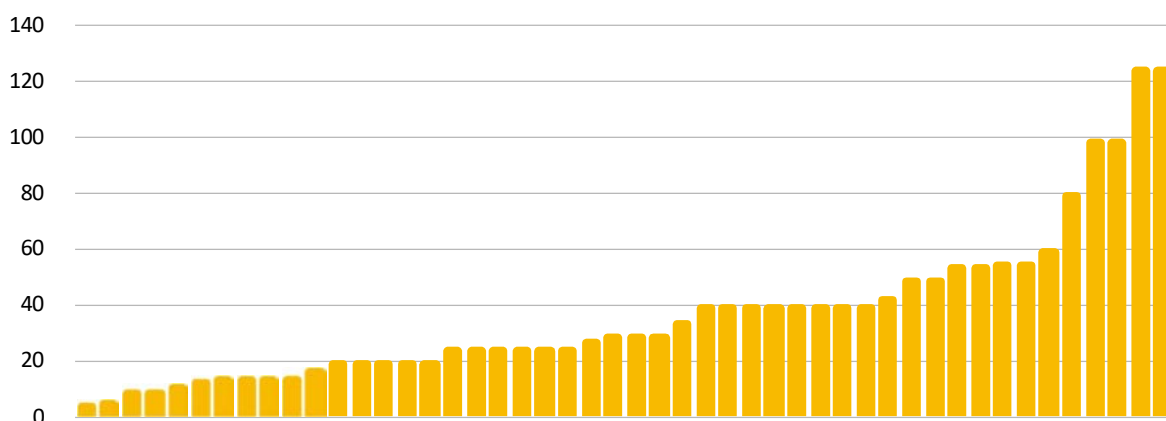


Figure 44. Numbers of volunteers (n = 49)

Forty-one sites provided numbers of volunteer hours worked per year. The total of 628,691 encompassed a range between 72 and 400,000; with these two outliers removed the range was between 333 and 53,000 for the remaining 39 sites. This produced an arithmetic mean of 5,862; the harmonic mean was 1,595 and the median 2,600. Only five of these sites recorded 10,000 or more volunteer hours per year; the range across the remaining 34 sites is shown in Figure 45.

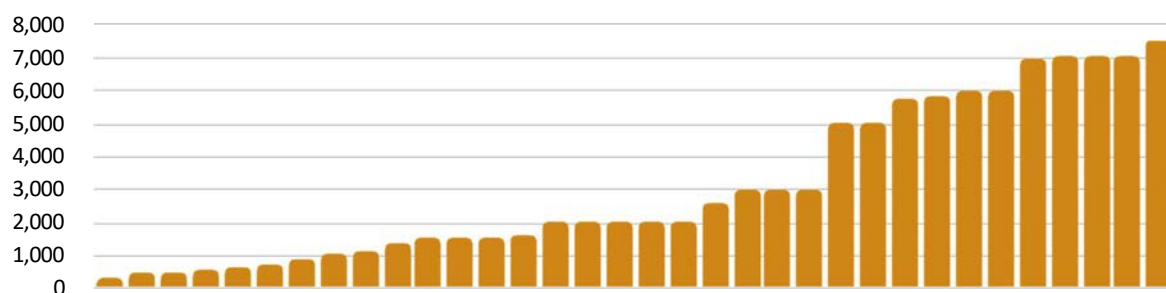


Figure 45. Volunteer hours recorded (n = 34)

Roles

Volunteers undertake a wide range of roles across the industrial heritage sites in the sample. Data was supplied by 51 sites about a total of 3,110 different volunteer roles. These could be grouped into five main operational areas:

- **Front of house.** Guides, ticket sellers, retail and cafe operations, visitor engagement and other similar visitor-facing roles.
- **Back office.** Managing, or supporting the management of, administrative functions — including accounting, website, publicity, general administration; and as Trustees or committee members.
- **Technical.** Working on the maintenance and operation of the site, buildings, landscape/ grounds and machinery.
- **Education.** Providing learning experiences on site (as distinct from visitor functions), or off-site (such as through outreach work and/or school visits).
- **Collections.** Working on the care, curation and cataloguing of archives and other collections.

A few sites reported that all of their volunteers worked in a single category, or in just two categories. For example all 25 of the **Lion Salt Works** (NW) volunteers worked on the education side. At the **Barge Workshop** (SW), 16 volunteers worked in front of house roles, with 9 working in the archives. At the **Clifton Suspension Bridge** (SW), 40 volunteers worked in front of house roles and two worked on the collections; similarly at the **Museum of Cannock Chase** (WM), two volunteers worked in back office roles and five worked on collections.

Most sites made use of volunteers in all five role categories. The single largest role category was technical, with 1,480 volunteers working in these roles — representing 48% of the sample. This was followed by front of house with 708 volunteers (23% of the sample) with the balance roughly equally divided between each of the other three categories.

The distribution of those 3,110 volunteer roles in the five categories across all 51 sites is shown in Figure 46.

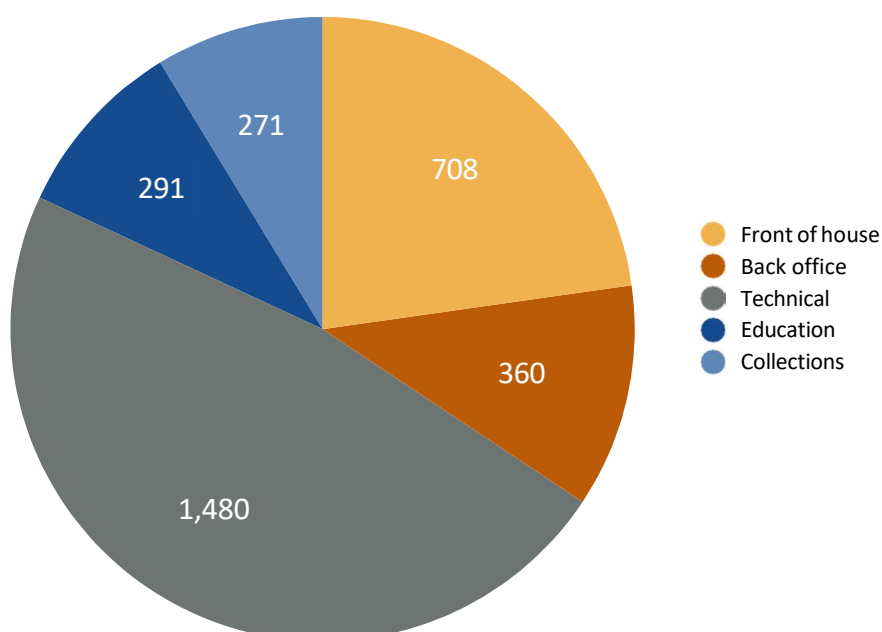


Figure 46. Volunteer roles grouped by functional category across all sites (n = 51)

Demographics

Overall, the sample of questionnaires and interviews reported a demographic balance towards the older end of the age range. Ethnic, educational and income diversity were not addressed directly by the questionnaire, but where respondents did provide information on these aspects it was apparent that the diversity of volunteers within the sample of industrial heritage site did not reflect the wider population.

The age demographic of volunteers was reported by 55 sites across five bands; since most sites reported volunteers in more than one band, a total of 149 responses were received. Of these, 53 sites (96%) reported volunteers having aged over 65. A further 39 sites (71%) had volunteers in the 50-65 age range. Together these two groups — that is volunteers aged 50 or more — accounted for 62% of volunteers at industrial heritage sites in the sample. In contrast 23% of volunteers were aged 34 or less. Around 35% of sites had volunteers in the 16-24 age range, and around 27% of sites had volunteers in the 25-34 age range (Figure 47).

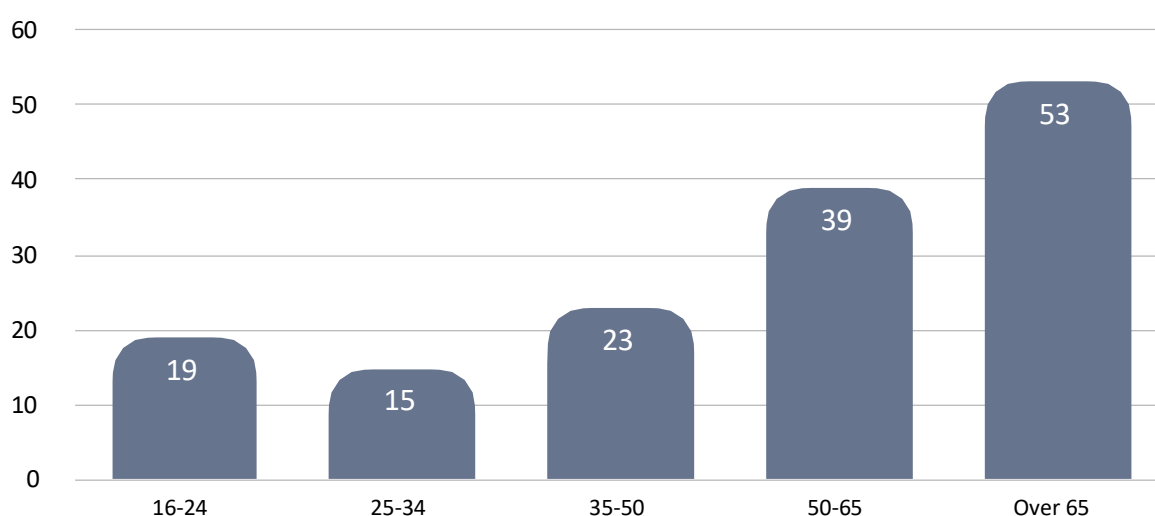


Figure 47. Volunteer demographics — numbers of volunteers by age (n = 149)

This analysis was also reflected in some interviews, with **Churchill Forge (WM)** and the **Ironbridge Gorge Museum Trust (WM)** — as well as the Society for the Protection of Ancient Buildings — reporting similar issues with an ageing volunteer demographic. These groups also appeared to have been more affected by the Covid pandemic, with volunteers retiring during the pandemic and not returning afterwards.

Recruitment

The picture for recruitment of volunteers is mixed, but the majority of sites in the sample (39 out of 57, or 68%) reported that volunteer numbers had either increased or remained the same during the last ten years — that is, the period between 2013 and 2023. A decrease in volunteer numbers over the same period was reported by 28% of sites (Figure 48).

The majority — 16 out of 22, or 73% — of sites which had seen their volunteer numbers decrease during the last ten years reported that this had created problems for managing the site, including conservation of buildings, machinery and collections, and for visitor engagement.

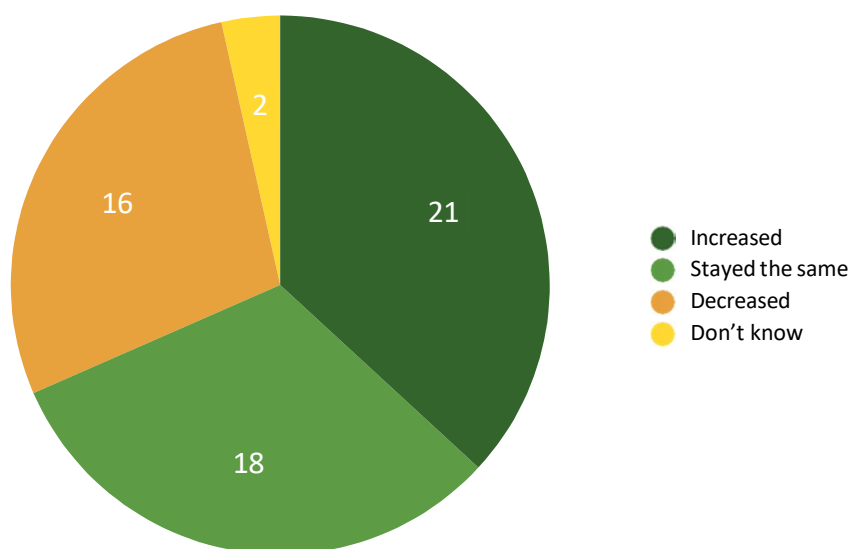


Figure 48. Changes in volunteer numbers 2013-2023 (n = 57)

There were 57 responses to the question about the difficulty of volunteer recruitment. Around 33% of this sample found it 'easy' or 'relatively easy' to attract new volunteers. However the majority found it 'fairly difficult' (25%) or 'very difficult' (42%) (Figure 49). Nearly 80% of respondents (43 out of 54) said that they were not able to recruit a steady flow of young volunteers.

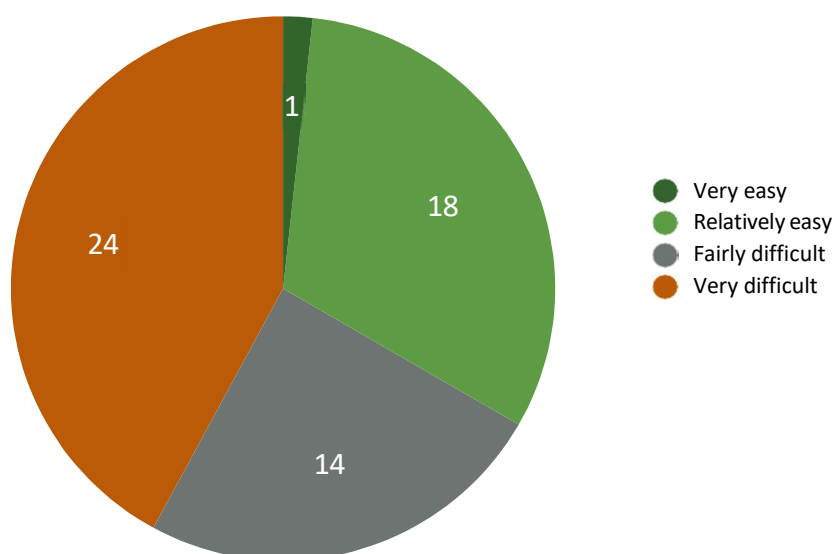


Figure 49. Ease / difficulty of volunteer recruitment (n = 57).

The limited evidence seems to suggest that the ability of sites to recruit and retain volunteers depends a great deal on local circumstances. If volunteers are involved and engaged with activities which they enjoy, or which they can see as providing value to the organisation and/or the site, then they will continue to return. It may also be easier to recruit new volunteers, often by word of mouth — however this approach will tend to reinforce some of the demographic imbalances noted above. Conversely if volunteers become disengaged they will not return. Therefore sites need to ensure a steady supply of opportunities; here the use of professional volunteer managers may also benefit the volunteer experience.

The overall picture masks some success stories. Three examples emerged from the interviews:

- **Severn Valley Railway (WM)** has 1,500 volunteers and 80 staff (50 FTE). The site derives most of its income from its role as a key regional visitor attraction, and for this it is dependent on volunteers. The Severn Valley Railway (SVR) provides the same high standards of training for its volunteers as for its paid staff, and also offers a range of structured career progression opportunities. Many volunteers are able to undertake more than one role. These aspects of the volunteer experience at SVR may help explain the broader volunteer demographic: they have a highly engaged cohort in their late-teens and early 20s, and a good mix by gender and income background. Recruitment of volunteers is actively pursued through the SVR's various social media channels, which emphasise the potential for long-term career growth. The SVR situation is not typical of most of the sites in this study, and is probably an outlier even in the heritage rail sector; it is the result of particular circumstances and networks.
- **Stockton and Darlington Railway (NE)** has a Friends group which is entirely populated by volunteers, with the aim of developing into a professional body along the lines of a Buildings Preservation Trust. This clear goal-driven approach seems to have been successful in recruiting and retaining volunteer support for both 'hands-on' activity such as outdoor maintenance, and for business planning, fundraising, planning and risk management. Stockton and Darlington are successfully targeting and retaining people with robust skillsets that support business functions., and there is the potential to recruit roles including a Volunteer Development Officer, Youth Engagement Officer and Heritage Manager to further support this activity.
- **Crofton Beam Engines (SW)** have around 50 volunteers including some specialist roles for steam engines and event weekends. Traditionally these have been mostly retired builders and engineers, but a group of young engineers from Marlborough College have begun to work on the engines, largely through the efforts of the recently-appointed education officer. This cohort is more male and affluent than the national average.

National organisations that are either heritage-led — such as the National Trust and English Heritage — or have a strong heritage component to their work, like the Canal and River Trust, have large and well-supported cohorts of volunteers across a diverse demographic range. They all have national and local policies and strategies for volunteers, and recognise the value of investing in staff to stimulate effective volunteer recruitment.

Corporate volunteering

There is considerable scope for industrial heritage sites to benefit from corporate volunteering. Many private-sector bodies, and some larger charities, promote voluntary work among their workforce — either on an individual basis or as part of a corporate approach. This has benefits both for the organisation and its staff, as well as for the heritage site which receives their support.

Organisations may benefit from improved employee engagement, satisfaction and wellbeing, team building and stronger workplace relationships, and providing professional development opportunities for staff. Such work may also help organisations meet their environmental, social and governance responsibility goals. Examples from industrial heritage sites include:

- **Berkswell Windmill (WM)**. An early 19th-century windmill, whose sails were repainted by a team of volunteers from BT Openreach in August 2024. More than 25 volunteers worked on site, with materials donated by a paint company in Dudley. The BBC reported: Muhammad Aaidun, a manager who was leading the volunteers, said he felt 'honoured' to help maintain such a historic building.³⁶

³⁶ <https://www.bbc.co.uk/news/articles/c75nw6x50vzo>

- **Black Country Living Museum (WM).** The museum has offered a variety of corporate volunteering opportunities to a range of local companies in 2023 and 2024. These have mainly been involved with work around the museum's 'Forging Ahead' development project (Figure 50), and other opportunities are also available. Demand for this has increased significantly during this period.



Figure 50. Corporate volunteers at the Black Country Living Museum.

These volunteers from Virgin Media worked on hoarding around part of the new development in February 2024.

Photograph © Black Country Living Museum.

3.5.5 Skills

Industrial heritage sites are places which celebrate particular skills and knowledge. They also require these skills to ensure the conservation of the historic assets which they look after, and to sustain their viability as heritage attractions.

The majority of questionnaire respondents — 47 of 57, or 83% — said that they required special skills to operate or manage their sites; 44 of these (77%) also required special skills to operate plant and machinery. A total of 98 different technical, mechanical or craft skills were identified across those 44 sites that were necessary for sustainable operation.

These could be grouped into four main categories (Figure 51), although inevitably there was a degree of overlap between some of them:

- **Historic machinery skills.** This comprised what one respondent described as 'general long-term engineering skills geared towards operating Victorian machinery', and included the operation of stationary and mobile steam and diesel engines, electric buses and trams, spinning and weaving machinery, waterwheels, railways of various types, signal boxes and print machinery. The category also included specific knowledge of more recent historic machinery: skills listed included 'computer reconstruction and maintenance' and even 'rocket launchers'. It also included the maintenance of this machinery and the equipment which supports its safe operation.

- **Heritage craft skills.** This category included general skills which are widely applicable to many heritage sites, both for maintenance and repair — as well as providing visitor experience. Such skills included blacksmithing, maintenance of water power infrastructure, machine shop skills, woodworking and so-on.
- **General site maintenance skills.** These comprise skills which are widespread within and beyond the heritage sector, such as operating cherry pickers, using construction plant and equipment (including mechanical excavators, circular saws and so-on), using handling equipment (including forklifts/telehandlers), de-icing, using forestry equipment, gantry and tower access, general engineering and equipment use, health and safety and so-on.
- **Other non-heritage technical skills.** This category included a range of specialist skills that relate to alarm systems, CCTV, electronics, power tools and so-on.

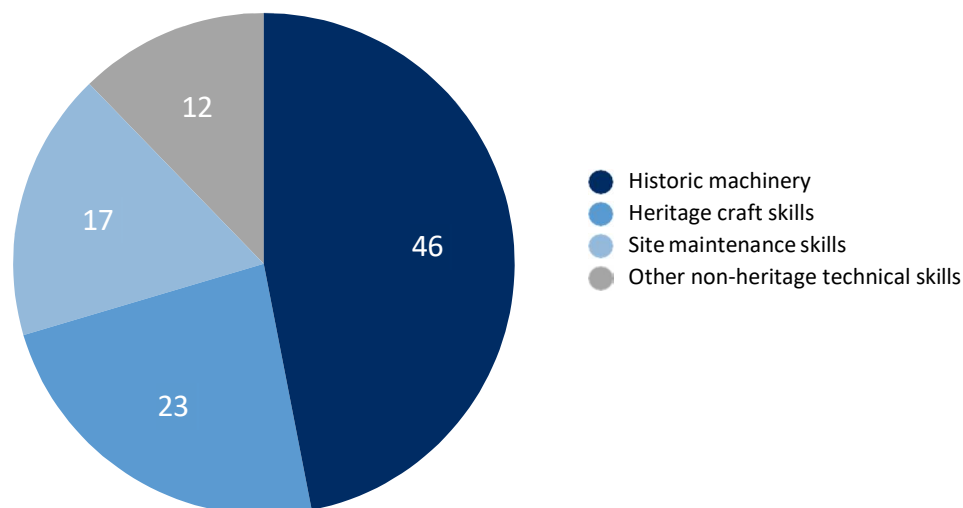


Figure 51. Skills required for operating plant and machinery (n = 98)
A total of 98 different skills were identified across a 44 respondents (see text).

A majority of respondents (37 of 54 or 69%) reported that the number of appropriately skilled people at their site had either remained the same or had increased during the past ten years, — that is, the period between 2013 and 2023. A decrease in skilled people over the same period was reported by 32% of sites (Figure 52).

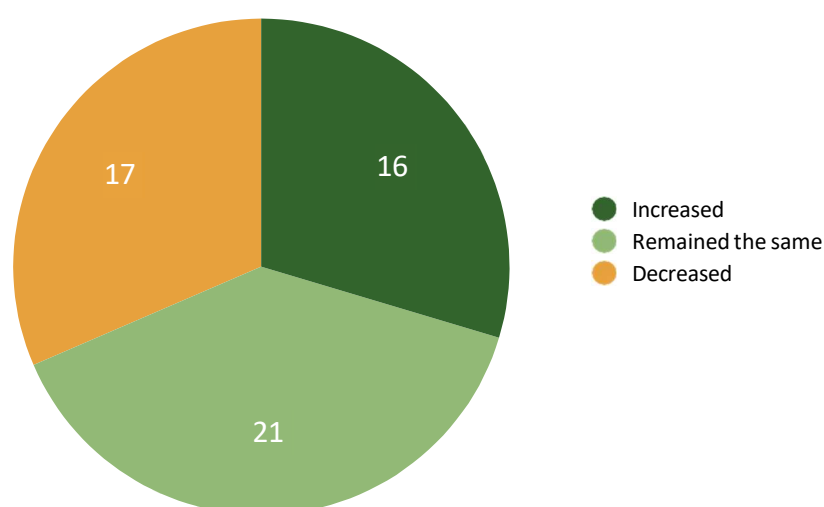


Figure 52. Changes in numbers of skilled people, 2013-2023 (n = 54)

Only 53 sites reported on their mechanisms for skills transfer; many had more than one approach and so 86 responses were received. Most respondents either passed skills down informally (37), or had their own specific on-site training (36). Only one site identified formal training programmes as a mechanism for ensuring skills transfer (Figure 53).

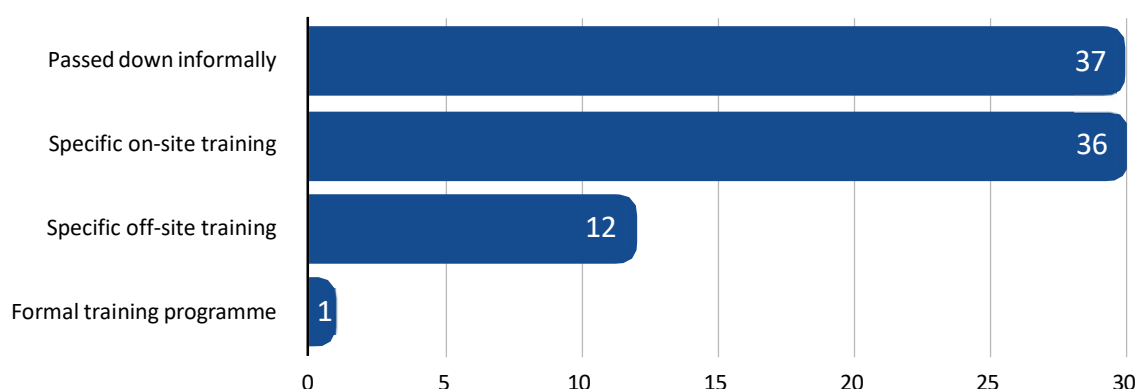


Figure 53. Mechanisms for, and approaches to, skills transfer (n = 86)
 Since many sites had more than one pathway for skills transfer, 86 responses were received from 53 sites.

Feedback from respondents about the improvement of skills emphasised government support, both through investment in apprenticeships, and funding for sites to prepare bespoke training packages. None of the respondents were able to identify where this funding should come from, or how the industrial heritage sector could advocate so that government could prioritise industrial heritage above other sectors.

Although the emphasis of many respondents was on technical and/or engineering skills, it is clear from both the questionnaire responses and the interviews that there are also a number of non-technical shortfalls in skills among both staff and volunteers. Particular areas include curatorial, finance and marketing roles. Digital content, marketing and promotion (see also 3.9 below) also appears to be undervalued, perhaps as a result of some of the demographic issues noted above.

3.6 Access

3.6.1 Overview

One of the objectives of this study was to look at broader trends in visitor numbers across the sector as a whole. However the 682 sites have a range of different access arrangements. Indeed some of the sites inventoried in 1998 are not publicly accessible (and were not at the time of the original survey). In order to understand visitor numbers in context, it is necessary to understand the nature of access across the sample as a whole.

Four types of access were identified, which have been defined as follows (Figure 54):

- **No public access** (private). Sites which are either (a) privately owned and not accessible to the public, or (b) publicly-owned infrastructure which is not accessible for safety or operational reasons. There are 94 sites in this category (14% of the 682 sites), ranging from former wind-and water-mills to a 1.6km-long railway tunnel. Many of these were inherited from the 1998 list, where sites appear to have been incorrectly identified (the limitations on data collection for that survey are discussed at 1.1.2 above).

- **Restricted public access.** Privately or publicly owned sites which are only accessible to the public occasionally or in part; in other words they can be viewed, but permission may be needed to enter the property. This category includes large mill buildings or similar complexes where most of the site is let to private tenants but part of the site operates as a visitor centre or museum. Pubs, shopping centres, hotels and holiday accommodation also falls into this category, as these sites are theoretically publicly accessible to everyone, but in practice only provide access to paying guests or to visitors buying a service — and such access may be limited to certain areas or times. This category also includes sites which are open to the public infrequently and irregularly, for example private houses which only open once or twice a year on mills open days or heritage open days and which do not market themselves as heritage attractions. There are 126 sites in this category, representing 18% of the 682 sites.
- **Regulated public access.** Sites with controlled admission, which are open to the public on a regular basis as dedicated heritage attractions. Most of these sites are also museums, although — as noted elsewhere in this report — not all of them are designated museums. Some of these places may only open infrequently but regularly (for example once a month, or every two weeks in the summer), and market themselves as visitor attractions. Admission charges apply to most of these sites, but not all. This category includes active railway stations. This category includes 337 sites, or 49% of the 682 sites.
- **Open access.** Sites which are largely or entirely open and accessible either from public footpaths or the highway at no charge. In some cases they are only open in daylight hours (such as some local authority sites and most English Heritage free-to-visit sites), and for others permission may be needed to set foot on the land rather than view the site. This category includes all sites in public parks and upland open spaces, as well as all canals. Sites on private land are only included in this category if they are on a public footpath; otherwise they are in the ‘private’ category (for example windmills on farmland). There are 116 sites in this category, representing 17% of the 682 sites.

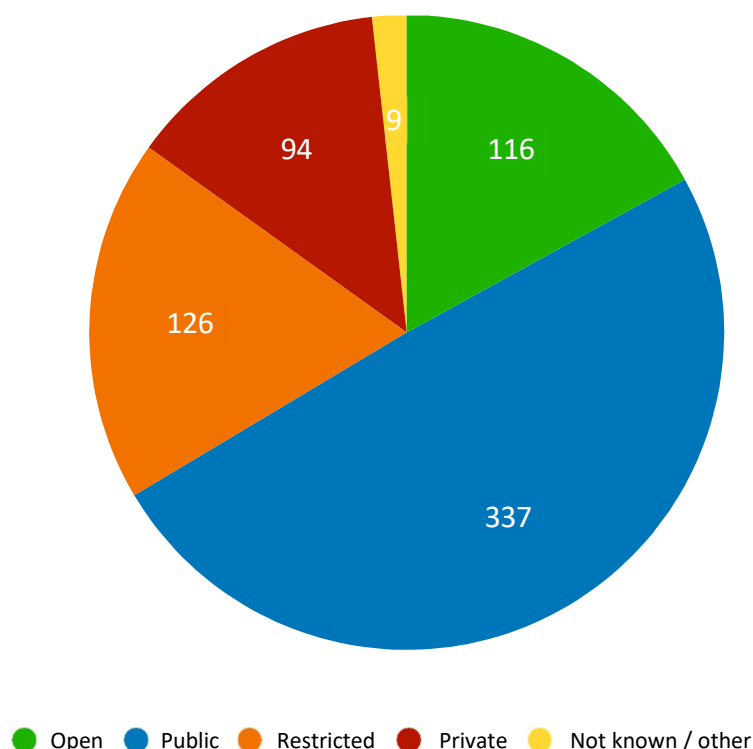


Figure 54. Access to industrial heritage sites in England — national overview (n = 682)

There is some regional variation in the accessibility of industrial heritage sites (Figure 55). In general there are a higher proportion of open access sites in the north and south-west of England, and fewer in the east and south-east. This is a reflection of the nature of the terrain in those areas. The significantly larger proportion of restricted sites in the East of England reflects the domination of the regional inventory by windmills.

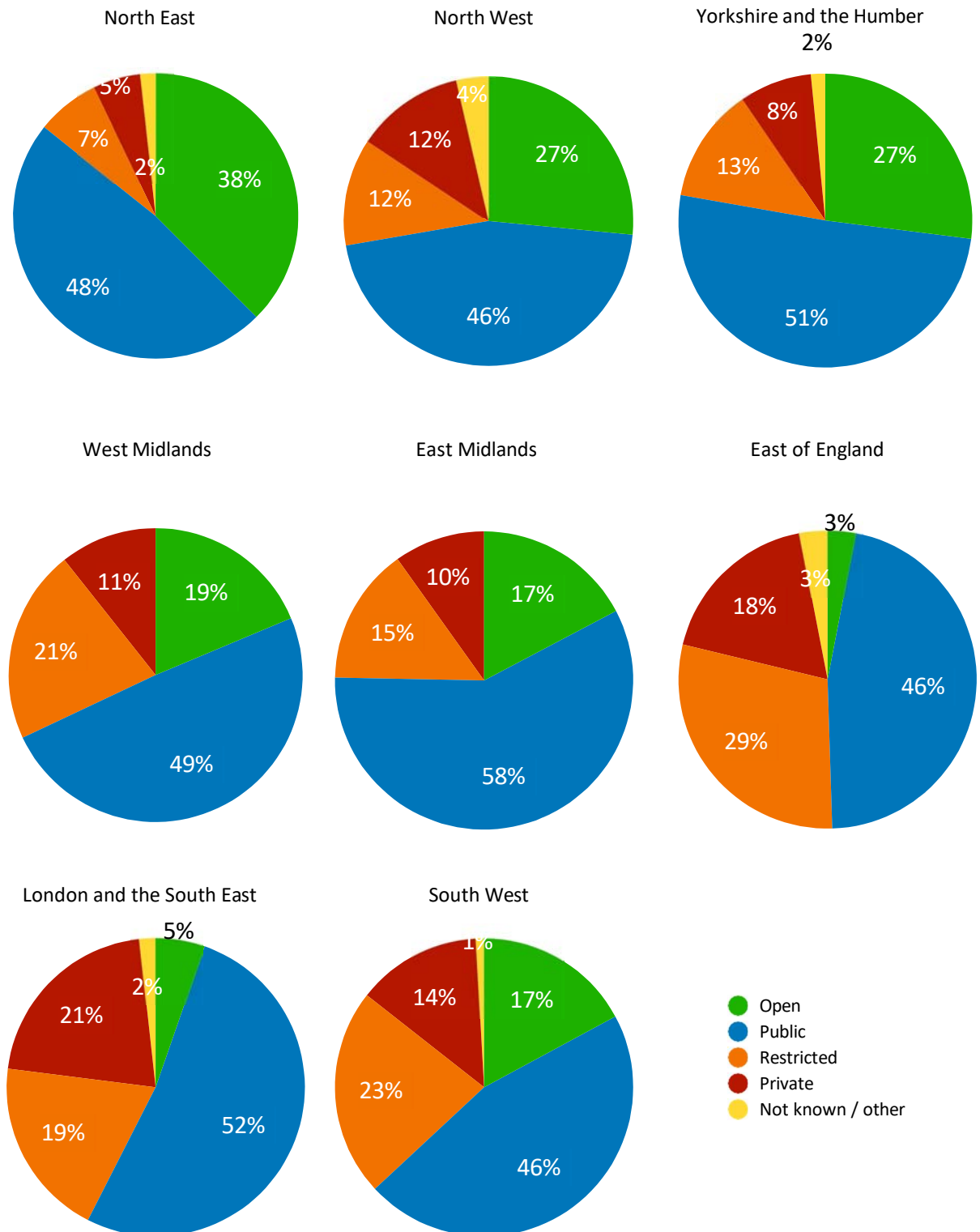


Figure 55. Access to industrial heritage sites by region (n = 682)

<https://heritageinnovation.org>

3.6.2 Open access

A total of 116 sites (17%) consist of structures that are wholly or partly publicly accessible at all times without charge. These range from substantially complete urban landscapes currently in active use, to isolated ruins in upland areas. It has not been possible to measure visitor numbers for these sites.

These can be characterised in one of three ways, as follows.

- **Urban industrial landscapes.** These mainly comprise large buildings or complexes of buildings which have been converted to a mixture of commercial, retail and residential uses. Their inclusion in the 1998 inventory was not systematic, and several areas were not listed which were in all respects similar to those which were. These are protected by area designation (Conservation Areas) and by individual site designation (listed buildings and Scheduled Monuments). There has been no change in the accessibility of most of these sites since 1998; however due to their nature as public space, visitor numbers are not known.
- **Sites in open public land.** These fall into two broad types, although there is some overlap between them. On the one hand there are sites which have been conserved and create a focal point in a picturesque setting — often a National Landscape or a National Park — and are appreciated as heritage assets which tell part of the story of that landscape. On the other hand are sites which are located in public open space owned by a local authority (often but not always in urban areas) which are often incidental to the public use and appreciation of that space. Their inclusion in the 1998 inventory was not systematic, and several areas were not listed which were in all respects similar to those which were. These are all protected as Scheduled Monuments; some are also within other areas of designation such as Conservation Areas or Sites of Special Scientific Interest. There has been no change in the accessibility of most of these sites since 1998, and it seems reasonable to assume an increase in visitor numbers in keeping with the general rise in visits to green spaces such as AONBs and National Parks. However visitor numbers are not known for these specific sites.
- **Infrastructure sites.** These site types are discussed in more detail at 3.1 and 3.2 above. They are largely, but not exclusively, urban in character. Their inclusion in the 1998 inventory was not systematic, and several areas were not listed which were in all respects similar to those which were. They are protected by area designation (Conservation Areas) and individual site designation (listed buildings and Scheduled Monuments). There has been no change in the accessibility of these sites since 1998, but due to their nature as open sites which are part of national infrastructure, visitor numbers are not known.

Whilst it is evident that many visitors to these open access sites will appreciate the heritage value of these places, it has not been possible to quantify this. For many the heritage value will be incidental to the location of the space (whether rural or urban) and the other qualities which it contains. Visitors are just as likely to value other amenities (green space, fresh air, retail opportunities) as they are the industrial heritage element.

3.6.3 Regulated public access

Just under half of the 682 sites (337, or 49%) fall into this category, and most of these are museums. In the context of this report, a 'museum' is defined (as noted at 3.3.1 above) as a place run primarily as a heritage attraction and open to the public on a more or less regular basis. The discrepancy between this figure and the 353 sites defined as 'museums' in terms of function (3.3.1) can be explained by the fact that some museums in the sample of 682 sites fall into the 'restricted public access' category (see 3.6.4 below) or have closed altogether (see 3.6.5 below). As noted elsewhere, fewer than half of the 682 sites in this category are accredited museums; moreover some exist as a 'heritage' element within a predominantly non-heritage context. This is reflected among the 71 sites in the questionnaire and interview sample, where 37 (52%) reported having accredited museum status. All of the sites in the questionnaire and interview sample were sites with 'regulated public access' as defined here.

Visitor numbers

A total of 49 sites reported visitor numbers. However, although respondents were asked to provide a year-by-year breakdown for the period from 2020-21 to 2022-23, most did not do so. Therefore this analysis looks at all three years as a single period.

Together these 49 sites accounted for 3,849,513 visitors over the three years. The lowest number of visitors to a site was 150; the highest 1,500,000. The arithmetic mean was 78,562; however the median for all 49 sites was 16,500, and the harmonic mean was 2,364, indicating that most sites in this sample have relatively small numbers of visitors. Five sites had fewer than 1,000 visitors over those three years, and seven sites had more than 100,000 visitors (Figure 56).³⁷

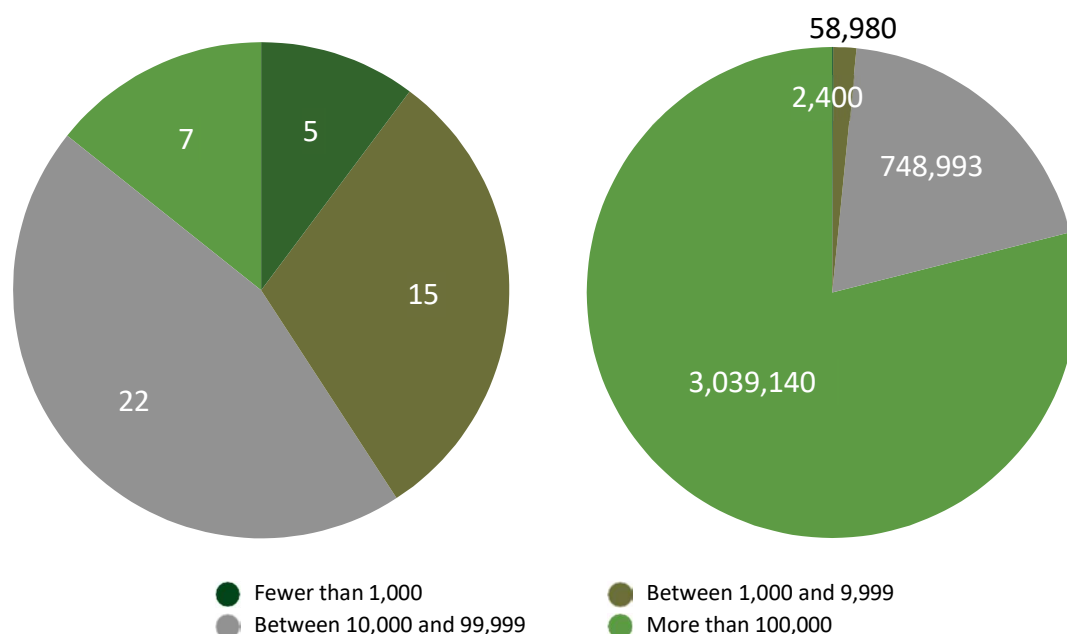


Figure 56. Total visitors to sites with regulated public access, 2020-2023 (n = 49)
Left: number of sites with visitor figures in the indicated categories; Right: total numbers of visitors to those sites in the indicated categories.

Those seven sites were responsible for 3,039,140 visits to industrial heritage sites between 2020 and 2023 — 79% of the total in the sample. The remaining 42 sites together saw 810,373 visitors. Although only seven sites provided a breakdown of their numbers year-by-year, they all showed an increase in visitor numbers between 2020 and 2023. When the twelve sites with visitor numbers either below 1,000 or above 100,000 are eliminated from the sample, the arithmetic mean for those 37 sites is 21,837 and the harmonic mean 5,516. The distribution of visitor numbers across those 37 sites is shown in Figure 57.

³⁷ Those sites were: Amberley Museum, Bluebell Railway, Clifton Suspension Bridge, Derwent Valley Mills, Ironbridge Gorge Museum, Kelham Island Museum and Quarry Bank Mill (NT).

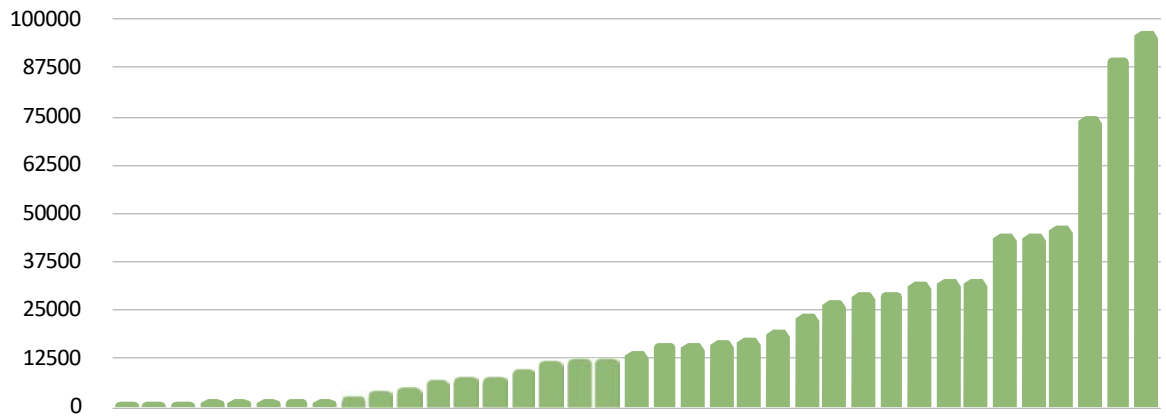


Figure 57. Visitor numbers 2020-2023, for sites with between 1,000 and 100,000 visitors (n = 37)

A total of 44 sites reported a total of 2,928 school visits for the same period. These ranged from 0 (reported by 8 sites, or 18% of the sample) to 600. The arithmetic mean was 67, and the median was 11. Only 8 sites reported more than 100 school visits during those three years.

A total of 41 sites reported a total of 237,208 visits by children in the three years between 2020 and 2023. These ranged from 15 to 60,000 per site for that period. The arithmetic mean was 5786, the harmonic mean was 244 and the median 1,950. As with general visitors, a small number of large sites accounted for the majority of visits to industrial heritage sites by school groups and children (Figure 58). Although this discrepancy was less extreme than for general visitors, there was no clear distinction in the returned data between children as general visitors and children who visited as part of a group. Only eight sites returned meaningful data on group visits, so comprehensive analysis was not possible.

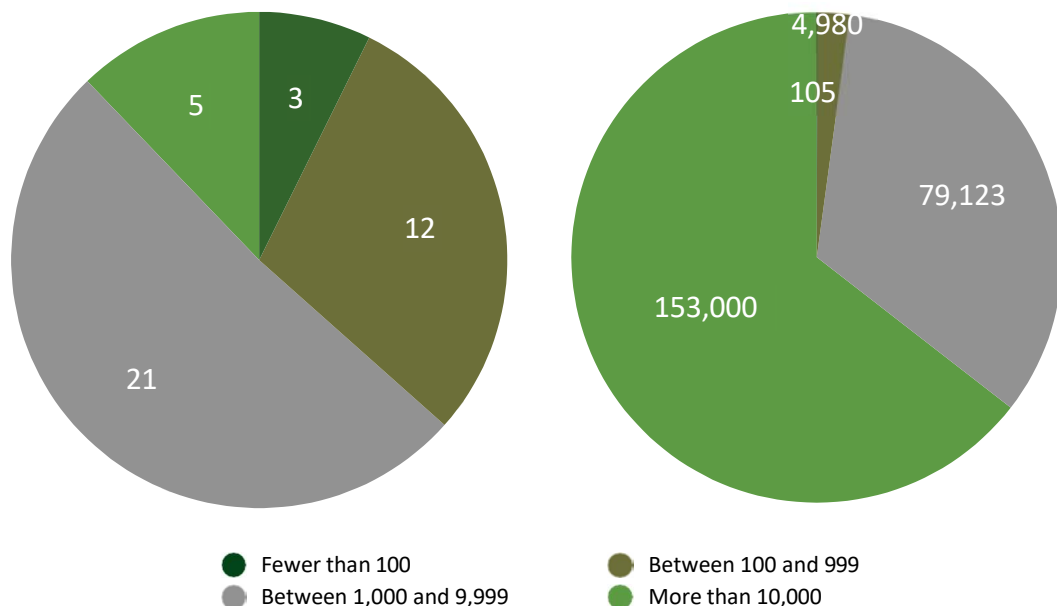


Figure 58. Children visiting sites with regulated public access, 2020-2023 (n = 41)

Left: number of sites with child visitor figures in the indicated categories;
Right: total numbers of child visitors to those sites in the indicated categories.

Admission pricing

The survey briefly explored admission charges, but only a limited amount of data was obtained from 25 sites. Therefore no attempt has been made to place this data in the context of general admission charges for heritage sites or other types of visitor attraction.

A total of 58 sites reported on their admission charging policy: 28 (48%) charged, 8 (14%) requested donations, and 22 (38%) were free. Twenty-five sites who charged for admission reported their charging structure. All differentiated between children and adults but not all offered family or concessionary tickets; some had additional special prices for events and certain concessionary categories. In summary, the range of pricing in the sample was:

- Adult prices (n=25) ranged from £2.00 to £17.00, producing an arithmetic mean of £8.56, a median of £8.00, and a harmonic mean of £6.26.
- Child prices (n=25) ranged from £0.00 to £11.00, producing an arithmetic mean of £8.56, a median of £8.00, and a harmonic mean of £6.26. Average child ticket prices were 39% of the non-concessionary adult admission price.
- Family ticket prices (n=13) ranged from £2.00 to 45.00, producing an arithmetic mean of £24.12, a median of £22.50, and a harmonic mean of £12.94. Average family ticket prices were 162% of the non-concessionary adult admission price.
- Concessionary ticket prices (n=11) ranged from £3.00 to £15.00, producing an arithmetic mean of £7.90, a median of £7.50, and a harmonic mean of £6.50. Average concessionary ticket prices were 39% of the non-concessionary adult admission price.

The variation across adult and child ticket prices is shown in Figure 59.

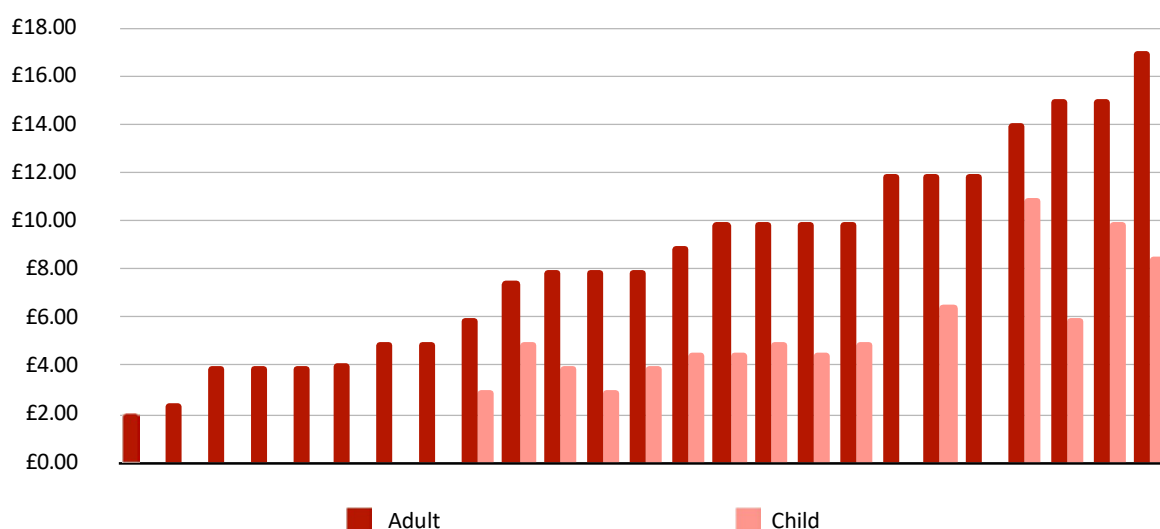


Figure 59. Adult and child admission prices for sites with regulated public access (n = 25).

Visitor access and accessibility

Most sites reported that they could be accessed by bicycle (97%) or motor vehicle (98%), but only 43 out of 59 (73%) reported that they could be accessed by public transport (Figure 60). Questionnaire respondents were not asked about the degree of difficulty of access using public transport. Interview responses suggest that a higher proportion of sites are technically accessible by public transport, but that a lower proportion of sites are realistically accessible that way for those with mobility issues.

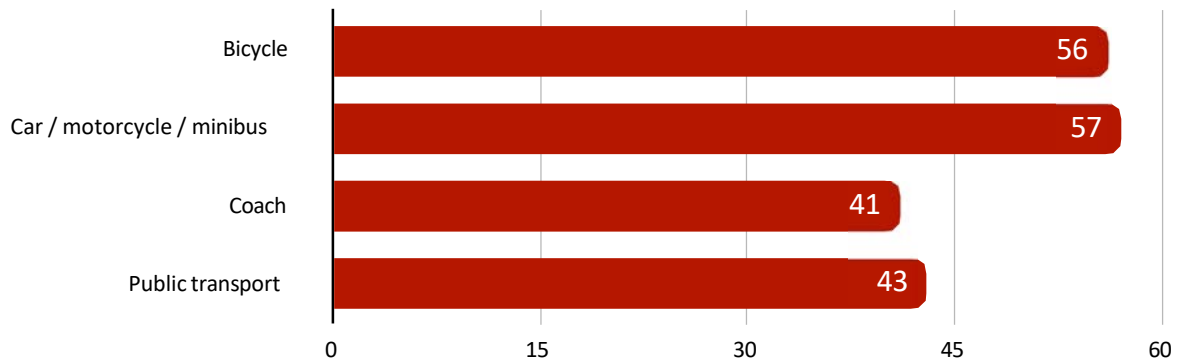


Figure 60. Transport options to sites with regulated public access (n = 197)
 Since many sites had more than transport option, 197 responses were received from 59 sites.

The majority of respondents — 55 out of 59, or 93% — stated that all (20) or part (35) of their site was accessible to people with impaired mobility. Of these, 52 sites reported a variety of measures in place to enhance accessibility (Figure 61). These included lifts or ramps; induction loops; digital collections; large print guide books, signs and interpretation panels; disabled parking; disabled toilets and quiet opening hours — for example periods of reduced capacity to accommodate neurodivergent visitors.

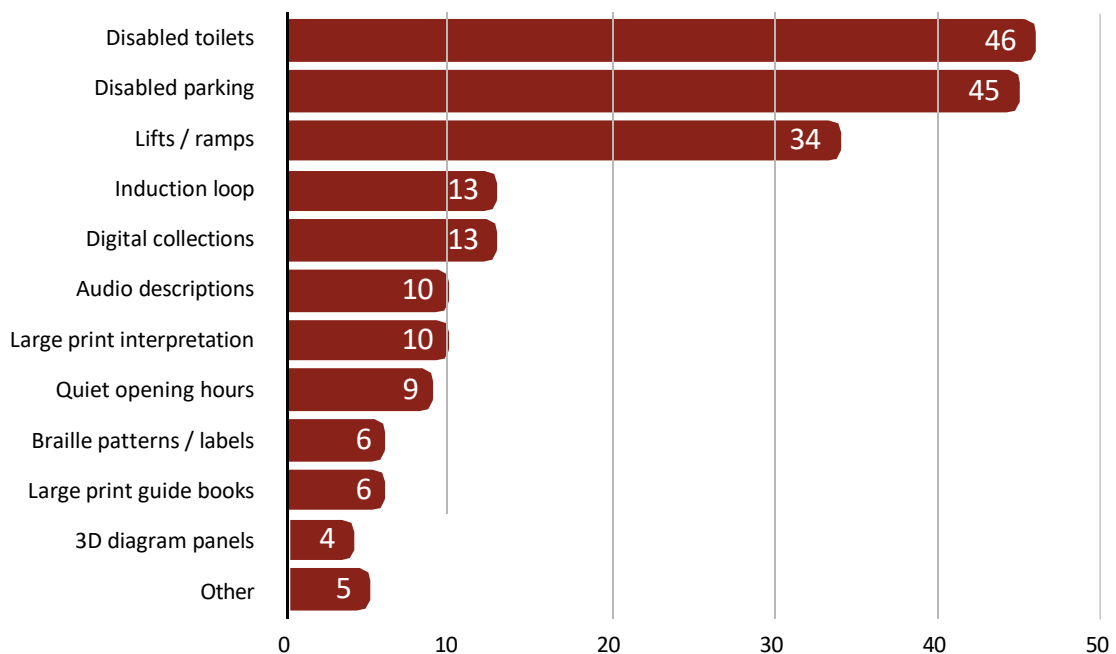


Figure 61. Features to enhance accessibility on sites with regulated public access (n = 201)
 Since many sites had more than one feature to enhance accessibility, 201 responses were received from 52 sites.

Some sites had not installed accessibility features. Most of these (32 out of 41, or 78%) said that this was due to the nature of their site or building, with a significant number (19, or 46%) saying it was due to the cost. Five sites (12%) stated that there was no demand for accessibility features.

Facilities

Around 45% of questionnaire respondents opened all year round (26 out of 59), with a further 27% (16 out of 59) opening during a summer season, which could extend from March to November. Around 20% of sites opened on weekends only, and nearly 50% (28 out of 59) stated that they had variable opening hours. Most — but not all — sites had toilets, and about two-thirds had a café or shop. Four (out of 59, or 7%) had no facilities at all (Figure 62).

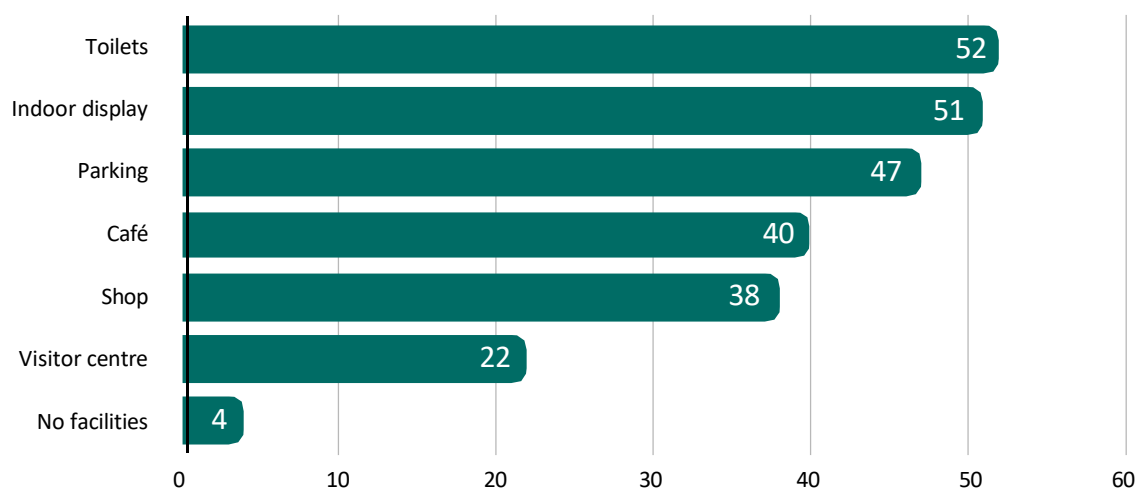


Figure 62. Visitor facilities at sites with regulated public access (n = 254)

Since many sites had more than one type of visitor facility, 254 responses were received from 59 sites.

3.6.4 Restricted public access

There are 126 sites in this category, representing 18% of the 682 sites. These fall into a number of functional categories (Figure 63): the majority (59, or 47%) are commercial, with a large number of museums (40, or 32%).

Commercial sites vary in scope and scale — many are large textile mills, or former textile mills, which have been wholly or partly converted to office and/or hotel accommodation, and these are discussed elsewhere. A number of commercial sites with restricted public access are working wind- and watermills in the south and east of the country. However the majority of sites in this category are hotels, pubs and other hospitality businesses.

There are a number of examples both where former alcohol-related businesses have been converted to other uses, and where former industrial buildings have been converted to premises for the consumption of food and drink. The former **Whitbread Brewery** (LSE) is a typical example at the larger end of the spectrum. This substantial former brewery complex on Chiswell Street originated in the 1750s but the present buildings are mainly late Victorian. The site ceased operations as a brewery in 1976, although remained part of the Whitbread distribution network until the company withdrew from brewing in 2001. The site was subsequently developed as a conference centre and events venue, and was for a time owned by the Earls Court and Olympia Group; since 2012 it has been owned by a private investment company. There is limited public access through the events which take place there. The **Ram Brewery, Wandsworth** (LSE) is another former brewery which has been repurposed as offices and commercial premises.

Cases where former industrial buildings have become public houses, include what was in 1998 the **Nottingham Canal Museum** (EM) which is now the Canal House pub and microbrewery, and **Gomshall Mill** Guilford (LSE) — a formerly disused mill which was converted into a pub in 2021-22. In both cases the new use, driven by private enterprise, has facilitated careful conservation and active building maintenance — and has also created a new focus for the local community.

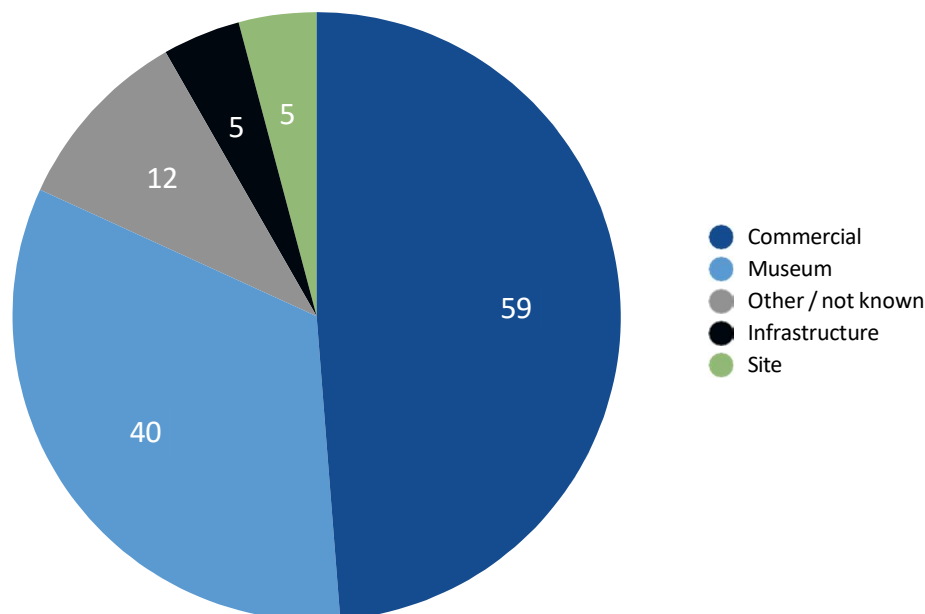


Figure 63. Functions of sites with restricted public access (n = 126)

A number of commercial sites provide guest accommodation. **Chilham Mill** (LSE) is an example from the private sector. It forms part of the Chilham Mill Estate, a 55-acre property which is run as a commercial fishing business. The mill pond and associated lake is managed to support imported fish stock, and the mill building is partly used as lettable holiday accommodation. **Flatford Mill** (EE) provides a good example from the charity sector: it is owned by the National Trust and has been leased by them to the Field Studies Council (FSC) since 1943.

Museum sites in this category are generally those which are in benign ownership but not regularly open to the public for safety reasons — such as **Kelly Mine** (SW) and **Corfe Castle Mill** (SW), both owned by the National Trust. In other cases access is limited by the circumstances of ownership and management. For example **West Kingsdown Windmill** (LSE) is owned by Kent County Council but is situated on private land. It can only be viewed externally by permission of the landowner; the interior is not open to the public.

Bristol Old Station (SW) provides an interesting case study of a disused former infrastructure site that has had several generations of redevelopment into non-industrial heritage spaces with a degree of public access. The site was sold to Bristol City Council after rail privatisation in the mid-1990s and was subsequently redeveloped to become the British Empire and Commonwealth Museum. The museum opened in 2002 and was run by a separate charitable trust; it occupied the passenger shed and the adjoining former engine and carriage shed. The museum focussed on the history of colonialism and slavery, and was never an industrial heritage attraction (so it is not included in the list of 'lost museums' at 3.7.6 below). However the museum

closed in 2008-09 and the trust went into voluntary liquidation in 2013. The collections returned to the care of Bristol City Council. The site was eventually repurposed under local authority ownership as the 'Engine Shed', a business incubator supporting a cluster of innovative start-ups, and the 'Passenger Shed', an events space hosting events including exhibitions and weddings. In 2020 the site was acquired by Network Rail, returning it to the historic railway estate. The existing commercial use has been maintained but there is scope to develop a longer term role for the site as part of the wider Temple Meads regeneration.

3.6.5 No public access

As noted above (1.1.2) the 1998 report focussed on industrial heritage sites that were preserved 'specifically for the appreciation of visitors, or which have been preserved with a strong element of presentation to the public included'.³⁸ However not all sites were open to the public in 1998. The 2024 survey has identified 94 sites that are not accessible to the public, representing 14% of the total of 682 sites. Of these:

- 32 have never been publicly accessible;
- 13 are usually publicly accessible but were temporarily closed in 2024;
- 49 were previously open to the public in some form, but are now permanently closed to public access.

Sites which have never been publicly accessible

In 32 cases it seems extremely unlikely that there was public access in 1998, and it is not clear that there has ever been public access to those sites. As noted elsewhere in this report, the 1998 data was collected without use of the internet, and so the inclusion of sites in the 1998 inventory is not necessarily a reliable indicator of former public accessibility at that time. These represent 5.3% of the 608 sites in the 1998 inventory, and 4.7% of the 682 sites identified in 2024. They are:

- **Allermoor Pumping Station** (SW). A small pumping station and attached cottage built in 1869 by the Axe Brue Internal Drainage Board. On decommissioning in the late 20th century it was converted to a private house. It has never been open to the public.
- **Alvingham Watermill** (EM). This former corn mill has been converted to a private house since the early 1990s and has never been open to the public.
- **Ascott-under-Wychwood Mill** (LSE). This former corn mill was disconnected from its water supply in the 1980s and converted to a private house. It has never been open to the public.
- **Barnack Windmill** (EE). A late 18th century tower mill with an ornate cap. Production ceased in 1914; the mill was restored in 1959-62 whereupon it was listed. In private ownership and never open to the public.
- **Baylham Watermill** (EE). This is owned by a charitable trust, but is been disused and has never been open to the public.
- **Beckside Mill Kirkby** (NW). This is not designated, and has never been open to the public.
- **Boughton Pumping Station** (EM). This was restored in 1998 and run as a business centre by a trust on behalf of the local authority; it was sold in 2010 and is now a private wedding venue.
- **Cannington Shaw Bottle Works** (NW). This was in private ownership in 1998; it is now owned by a charitable trust and is intended to form a heritage component of an urban regeneration project. It has never been open to the public.
- **Clay Cross Tunnel** (EM). This has always been an active part of main line railway infrastructure.

³⁸ PLB Consulting 1998, 13.

- **Connaught Pumping Station** (LSE). This disused site has never been open to the public.
- **Crimble Textile Mill** (NW). This former mill is privately owned and is at the centre of a proposed regeneration project; it has never been open to the public.
- **Drinkstone Post Mill** (EE). An exceptionally early post mill (dendrochronology gave a felling date of 1587 for the main post) with adjacent smock mill; both buildings are on the Heritage at Risk Register (Priority D) but neither have ever been open to the public.
- **Elvington Brickyard Pump** (YH). This brick-built 19th century wind pump (listing description says 18th century but this seems unlikely from photographic evidence), restored in 1968. On private land and never open to the public.
- **Great Thurlow Windmill** (EE). A smock mill that was relocated to its present site in 1807. Disused; unclear that it has ever been open to the public.
- **Hamlet House Maltings** (SW). A 19th century maltings forming part of ancillary ranges to a 17th century farm complex; disused for many years and subject to a planning application for domestic conversion in 2019.
- **Hart Windmill** (NE). Restored in 1991, this is a private residence which does not appear to have had public access.
- **High Mill Alston** (NW). This water-powered corn mill was built in 1767 by the engineer John Smeaton; it is privately owned and has never been open to the public.
- **Hickling Windmill** (EE). This tower mill has been in private ownership since it was built in 1818. Milling ceased in 1904 but the building still contains a complete set of milling machinery. It has never been open to the public.
- **Ixworth Watermill** (EE). A substantial timber-framed weatherboarded mill of 18th century date, which was disused by 1955 and has never subsequently been restored or opened to the public. It adjoins the mill house; the whole property was on the market in 2024.
- **Kilcote Mill** (SW). This former grist mill forms part of a 43ha estate which has been a private house since at least the early 1990s. Most recently on the market in 2021, the site has never been open to the public.
- **Leap Farm Watermill** (NE). Privately owned, and in use as a house. Never open to the public.
- **Melbury Abbas Mill** (SW). Privately owned, and in use as a house. Never open to the public.
- **Outwood Windmill** (LSE). Privately owned. Never open to the public.
- **Pendeen Watch Lighthouse** (SW). This operational lighthouse was automated in 1995 and was never a visitor attraction; the former lighthouse keepers' cottages are now holiday lets.
- **Ramsey Windmill** (EE). Privately owned. Never open to the public.
- **Reesons Mill Hibaldstow** (YH). Privately owned. Never open to the public.
- **Sandalholme Pottery** (SW). A pottery production site in use 1841-1906, noted in 1987 as being in poor condition and partly demolished; subsequently developed for housing.
- **Spring Valley Mill** (EE). An 18th century watermill which has been disused since the 1930s and contains original machinery. Periodically repaired, but never open to the public and currently on the Buildings at Risk Register (Priority B).
- **Tysoe Windmill** (WM). Privately owned. Never open to the public.
- **Upwey Mill** (SW) Built in 1802 and recorded by the RCHME in the 1980s or 1990s. Partly used by Thomas Hardy as the inspiration for 'Overcombe Mill' in *The Trumpet Major*. Privately owned. Never open to the public.
- **Wellesbourne Watermill** (EE). Privately owned. Never open to the public.
- **West Wrating Windmill** (EE). Privately owned. Never open to the public.

Sites which are temporarily inaccessible

There are 13 sites which were temporarily closed in 2024, or had been open to the public for part of 2024 but whose future was not certain due to particular legal or technical circumstances. These are regarded as temporary closures since the stated desire of all parties is to maintain or resume public access as soon as possible. These 13 sites represent 1.9% of the total of 682 sites, and this 'snapshot' during the current project is probably a reasonable reflection of the prevailing situation at any given moment. Due to the nature of these sites — which often have complex machinery and/or vulnerable structures — it is inevitable that a proportion of them will be closed from time to time.

The following sites are temporarily inaccessible:

- **Berney Arms Windmill** (EE). This former cement mill and later pumping station is owned by English Heritage and is free to access. It has been closed throughout 2024 due to essential maintenance work, pending a major project to restore the mill to full working order.
- **Coleham Pumping Station** (WM) (Figure 64). This site is owned by Shropshire Council and is opened on occasional days by volunteers of the Shrewsbury Steam Trust. The site has been closed throughout 2024 pending the legal registration of the trust to enable the local authority to sign a formal lease with them.
- **Gants Mill** (SW). A substantial property with a long history, until recently this site operated as commercial flour mill, electricity generator and wedding venue. The business appears to have closed in 2023 and the mill was on the market in 2024.
- **Great Gransden Windmill** (EE) is owned by Cambridgeshire County Council and is on the Heritage at Risk Register; it has been closed due to its poor condition but has recently completed two phases of extensive restoration, supported by grants from Historic England.
- **John Webb's Windmill** (EE). This 19th century tower mill is owned by the parish council and managed by a charitable trust. It was restored in the 1970s and 1990s and includes a small museum. It is currently closed to the public due to ongoing restoration work.
- **Killhope Lead Mining Museum** (NE) is owned by Durham County Council and situated in the North Pennines National Landscape, which is also a UNESCO Geopark. It was closed throughout 2024 for refurbishment, partly funded by the Cultural Investment Fund.
- **Letheringsett Watermill** (EE) is a privately owned commercial flour mill which is usually open to visitors but closed in September 2024 due to breakage/wear in the mill wheel gear. There is an active crowdfunding campaign to support repair.
- **Marsh Windmill** (NW). This site was formerly owned by Wyre Council, but was sold to a private company — Melrose Development Services — and leased back from them by the council, until June 2024 when the lease ended. The mill has been open on occasional days in 2024 but its long-term future as a visitor attraction is not certain.
- **Museum of the Jewellery Quarter** (WM). This site is owned by Birmingham City Council and managed by the Birmingham Museums Trust. It has been closed in 2024 except for special events due to 'ongoing maintenance issues'.
- **Pinchbeck Engine Museum** (EM). This site is owned and managed by the Welland and Deepings Internal Drainage Board. It is normally open to the public but was closed in 2024 for undisclosed reasons.
- **Poole Museum** (SW). The site is owned and managed by the local authority, but was closed during 2024 and 2025 for major conservation and restoration works partly funded by the National Lottery Heritage Fund.
- **Shalford Mill** (LSE). A high-profile site owned by the National Trust and famous for its association with 'Ferguson's Gang' of early 20th century feminist guerrilla heritage saviours. The site was closed in 2024 for essential conservation works.

- **Thorrington Tide Mill (EE).** Built in 1831 on an earlier site, the mill ceased grinding in the 1920s and was used for storage. Purchased by the local authority in 1974 it returned to private ownership in 2019 and is currently under restoration with support from Historic England. The intention is to re-open the site as a visitor attraction.



*Figure 64. Coleham Pumping Station, Shrewsbury.
Photograph © Heritage Innovation Limited*

Sites which are permanently closed to public access

The majority of sites which had no public access in 2024 were previously open to the public to some extent. These 49 sites represent 7.2% of the sample of 682 sites, and 53% of the 94 sites with no public access. The evidence of this sample therefore suggests that there has been a slight decline in the public accessibility of industrial heritage sites since 1998.

Some of these formerly accessible sites were museums which have now closed (see also 3.7.6); others are sites which are in private ownership and/or have changed use. For example a number of mills were restored in the 1960s, 1970s and 1980s by private individuals, often working with groups of local volunteers; these were intended to become publicly accessible museums or working sites. For various reasons many of these were not sustainable as visitor attractions and subsequently become private houses. Some of these properties had legal constraints placed on them — either through planning conditions or funding agreements — in an attempt to ensure continued public access. However enforcement has not always been possible. Examples include:

- **Haxted Mill Lingfield (LSE).** Water mill. Permission was granted for conversion of the upper floors to residential accommodation in 2017 on condition that public access to the ground floor would be retained. However there is currently no public access.

- **Ravensbury Mill** (LSE). Water-powered snuff mill. After closure and a period of dereliction in the 1990s most of the site was converted to housing in the early 2000s, with some enabling development on adjacent land. The north wing is covered by a Section 106 agreement which requires public access to a proposed 'Wandle Industrial Museum'; however there is currently no public access to the site.

A handful of sites were not publicly accessible in 2024 as the result of positive developments. These places were previously accessible to unauthorised visitors because they were disused and abandoned, and some of these are now closed sites which are in the process of being restored as part of regeneration and development projects. However they are listed below because the future timescale and nature of public access remains uncertain.

The table below lists all 49 sites which were permanently inaccessible to the public in 2024.

<i>Name</i>	<i>Region</i>	<i>Ownership</i>	<i>Former use</i>	<i>Current use</i>
Arlington Mill	SW	Private individual	Museum	House / holiday lets
Ashton Mill	EM	Private individual	Museum	Disused
Bardwell Windmill	EE	Private individual	Mill / Disused	House
Birchills Canal Museum	WM	Private individual	Museum	Disused
Brampton Watermill	NW	Private individual	House	House
Bratch Pumping Stn	WM	Severn Trent Water	Infrastructure	Infrastructure
British Engineerium	LSE	Private individual	Museum	Disused
Bursledon Mill	LSE	Charitable trust	Museum	Disused
Claybrooke Watermill	EM	Private company	Mill	Mill
Esk Mill Danby	YH	Private individual	House	House
Fallgate Mill Ashover	EM	Private individual	Museum	House
Gosport Railway Station	LSE	Private individuals	Disused	Houses
Great Mill Haddenham	EE	Charitable trust	Mill / Disused	Disused / not known
Great Thurlow Windmill	EE	Private individual	Mill	Disused / not known
Haig Colliery Mining Museum	NW	Not known	Museum	Commercial / industrial
Haxted Mill Lingfield	LSE	Private individual	Museum	Commercial / house
Hythe Mill	NE	Private individual	Creative Space	Not known
Kiln Warehouse Newark	EM	Private company	Disused	Commercial / offices
Maple Brook Pumping Station	WM	South Staffs Water	Infrastructure	Infrastructure
Marston's Albion Brewery	WM	Private company	Museum	Brewery
Misterton Soss Pumphouses	EM	Private individuals	Disused	Houses / holiday lets
Mousehole Forge	YH	Private individuals	House / Ruin	Houses

<i>Name</i>	<i>Region</i>	<i>Ownership</i>	<i>Former use</i>	<i>Current use</i>
National Brewery Centre	WM	Private company	Museum	Brewery
Norham Station	NE	Private individual	House	House
Norwich Printing Museum	EE	Charitable trust	Museum in temporary accommodation	
Old Fulling Mill Durham	NE	University	Museum	Not known
Old Mill Lower Slaughter	SW	Private individual	Museum	Not known
Orchard Mill Williton	SW	Not known	Museum	Not known
Ravensbury Mill	LSE	Private individuals	Mill / Factory	Housing / disused
Rowlands Mill Ashill	SW	Private individual	Disused	House
Sarre Windmill	LSE	Private individual	Mill / Museum	Disused
Shingley Windmill	LSE	Private individual	Museum	Disused / not known
Shore Road Pumping Stn	NW	Network Rail	Infrastructure	Infrastructure
Snettisham Watermill	EE	Private individual	Mill / House	House / holiday lets
Snibston Discovery Museum	EM	Local authority	Museum	Housing / country park
Southall Railway Centre	LSE	Network Rail	Infrastructure	Heritage engineering
Springhead Pumping Stn	YH	Yorkshire Water	Infrastructure	Infrastructure
Stanton Windmill	EE	Private individual	Mill	Disused
Steamtown Railway Museum	NW	Private company	Museum	Heritage engineering
Sutton Windmill	EE	Private individual	Museum	House
Swanton Mill Mersham	LSE	Private individual	Museum	House / Disused
Thwaite Mills	YH	Canal + River Trust	Museum	Disused
Trewey Watermill	SW	Private individual	Museum	Not known
Wapping Hydraulic Power Stn	LSE	Private company	Creative space	Disused
Wetheriggs Pottery	NW	Private company	Museum / Zoo	Disused
Wigan Pier Heritage Centre	NW	Not known	Museum	Disused
Wolferton Station	EE	Private individual	Museum	House
Wythop Mill	NW	Private individual	House	House
Yafford Mill	LSE	Private individual	Museum / Zoo	House

3.7 Conservation

3.7.1 Overview

It was beyond the scope of this survey to meaningfully assess the condition and conservation needs of all 682 sites. Nevertheless one of the objectives of the current project was to identify significant changes in the condition of sites on the 1998 list. This assessment was made cautiously during the desk-based assessment stage, and only where there was sufficient evidence through images and reports in the public domain to demonstrate clearly a deterioration or improvement in site condition (this was possible for 608 of the 682 sites). Where the evidence was equivocal, no change was noted.

The results of this exercise are indicated in Appendix 1, and summarised below (Figure 65).

<i>Region</i>	<i>No change</i>	<i>Improvement</i>	<i>Deterioration</i>
North East	23	20	2
North West	48	15	6
Yorkshire and the Humber	42	13	0
East Midlands	59	15	4
West Midlands	46	17	2
East of England	68	21	6
London and the South East	75	22	8
South West	79	14	3
National	440	137	31

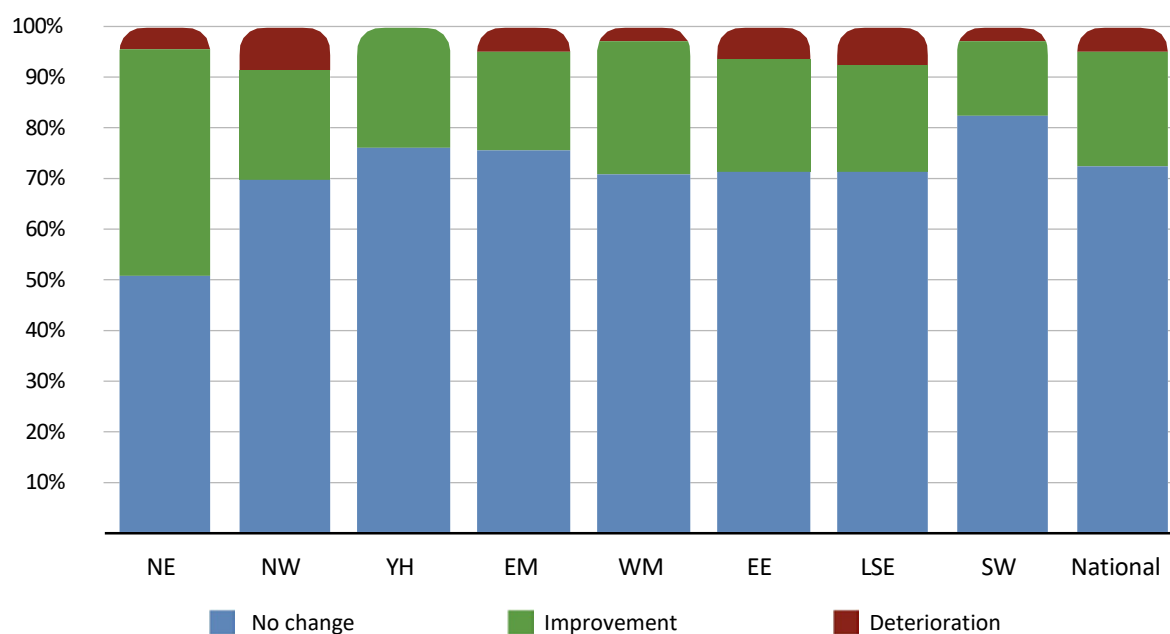


Figure 65. Changes in condition of sites since 1998 (n = 608)

This analysis probably under-states the dynamics of the situation but tentatively suggests that the general

trend is neutral, with a slight tendency towards improvement in the condition of industrial heritage sites.

Most of the 682 sites are listed Grade II and so are not included on the Heritage at Risk Register; moreover it was not possible within the scope of this project to systematically explore which sites had been on the register since 1998. However it is useful to note that the 31 sites noted in this study as having deteriorated since 1998 have a similar ownership profile to industrial heritage sites in the 2011 Heritage at Risk register (Figure 66).³⁹ Although the percentage of sites owned by private companies and local authorities is slightly different in both cases, the sample size is too small for this to represent a significant variance.

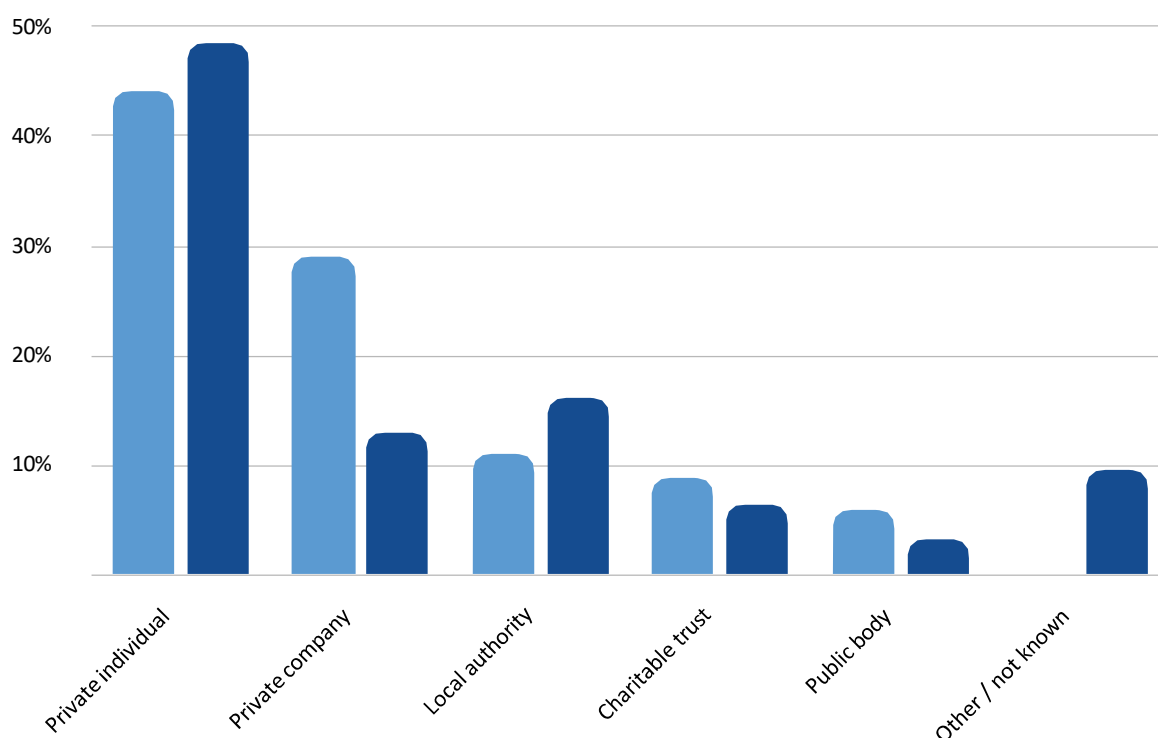


Figure 66. Ownership of deteriorated sites and Heritage at Risk sites (n = 131 / 31)
 Site ownership for sites on the 2011 Heritage at Risk register (n = 131) is shown in light blue; site ownership for sites in the 2024 survey (n= 31) is shown in dark blue.

3.7.2 Conservation management

As noted above (3.5.2 and Figure 38), from the questionnaire survey 31 sites had a business plan and 37 had a management plan. In a separate response, 23 out of 44 sites (52%) stated that they had a conservation management plan, 33 sites (75%) had a condition survey and 26 sites (59%) had a repair schedule. A majority of respondents (53 out of 58) described their site as currently being in fair or good condition (Figure 67), although 79% reported a repair backlog.

A total of 46 sites responded to a question about anticipated expenditure on maintenance — however only 26 of these responses provided sufficient data. Together these sites expected to spend £5,742,500 on maintenance over the next five years, 2025-30 (Figure 68).

³⁹ Colliers 2011, Figure 11 (page 34)

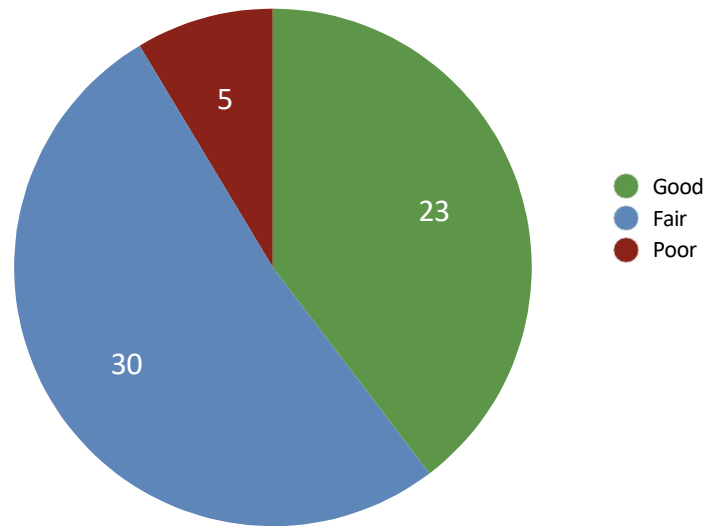


Figure 67. Condition of industrial heritage sites in 2024 (n = 58)

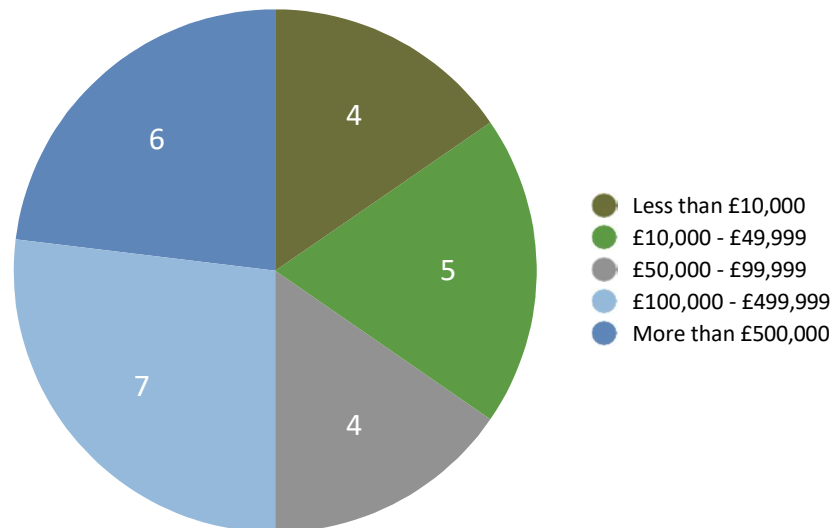


Figure 68. Anticipated expenditure on repairs and maintenance 2025-2030 (n = 26)

In terms of annual expenditure, this amounted to £1,148,500 for all 26 sites per year; providing an arithmetic mean of £44,173, a harmonic mean of £2,409 and a median of £18,000. As with the other ranges in this study, this suggested that most sites' anticipated expenditure was at the lower end of the scale. Only six sites anticipated spending more than £100,000 per year.

Eighteen of these 26 sites were among those for whom accurate data on past expenditure was available. Therefore it was possible to examine the scale of intended expenditure against the day-to-day running costs of these sites. This was measured on the basis of annual spending.

There were two outliers: one was expecting significant capital project funding and therefore had a spend/income ratio of 1,590%; the other had very small maintenance liabilities and therefore had a projected spend/income ratio of 0.6%. The remaining 16 sites fell into two broad groups:

those whose anticipated spend/income ratio was at or below around 15% and those whose projected spend/income ratio was above 30% (Figure 69). This suggests that around half the sites in the sample are expecting to incur substantial maintenance and repair issues in the near future.

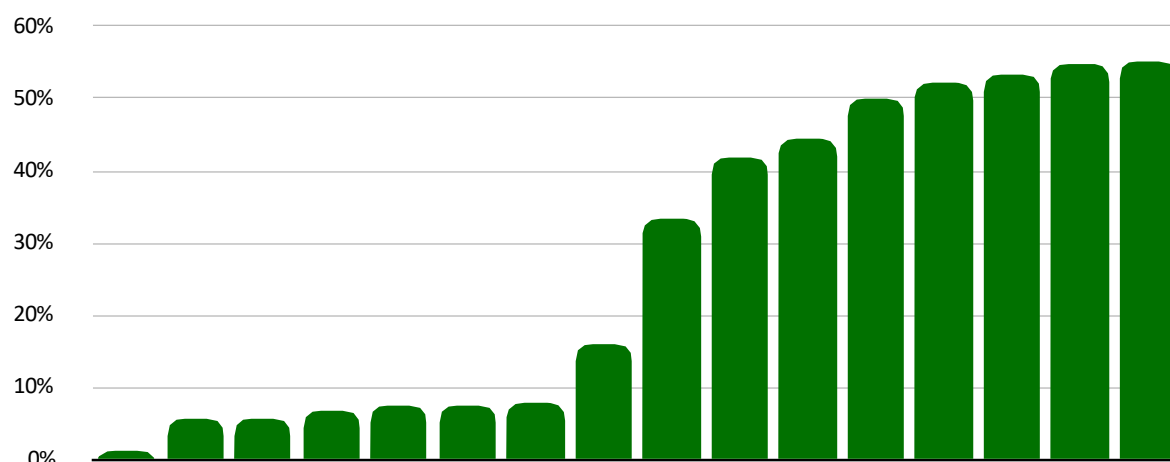


Figure 69. Anticipated future maintenance costs as a proportion of overall expenditure (n = 16)

3.7.3 Buildings and structures

All industrial heritage sites include buildings and structures which represent heritage assets and financial liabilities. Many industrial structures are substantial and well-engineered — such as infrastructure components and steam-powered mills — and present relatively low risk. However a significant number fall into two categories of potentially greater vulnerability. These are:

- Structures that were designed to operate at high temperature or under sustained physical or mechanical load — for example former kilns, furnaces, engine houses and some mining and engineering facilities. In most cases these were designed for function over longevity, and some elements are particularly vulnerable. Failure of components (such as the collapse of a wall) present a threat to the site itself, but not to the wider environment or population.
- Structures which relate to water management and/or power transmission. These function under continuous and often extreme mechanical and hydraulic loading, and failure can be sudden and potentially catastrophic. In many cases there is an increased risk of failure due to climate change. Failure of components (such as a water-retaining dam) present both a threat to the site itself, and to the wider environment and population.

All 71 sites in the questionnaire and interview sample were well aware of these issues, and most had expertise available to monitor (and in some cases manage) the situation. However concerns were expressed in a number of formal and informal discussions about the long-term availability of skills and expertise in the future. These concerns were particularly acute for types of industrial heritage structure that were no longer actively functioning in the UK, such as brick-built high-temperature kilns and furnaces.

A total of 52 sites reported on the availability of building conservation advice (Figure 70). Half of these (26, or 50%) obtained their advice from professionals with historic building expertise and/ or experience, although not necessarily industrial heritage. The remainder sought advice from general building professionals, such as surveyors (25%) and architects (12%); some received advice from Trustees and other non-professionals.

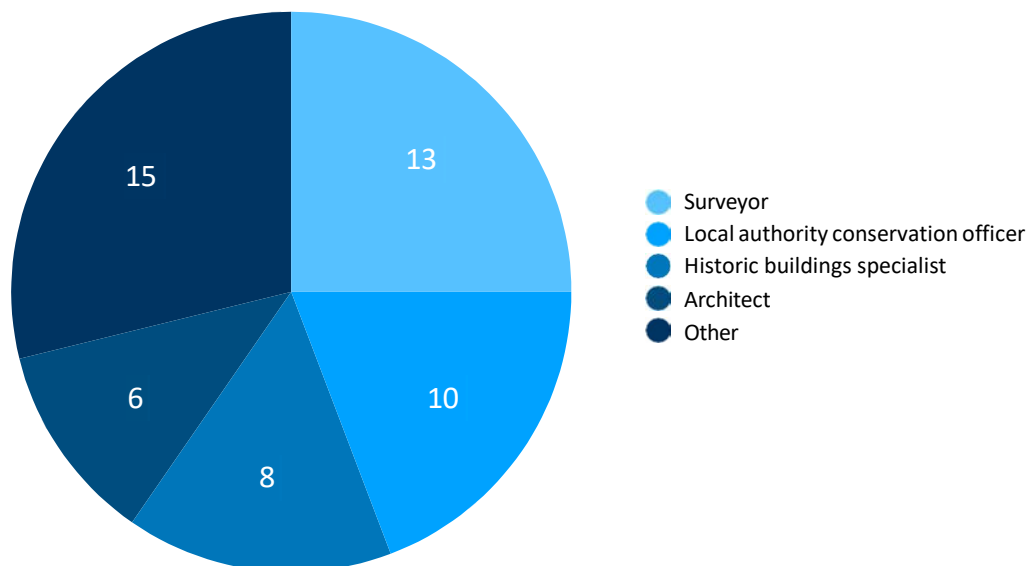


Figure 70. Sources of building conservation advice for industrial heritage sites (n = 52)

Strengths and opportunities

As noted above the general trajectory for industrial heritage site conservation appears to be positive. Several sites were disused and in a derelict or semi-derelict state at the time of the 1998 survey. Many of these have since been restored and conserved, some as part of larger regeneration schemes.

This is a long-term trend which began in the 1980s, and several projects of that period are now in a third or fourth iteration of approaches to long-term conservation management. For example the **Royal Albert Dock** (NW) was one of the iconic industrial heritage regeneration projects of the 1980s, attracting high profile public institutions — the National Maritime Museum and the Tate Gallery — at an early stage. However it struggled to achieve commercial success until the mid-2000s. Formerly owned by Liverpool Development Corporation, it was passed to a private company in 2016. This wound up in 2019 and the site was sold in 2023. The joint owners are General Projects (a London-based development and investment company) and Neo Capital (a Dubai based investment management company). A similar pattern was followed twenty years later at **Victoria Quays Sheffield** (YH), a former canal basin now in private ownership as a mixed-use commercial space. Similarly the **Worcester Porcelain Factory** (WM) closed in 2012, and now comprises a privately-owned mixed use space, including housing, leisure and community arts facilities, as well as a small museum.

Current or future developments on this model include **Crimble Mill** (NW), which was purchased in 2015 for development after a long period of abandonment, and an application has been made to Greater Manchester Combined Authority for restoration of the historic buildings as part of a mixed use development including surrounding new-build housing. Similarly **Cannington Shaw No7 Bottle Shop** (NW), which survived the 1980s demolition of the former glassworks of which it was part, but was overlooked when the surrounding areas were developed in the 1990s and early 2000s. In 2018 the Cannington Shaw Preservation Trust CIC was established; it took on the ownership of the site in 2023 at the same time as government funding was awarded for stabilisation and repair as part of the St Helens Town Investment Plan.

This traditional model of industrial heritage regeneration has been augmented by more community-focussed schemes in recent years. **Middleport Pottery** (WM) stands out as an example of a large-scale site that has successfully and sensitively transitioned into a mixed use space under the management of a charitable trust with a mixture of private and public funding. On a smaller scale, **High Mill Alston** (NW) was acquired in 2023 by an entrepreneur, after standing empty for many years; a scheme has been proposed to develop it as an arts/crafts hub for the local community. Similarly at **Bromham Watermill** (EE) an initiative led by the local authority in partnership with the local community has proposed the regeneration and revitalisation of the site as a community artistic/commercial hub — sounds very positive

Weaknesses and threats

A change of ownership of industrial heritage assets can result in positive outcomes, as noted in the preceding cases, and at 3.6.4 above in the case of the former Whitbread and Ram Breweries, the Nottingham Canal Museum and Gomshall Mill. However there are also situations where the sale of industrial heritage assets can present a threat to resilience and sustainability. This is particularly the case when ownership is transferred from a party with a benign, or at least non-pecuniary, interest — such as a local authority or a charitable trust.

All of the sites in this study are designated, so their protected status as listed buildings or Scheduled Monuments confers protection of the physical asset. However the sale of a site by, for example, a charitable trust, could bring short-term financial gain to that organisation, but may be perceived as having caused harm to the wider collective value of assets (or landscapes) owned by that organisation — and so to the integrity of the historical narrative and/or the perception of that organisation as a responsible custodian of the industrial heritage.

Climate change represents a significant threat to a wide range of industrial heritage sites, and is particularly challenging for the types of buildings and structures that are already more vulnerable. Increased rainfall and warmer temperatures are leading to wetter and more humid ground and air conditions, which in the long term have a negative impact on buildings and structures that were designed for a dryer and cooler climate.

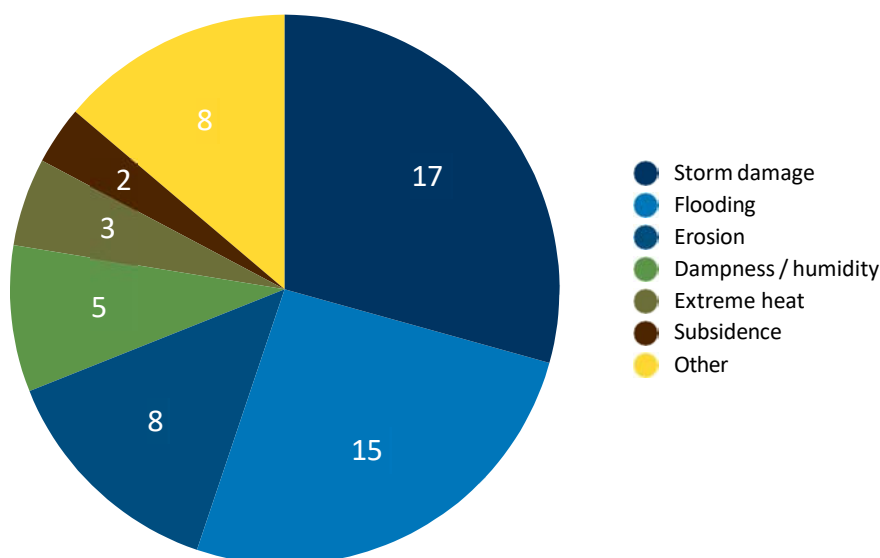


Figure 71. Impact of climate change on heritage assets 2019-2024 (n = 58)

The 58 responses shown in the chart represent responses to climate change questions from 36 different organisations

A total of 36 sites (51% of 71 respondents) reported that issues related to climate change had caused damage to their sites during the period from 2019 to 2024. Storm damage affected 47% of the 36 sites affected, and flooding affected 42% (Figure 71); many respondents also listed related issues such as ‘coping with torrential rain’, ‘increased rot’ (of timber/wood), ‘guttering and car park flooding’ and so-on. In one case, car park flooding had meant that the temporary relocation of visitor parking had restricted operation of the attraction itself.

3.7.4 Plant and machinery

Historic plant and machinery is one of the most important elements of most industrial heritage sites. In many cases it is the *raison d’être* for former industrial sites to become heritage attractions. Experiencing the sights, sounds and smells of historic plant and machinery is a central part of the appeal of these sites, and provide some of the most iconic and memorable visitor engagement.

A total of 58 sites responded to questions about historic plant and machinery. The majority of these (42, or 72%) reported having original plant and machinery *in situ*. Of these, 26 (62%) stated that this was functional and regularly used (Figure 72). Many sites supplement their *in situ* machinery with portable engines on open days.

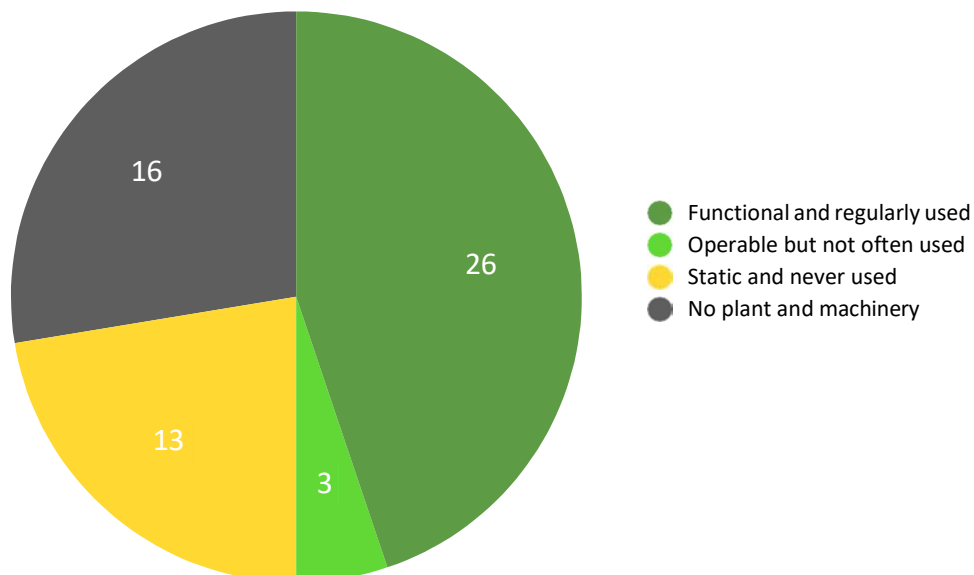


Figure 72. Numbers and status of sites with original plant and machinery in situ (n = 58)

Concerns were raised through free text responses to the questionnaire, and in interviews, about the skills needed for the long-term maintenance of plant and machinery. Engineering skills for large stationary steam engines and for water-powered sites were particular priorities.

Conservation and maintenance advice on plant and machinery was provided by an engineer with relevant qualifications for 40% the sample, with other engineers providing support in a further 11% of cases. Nearly half of sites (49%) received conservation and maintenance advice from unqualified individuals, albeit with some appropriate experience (Figure 73).

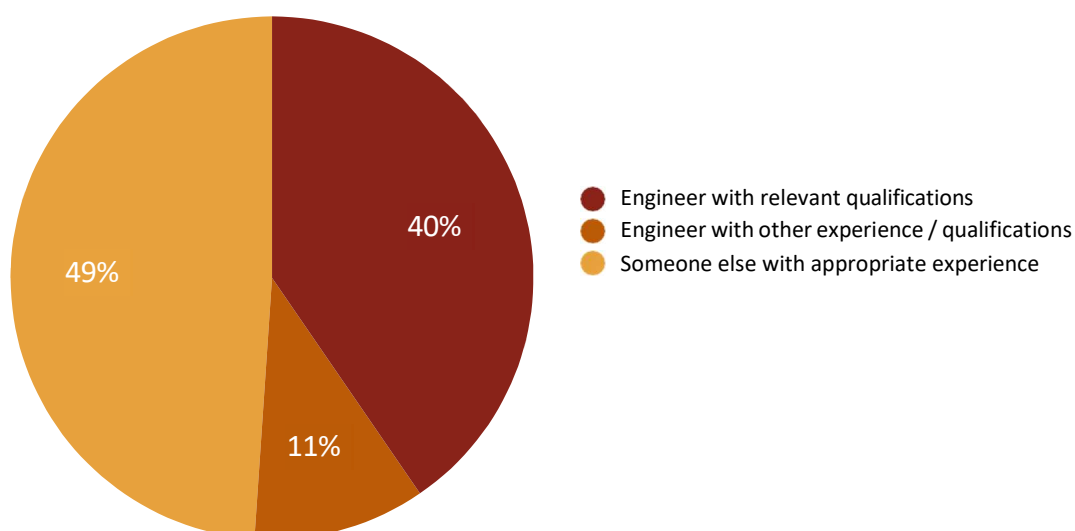


Figure 73. Qualifications of plant and machinery maintenance providers (n = 47)

This response can be compared with results from the 2023 ICON survey of industrial heritage conservation skills. This found that 68% of sites are managed by individuals without conservation-restoration training or qualifications, although a small number of those (10%) have relevant industry experience. It also found that whilst 11% of volunteers have some form of formal or informal professional training, only 1% hold degree-level training or professional accreditation. Many organisations (29%) use volunteers with heritage skills such as blacksmithing, carpentry and masonry.⁴⁰

3.7.5 Fuel cost and availability

The question of energy supply has emerged as one of the most significant concerns for industrial heritage sites. For sites which operate historic plant and machinery, the primary focus is the continued supply of heritage fuels (mainly coal and petroleum products); however the security and cost of gas and electricity are widespread issues across all industrial heritage attractions. The survey explored three aspects: ethics, cost and availability.

Ethics

Some sites noted that they were moving towards more sustainable energy sources. A total of 26 questionnaire respondents commented on the implementation of greener initiatives, although only 24 of 58 respondents (41%) stated that their business plan had been impacted by climate change in any way. Three sites (5%) had installed solar panels, and two others stated that they were considering it. Others had adopted, or were considering adopting, the use of renewables for general site heating. Several sites had explicitly identified environmental sustainability as a policy or goal in their business planning, both as a mechanism to achieve Carbon Net Zero and also as a theme to interpret for audiences — along with climate change.

⁴⁰ ICON 2023

Around a third of sites (14 out of 41 responses, or 34%) said that education and training would help them improve their carbon footprint, although a slight majority of sites (26 out of 49 responses, or 53%) said that they would find carbon literacy training useful.

A total of 28 of 44 sites (64%) said that they were considering, or would maybe consider, the use of alternative fuels to run their exhibits (Figure 74).

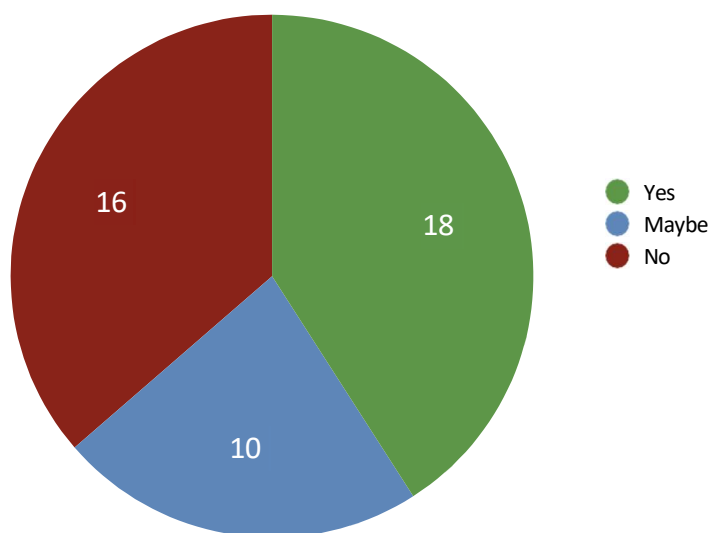


Figure 74. Sites considering the use of fossil fuel alternatives (n = 44)

These results suggest that a shift towards environmentally-friendly fuel choices is at least partly motivated by ethical considerations among those responsible for industrial heritage sites, although the cost and/or availability of fossil fuels is also an important factor — and arguably a more immediate one for many organisations. It is also the case that the UK industrial heritage sector’s contribution to climate change is not significant, and this slight negative impact is balanced by the positive outcomes for the visitor economy, wellbeing and heritage conservation that result from operating industrial heritage sites.

The questionnaire also asked: ‘do visitors express concerns on the ethics of the continued use of fossil fuels on site’. There were 52 responses, of which 52 (100%) said ‘no’.

Cost

The cost of coal in the UK effectively doubled between 2019 and 2024, with significant fluctuations for a variety of reasons. In 2019 coal prices were relatively stable, and even dropped slightly in early 2020 because of reduced demand during the Covid pandemic. However during global wholesale prices rose during the 2021 recovery to around USD 260 per metric tonne; they rose further in 2022 due to the conflict in Ukraine, eventually peaking at around USD 425 per metric tonne in June 2022. By early 2023 average prices had reduced to around USD 175 per tonne — but remained significantly higher than the pre-2019 average (Figure 75).

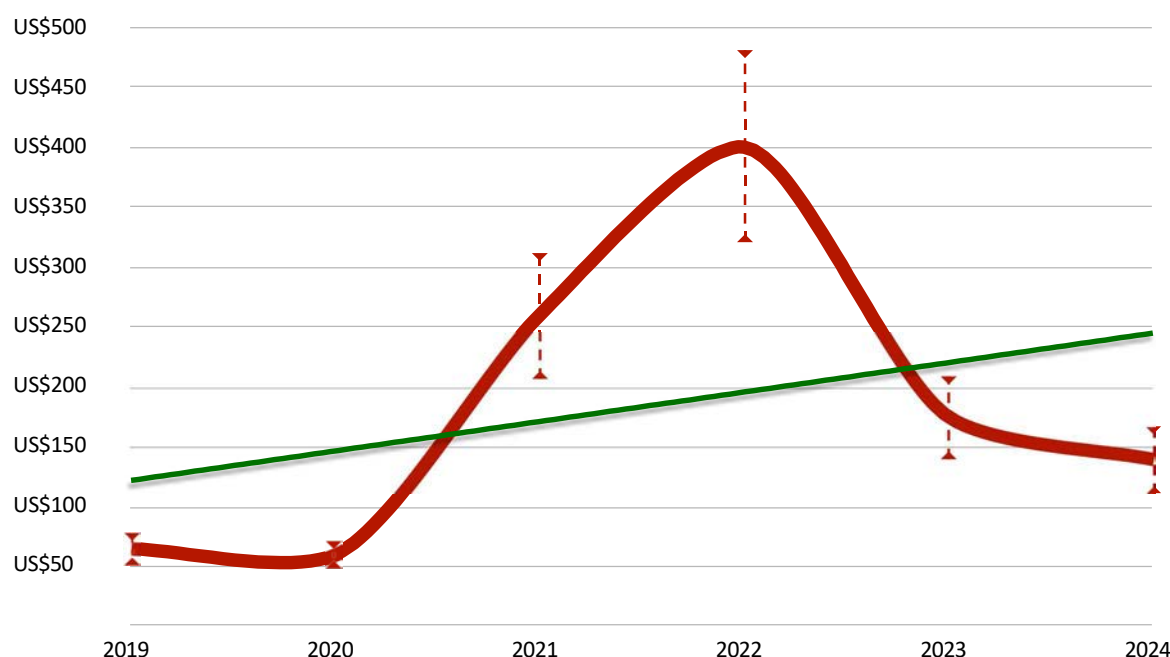


Figure 75. Global coal prices 2019-2024 (Argus/McCloskey API 2)

Red shows actual mean prices mid-year (line) and variance (vertical bars); green shows trend between 2019 and 2024.

A number of sites in the questionnaire and interview sample described the cost of coal as a limiting factor on their operations and longer-term sustainability. Heritage railways reported cutting back on steaming time and/or locomotive usage. For example the **Severn Valley Railway (WM)** reported that in 2024 it was running two locomotives a day when it might previously have had three locomotives, or one when it might have had two. Public expectation has been managed through careful promotion and marketing.

Some UK heritage railways outside England had attempted to convert coal-fired engines to oil, but this had not been successful. Some respondents regarded it as no more sustainable than coal in the longer term; moreover there were technical challenges in the conversion, which impacted on the authenticity of the heritage experience. Some railways — as well as some sites with stationary engines — had experimented with using alternative wood-based or biomass fuels, or creating synthetic coal blends, but these had also been unsuccessful. Respondents reported that these alternative fuels burned hotter and faster than coal, making sustained running difficult to manage.

As noted elsewhere, industrial heritage sites are often trying to explain the relationship between coal, iron and other industries in terms of the cultural and physical landscape, and coal remains a central part of the interpretive narrative. In other words, choices around fuel are part of telling the story (Figure 76).



Figure 76. Class B1 locomotive 61306 ‘Mayflower’ at Shrewsbury, 10 January 2023

Like most steam locomotives, ‘Mayflower’ has had a longer life as a privately-owned heritage artefact (57 years) than as a working engine (19 years). The name was given to the locomotive after its withdrawal from British Railways.

Photograph © Heritage Innovation Limited.

Availability

Availability is partly a function of cost, and partly of policy. As the UK moves towards a low-carbon economy to meet its net-zero emissions goals by 2050, coal mining and use have significantly declined. The total UK market for coal in 2023 was 4,500,000 tonnes, of which 1,500,000 tonnes was for power generation. The last coal-fired power station (Ratcliffe-on-Soar) closed in October 2024. There is high demand for coal for the manufacture of iron; however the long-term future of UK blast furnace capacity is not certain at the time of writing this report. Therefore demand for coal is expected to fall further in 2025 and subsequently.

Most of the coal used in the UK is imported. In 2023 coal imports were 3,400,000 tonnes, a 45% reduction on the previous year; the main sources of imported coal were the United States (1,530,000 tonnes), Australia (442,000 tonnes) and the European Union (374,000 tonnes). UK coal production in 2023 was 506,000 tonnes.

Coal use in the UK heritage sector was around 20,000 tonnes per year — less than 0.5% of the UK market. Most of this came from Kazakhstan and South America. These sources can be unstable due to geopolitical factors and global market volatility. Heritage railways, which depend on specific grades of coal for steam engines, are particularly vulnerable to these shifts.

In the longer term oil-derived fuels such as petrol and diesel will also become more challenging to source. As the wider public market for petrol and diesel vehicles declines in the 2030s, production will become less profitable as the economies of scale will disappear.

3.7.6 Lost museums

Some locations identified in 1998 as museums or other publicly-accessible venues are no longer extant. The 2024 study identified 41 of these. These represent 6% of the total of 682 sites (or 7% of the 1998 total of 608 sites).

In most cases where there were museum collections, these have been transferred to other institutions with a similar remit to the original museum. In some cases the building has remained in use essentially for a public heritage function; in others it has retained its original function but is no longer open as a museum. Some sites have taken on an entirely new function or become disused. The numbers of sites in each category are shown in Figure 77.

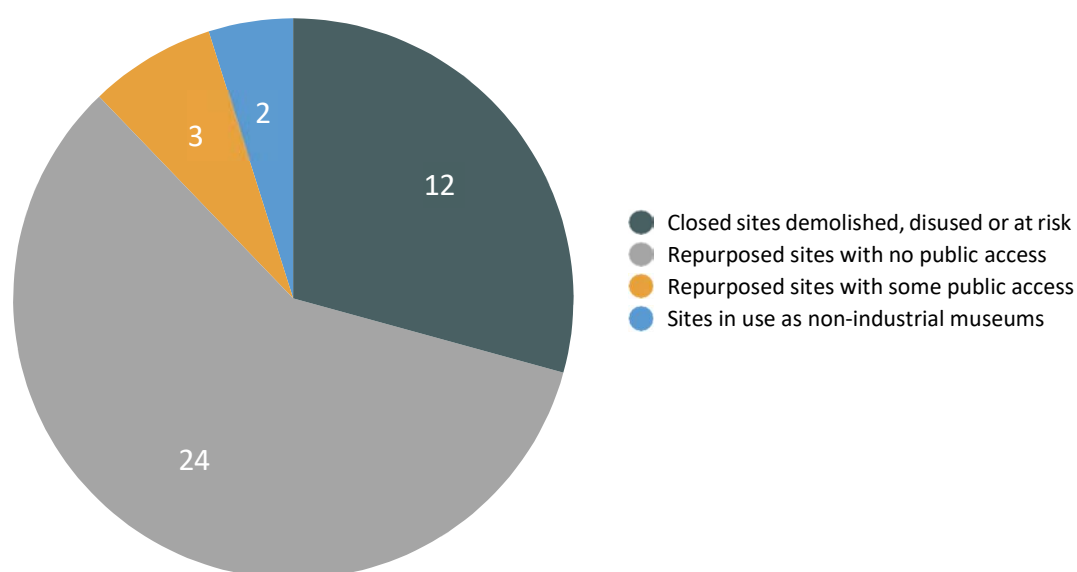


Figure 77. Lost museums (n = 41)

Closed sites demolished, disused or at risk

Birchills Canal Museum (WM). This former Boatmans Rest was built in c.1900 and is the only survivor of its type in the region. It was a museum from the 1980s until it was closed in 2003, since when it has been disused. The building was sold by the Canal and River Trust in 2014 and is now in private ownership. A planning application for residential conversion was made in 2018 but the current status of the site is not known. The facade adjoins the towpath, but there is no public access to the building.

British Engineerium (LSE). The former Goldstone Pumping Station was built in 1866 to supply water to Brighton and Hove in 1866; later extended, it was redundant by the late 1960s and was listed in 1971 under threat of demolition. The site was subsequently leased from the Southern Water Authority by a local enthusiast and opened as a museum and engineering conservation centre. The museum closed in 2006 due to funding difficulties, and the site and collections sold to a local businessman. Although some work was undertaken the site never re-opened. It was sold in 2018, and again in 2022.⁴¹ Various uses have been

⁴¹ Scott-Delaney 2013; LeDuc 2022.

proposed but have not been developed. The condition of the buildings and collections is not known and the site is not open to the public.

Ashton Mill Dragonfly Museum (EM). This was not an industrial museum *per se*, but was housed in an industrial building: a former water-powered corn mill later adapted to form an electricity-generating and water-pumping station for the Rothschild estate. The Dragonfly Museum was closed in 2001, since when the building has been unoccupied. The site is on the Heritage at Risk Register. Historic England supported urgent repairs in 2014-16.⁴²

Norwich Printing Museum (EE). This museum does exist and is open to the public; however it is included here because (1) its original premises listed in the inventory of 1998 have been demolished, and (2) it is currently in temporary accommodation and its long-term future is not certain. The museum was established as the John Jarrold Printing Museum by the eponymous company in 1982, using part of the printing works in Norwich. The works itself closed in 2017 and was demolished in 2019 when the site was redeveloped for housing. A new charitable trust was established to take ownership and care of the museum collections; most items were placed in storage, with a small fraction of the collections used to create a small printing museum hosted by the National Trust at Bickling Hall. This museum is due to close in 2025; a new location is not yet known.⁴³

Old Fulling Mill Durham (NE). This medieval fulling mill (sometimes known as Abbey Mill) was acquired by Durham University in 1833. It became the university museum, housing a mixture of natural history and archaeology collections. In 1876 the museum was relocated, but the archaeology collections later returned to the Old Fulling Mill and it remained the University archaeology museum until 2014, when the collections were returned to the main campus (and some into storage). The building remains in the ownership of Durham University; its current use or accessibility is not known.

Snibston Discovery Museum (EM). The Discovery Museum was opened in 1993 on the site of the former Snibston Colliery No 2. It was part of a country park created as part of the post-industrial regeneration of the area, a process led by Leicestershire County Council. The museum won several awards for its interactive presentation of industrial history. In 2015 the museum was closed, and the buildings were demolished in 2016. Collections were returned to other museums.⁴⁴ Part of the site was subsequently developed for housing. The former colliery buildings were closed to the public for many years; a new heritage trail was opened in 2022 which provides limited access to view the colliery site.

Swanton Mill Mersham (LSE). This water-powered corn mill was extant by the 1840s but its history is obscure. By 1998 part of it was a museum; however by 2002 the mill house, and perhaps other parts of the site, were tenanted as a residential property on a long-term lease. The site was sold in 2023 in poor condition, with potential for conversion to a restaurant or hospitality venue.⁴⁵ Current ownership is not known and there is no public access.

Thwaite Mills (YH). This water-powered mill was built by the Aire and Calder Navigation Company in the 1820s, and went out of use in the early 1970s. It was restored by an enthusiast society and from 1990 was

⁴² Historic England Heritage at Risk Register — <https://historicengland.org.uk/advice/heritage-at-risk/search-register/list-entry/49999>

⁴³ Cope 2018; Tubby and Issimdar 2023; Baldwin 2024. See also: <https://norwichprintingmuseum.co.uk/our-history/>

⁴⁴ Steel 2016.

⁴⁵ Weller 2023.

run as a museum by Leeds City Council, who held it on a 50-year lease from the owners, the Canal and River Trust. The lease was terminated on 1 April 2024 by mutual agreement and the museum is no longer open to the public.

Trewey Watermill (SW). The watermill and ‘Wayside Museum’ at Zennor appear to have been developed as a visitor attraction as early as the 1930s; the mill house was the home of Cornish composer George Lloyd. The museum contained over 5,000 exhibits ranging from ancient farming tools to appliances from the 1950. The mill was restored and running in 2010, but the site was closed in 2016 after the then owners failed to find a buyer. Ownership of the site, and the fate of the collections, is not known; there is currently no public access.

Wapping Hydraulic Pumping Station (LSE). This unique site was built in 1890 to supply water under pressure to power a range of installations — mainly in theatres and department stores but also including Tower Bridge. At its peak it pumped more than 33 million gallons of water a week along 186 miles of underground cast iron pipes. It closed in 1977 and was repurposed as an independent artistic space (‘The Wapping Project’); however this closed in 2013 and the site was sold to property developers.⁴⁶ A number of schemes for residential conversion have been proposed but none have been developed. There is currently no public access to the site.

Wetheriggs Pottery (NW). Originally a brick and tile works, pottery manufacture started in 1860 and continued until the early 1960s. After volunteer-led restoration in the 1990s, the site operated as a steam-powered craft pottery until around 2005. The owners subsequently relocated the business, and the site was occupied by a zoo from 2006 until 2014. Since then the site has been disused, although subject to tentative planning applications for redevelopment. The buildings and machinery are intact but were described as ‘dilapidated’ in 2016; ownership is not known and there is no public access.

Wigan Pier Heritage Centre (NW). This controversial museum opened in 1986, amid some criticism for its appropriation of industrial heritage for nostalgic popular appeal.⁴⁷ Later renamed ‘The Way We Were’, the museum was an important local attraction; however it closed in 2007 and site remains disused today. Ownership of the site, and the fate of the collections, is not known; however the heritage centre records are retained at the borough archives in Leigh.⁴⁸

Repurposed sites with no public access

Arlington Mill (SW). A 17th century corn and woollen mill in Bibury, probably on an earlier site. The mill went out of use in the mid-20th century but the machinery remained in working order and the site appears to have been operated as a small museum in the 1980s and 1990s. In the early 21st century it was repurposed as a house and holiday lets; the letting business closed in the early 2020s and the building was recently for sale as a private residence. The building and machinery appears to be in good condition, but there is no public access.

Barnham Windmill (LSE). This 19th century mill ceased operations in the 1950s; it was restored in the 1990s and briefly (and presumably at the time of the 1998 survey) operated as a heritage attraction.⁴⁹ However it was sold in 2008 for conversion to a private house; there is currently no public access to the site.

⁴⁶ Moore 2013.

⁴⁷ Hewison 1987; Januszczak 1987.

⁴⁸ Becker 2017.

⁴⁹ Country Life 2017.

Bratch Pumping Station (WM). This ornate pumping station was built in 1895-96 and was powered by two vertical triple expansion steam engines. These were replaced by electric pumps in 1960. The steam engines were restored in the mid-1990s and the site was occasionally opened to the public by volunteers; however these arrangements came to an end in the early 2000s and by 2014 the pumping station was in poor condition. The building is owned by Severn Trent Water and the site forms part of Wolverhampton's water supply infrastructure; conservation of the buildings and machinery was undertaken by Severn Trent Water in the early 2020s.⁵⁰ There is currently no public access to the site.

Connaught Pumping Station (LSE). This 19th century pumping station in Dover was built in 1854 and extended in 1937 and 1954. Although listed in 1998 and described in the 1991 Historic England listing description as 'former pumping station, later museum' there is no indication that it has been open to the public in recent years. The site appears to be owned by Southern Water; and is disused; the condition of the machinery and building is not known and there is no public access.

Fallgate Mill Ashworth (EM) was built in the 18th century, probably on an earlier site. Originally a corn mill, it was converted for grinding florspar in c.1918 and remained in use until the 1950s. It was then in agricultural use until a comprehensive restoration programme in 1985-87. From 1988 until 2013 it was leased to Ashover Parish Council who operated it as a museum and meeting room.⁵¹ At some point after the lease expired, the former mill and drying house were converted to a private dwelling; it was most recently on the market as such in 2023. The building and machinery appears to be in good condition, but there is no public access.

Haig Colliery Mining Museum (NW). The former Haig Colliery closed in 1986; the museum was opened in the 1990s following volunteer-led restoration of the buildings and machinery. Despite a £2.4m refurbishment project in 2014-15, funded by the then Heritage Lottery Fund and Copeland Community Fund, the museum went into voluntary liquidation in January 2016. Part of the site was taken over in 2020 by West Cumbria Mining during prospection operations. The current ownership and status of the buildings, machinery and collections is not known.

Haxted Mill Lingfield (LSE). A watermill dating to the late-17th century, perhaps with earlier origins. Milling ceased in the late 1940s; the mill was restored privately and opened as a museum in 1966. The museum closed around 2002 when the building was converted into a restaurant. The restaurant closed in 2017 and the mill building has since been converted into a private house.⁵² The condition of the machinery is not known; there is no public access.

Horsted Keynes Watermill (LSE). This mill went out of use in the mid-20th century and appears to have been restored in the 1980s by a private owner. There is little evidence of it having been regularly open to the public since 1998; its current use is not known.

Hythe Watermill (LSE). This substantial mill dates to the 1770s; flour milling ceased in the 1930s. It was subsequently used as a private house and artists' studios, before comprehensive restoration in the early 1990s under new owners. At this stage the mill appears to have been open to the public, hence its inclusion

⁵⁰ Severn Trent Water 2023.

⁵¹ Derbyshire Historic Environment Record — MDR5136. Recent sale particulars on Rightmove.

⁵² Exploring Surrey's Past: https://www.exploringsurreypast.org.uk/themes/places/surrey/tandridge/lingfield/haxted_mill_lingfield/

in the 1998 list. However there has been no public access for many years, and in 2022 the property was sold as a private house.⁵³ The interior fixtures appear to be in good condition; however there is currently no public access.

Marston's Albion Brewery (WM). The brewery was built in 1875 and taken over by Marston's in 1898. The ground floor was converted into a visitor centre in the 1980s. The visitor centre was refurbished in 2016 and included a 'nano-brewery', but this was closed in March 2020 and has never re-opened.⁵⁴ The brewery continues to operate as a working commercial concern, but there is no public access to site or to the former museum.

National Brewery Centre (WM). The Bass Museum of Brewing opened in the 1980s within what was then the Bass Brewery in Burton-upon-Trent. The museum featured collections related to local and brewing history, including a steam engine. It was closed in 2008 following the takeover of Bass by Coors, but reopened in 2010 as the National Brewery Centre. The museum was closed permanently in 2022, and the archives are now cared for by the National Brewery Heritage Trust at their Brewery Heritage Centre (also in Burton). Longer-term plans by East Staffordshire Council for redisplay of the collections at Bass House are dependent on government funding.⁵⁵ There is currently no public access to either the former museum or the collections.

Old Mill Lower Slaughter (SW). This former manorial corn mill has medieval origins but the current buildings date to the 18th century. Milling ceased in 1958 with the death of the owner, and after a period as a local shop and post office, the site opened as a museum, shop and cafe in 1995. The museum appears to have closed in 2023 or early 2024. Current ownership is not known and there is no public access.

Orchard Mill Williton (SW). This 18th century corn mill, mill house and ancillary buildings was restored in the mid-20th century and at some point before 1980 had become a privately-run museum of milling and rural life. From the early 1990s it became the home of the Bakelite Museum, a collection and celebration of plastics in everyday life. The Bakelite Museum closed in 2018 and its collections moved into storage; it subsequently worked with Cultura Trust to form a new charity — The Bakelite Design Trust — to develop a new museum elsewhere. Orchard Mill itself remains in private ownership; its current use is not known and there is no public access.

Sarre Mill (LSE). A windmill built in 1820, with auxiliary steam power installed in 1861. The mill first went out of use in the 1920s, and despite intermittent attempts to revive it was disused by the 1940s. It was restored in 1986-91 as a working mill for the commercial production of flour and porridge oats. It was open to the public until 2009. The current condition of the machinery and building is not known, and there is no public access.

Shingley Mill (LSE). Also known as the King's Mill, Shingley Mill was built in 1879 and was in commercial use until 1926. It was owned by the writer Hillaire Belloc until his death in 1953, and subsequently by the Belloc family. From 1958 it was opened to the public as a museum, initially by West Sussex County Council and — from 1987 — by the Shingley Windmill Charitable Trust. Between 1997 and 2004 it was used by the BBC as a filming location for a mystery crime drama series called 'Jonathan Creek'. In 2009 the mill closed to the

⁵³ Honey 2022.

⁵⁴ CAMRA 2024.

⁵⁵ Moore 2022; NBHT 2024; BBC 2023.

public, partly due to the estimate cost of repairs, and was subsequently sold. A 2021 planning application for residential conversion was refused.⁵⁶ The building's current use is not known; it is not open to the public.

Shore Road Pumping Station (NW). This was built in the 1880s to pump water from the railway tunnel under the River Mersey. Originally powered by two beam engines, it was converted to electric power in 1959. One of the original steam engines formed the focus of a local authority museum from the early 1990s until 2012. This was offered for sale as part of an asset review by Wirral Borough Council, but did not find a buyer and was closed. The site still has an active operational role for Network Rail. In 2023 Network Rail offered some guided tours through a local heritage CIC. The status of the machinery and museum collections, and the future extent of public access is not known.

Snettisham Watermill. This mill was built in 1800 by public subscription to alleviate hunger in the parish. It produced flour until 1940 and animal feed until 1960. After a period of disuse it was bought privately in 1979 and restored; subsequently grinding flour and open to the public. It was sold in 1995 but closed in 2003. An attempt by the local community to purchase the mill was unsuccessful and the mill was sold to a developer in 2005. An application was made in 2008 to convert the mill to holiday accommodation; it has recently been marketed as a holiday let but the site was sold in 2024. Current ownership is not known and there is no public access.

Southall Railway Centre (LSE). This former locomotive depot was built in 1859, and rebuilt in 1953. It closed to modern railway operations in 1998, and is leased by Network Rail to several groups for the maintenance and storage of heritage locomotive and rolling stock. It appears to have been occasionally open to the public during the early 2000s, under the auspices of the Great Western Railway Preservation Group (GWRPG); however the GWRPG went into liquidation in 2021. The complex is currently an operational base of Locomotive Services Limited and West Coast Railways, and there is no public access to the site.

Springhead Pumping Station (YH) was built in 1864 to supply Hull with drinking water, on a site where natural springs had been exploited since the 13th century. In the 1998 report this site was inventoried as the Yorkshire Water Museum. The museum appears to have opened in the 1970s but had 'been closed for some time' when a £2.6m restoration project was undertaken in 2014.⁵⁷ The building is owned by Yorkshire Water and forms part of Hull's water supply infrastructure. There is currently no public access to the site.

Stanton Windmill (EE). A post mill built in 1751 and moved to its present location in 1818. Disused and derelict by the 1960s; restored in the 1980s and appears to have been occasionally open to the public at that time. Further restoration was undertaken in 1999, but the mill appears not to have been operational or open to the public since 1993. Currently disused with no public access to the site.

Steamtown Railway Museum (NW). The former Carnforth Motive Power Depot was built by the government in 1944 to enhance maintenance facilities in support of the war effort. The depot closed in 1968 with the end of steam traction but was immediately taken on by preservation groups and became the Steamtown Railway Museum. At one time a significant visitor attraction, the museum closed in 1998. Some of the locomotives housed there were moved elsewhere. The eponymous company now operates as a restorer and refurbisher

⁵⁶ Powling 2021.

⁵⁷ Wessex Archaeology 2015.

of heritage rolling stock. The complex is currently an operational base of West Coast Railways, and there is no public access to the site.

Sutton Windmill (EE). This nine-storey brick windmill was built in 1789 and extended in 1861 after a fire. It is the tallest windmill in Norfolk. The mill went out of use in the mid-20th century and was bought privately in 1975 by Chris Nunn, who restored it and opened a museum featuring an eclectic collection of rural and household items. During the early 2000s the mill's condition deteriorated; in 2006 the museum closed and the mill was sold to a company called 'Yesterday's World' who continued to operate the site as a museum but ceased operations in 2008 citing overwhelming restoration costs. The collections were subsequently sold at auction and dispersed. A National Milling and Millwrighting Academy CIC was set up in 2017 with the intention of buying the mill; however it was unable to raise sufficient funds and the site was sold in 2018 to a private buyer. The new owner has undertaken a significant programme of restoration work (partly funded by North Norfolk District Council).⁵⁸ The site is now a private house and there is no public access.

Yafford Mill (LSE). This eccentric museum was developed around a 19th century water mill — probably on a medieval site — during the 1970s and 1980s. By the mid-1990s it included an extensive collection of agricultural machinery, a 2' 6" narrow gauge railway, rare breeds and even performing seals. The museum closed in November 2000 and the mill is now a private house. The railway track went to an attraction in Devon, and the two locomotives were sold to a peat extraction company in Northern Ireland.⁵⁹ There is currently no public access to the site.

Wolferton Station (EE). This station was opened in 1862 to serve the eponymous village; it was also the station for the royal estate at Sandringham until 1969. In 1970 it was sold to a private individual who opened a museum; this closed in the mid-1980s and the site was subsequently offered for sale — however it remained unoccupied until 2001 when it was restored as a private house. The collections of the original museum were auctioned off in 1990; the site appears to be in good condition but there is no public access.

Repurposed sites with some public access

Lewis Textile Museum (NW). The Lewis Textile Museum closed in 2006 and the collections moved to the Blackburn Museum and Art Gallery. The building, which was bequeathed to the town by a local industrialist, was let to a variety of tenants until 2022. In 2024 it was refurbished and is now occupied by The Bureau Centre for the Arts, a community arts centre.

Nottingham Canal Museum (EM). This former canal warehouse was built in 1895 for Fellows, Morton and Clayton. It was converted to a museum in 1980-81, and operating as part of the Nottingham City Council portfolio of museums. The museum closed in 1998 and the collections relocated to the Nottingham Industrial Museum at Wollaton Hall. The former warehouse building was redeveloped in c. 2010 as the 'Canalhouse' public house, which is currently operated by the Castle Rock Brewery.

Ram Brewery Wandsworth (LSE). The Ram Brewery was built in 1831 by Young's and Co., and was the centre of their brewing operations until 2006. After the closure of the brewery the site was redeveloped into mixed-

⁵⁸ A useful summary of the history of the mill (up to 2021) — from which this account has largely been taken — can be found here: <https://www.norfolkmills.co.uk/Windmills/sutton-towermill.html>

⁵⁹ Varley 2013; Whitmore 2024.

use retail, commercial and residential properties including 650 apartments and a small museum. It was awarded 'Best Mixed-Use Development of the Year' in 2021.

Sites in use as non-industrial museums

Fans Museum (NE). Monkwearmouth Station was built in 1848 to a neoclassical design by Thomas Moore. It closed as a station in 1967 but remained in use to railway through traffic. A museum opened in the station buildings in 1973, and featured collections of railway machinery and memorabilia. The railway museum closed temporarily in 2005-07, and permanently in 2017. In 2018 a football museum — The Fans Museum — was opened in the station building. The building is owned by Network Rail and the railway lines remain in active use.

Museum of Yorkshire Dales Lead Mining (NW). This museum was located at Earby (Lancashire), but closed in 2015. Its collections were given to the Dales Countryside Museum and their acquisition, conservation and cataloguing was supported by a lottery-funded project from 2017-2019. The building — a former grammar school with no intrinsic industrial heritage element — is owned by a separate trust and has found a new use.

3.8 Interpretation

3.8.1 Overview

Interpretation was a secondary focus of the project, but it was felt useful to capture some data about current methods and approaches to assess the need for further work. Most of the 71 industrial heritage sites in the questionnaire and interview sample used a variety of conventional mechanisms to deliver interpretation.

3.8.2 Methods

A total of 522 responses were received from 56 sites about the methods they used to deliver interpretation, together identifying 25 different approaches. Many sites used several different mechanisms. These can be grouped into three broad categories: passive interpretation, bespoke events and offers and active interpretation (Figure 78).

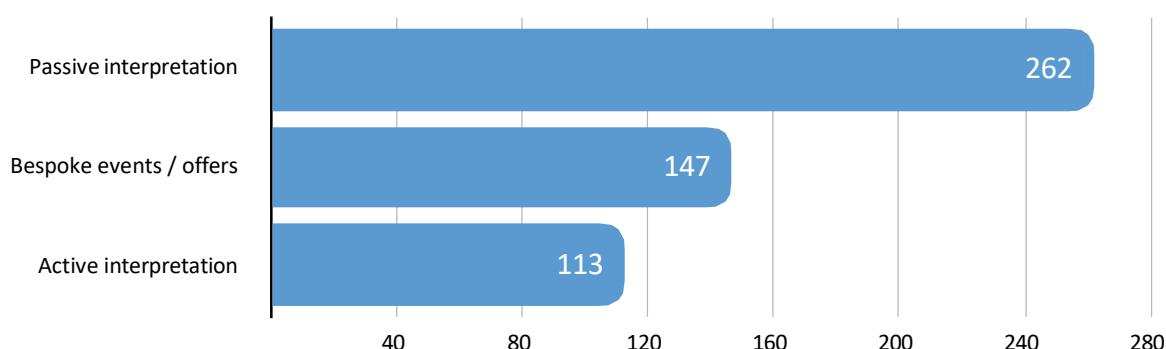


Figure 78. Numbers of sites using different categories of interpretation (n = 522)

The 522 responses shown in the chart represent responses to interpretation questions from 56 different organisations.

Passive interpretation comprised traditional paper-based mechanisms such as site maps and guide books,

together with interpretation panels or orientation signs and trails. Four sites (7%) reported using audio tours (Figure 79). This probably reflects the small nature of most sites and organisations, and the use of active methods of interpretation delivery. Three sites (5.4%) reported having braille labels.

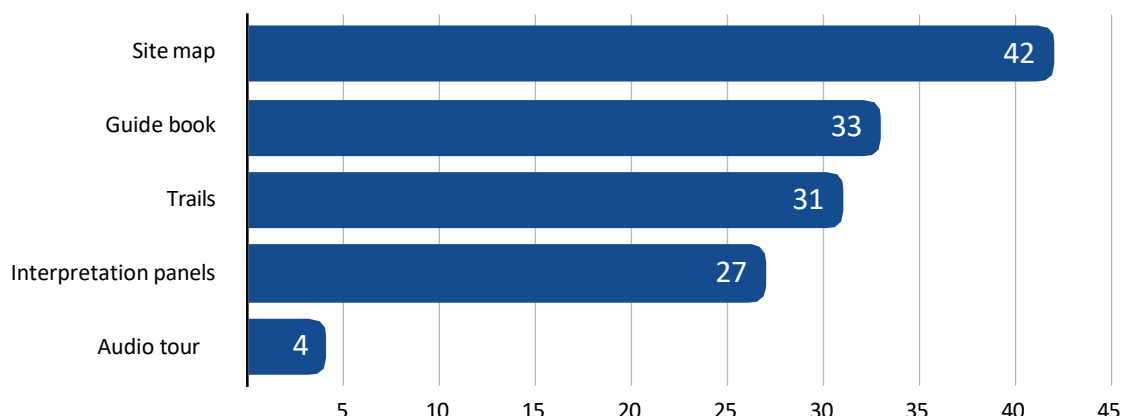


Figure 79. Passive methods of interpretation — numbers of sites (n = 137)

The 137 responses shown in the chart represent responses to interpretation questions from 56 different organisations

Most sites (44 out of 56, or 79%) had exhibitions, and 34 (61%) displayed some or all of their collections. These included working models (26, or 46%) and historic vehicles (18, or 32%).

A significant number of sites made use of active interpretation, with 47 (84%) providing in-person guided tours, and 31 (55%) providing demonstrations of heritage skills ranging from blacksmithing to textile weaving. Around a quarter of sites (13, or 23%) made use of costumed interpreters (Figure 80). Almost 40% reported using 'interactive technologies' to support visitor interpretation; this was not defined clearly in the survey and given the nature of most sites in the respondent sample it seems likely that many of these will be mechanical interactive rather than electronic or virtual ones.

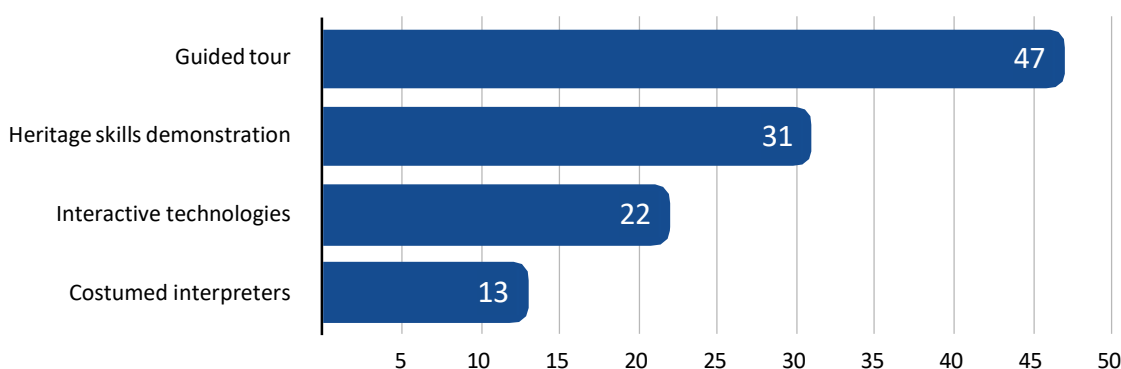


Figure 80. Active methods of interpretation — numbers of sites (n = 113)

The 113 responses shown in the chart represent responses to interpretation questions from 56 different organisations

Most sites (43, or 77%) provided special events, and 35 (62%) held regular open days. Many sites had also developed membership programmes (39, or 70%).

3.8.3 Themes

More than half of respondents to the question about methods (30 out of 56, or 54%) reported using their education programmes to support the delivery of interpretation. However fewer than half (23 out of 56, or 41%) of sites reported using the school curriculum to inform interpretation. Of these, the majority (96%) felt that less than 50% of their interpretation was related to the school curriculum (Figure 81). This outcome was in contrast to some of the aspirations expressed for staff development, and the provision for educational output (see 3.5.3 and Figure 41 above). This may reflect a lag between securing provision and attracting school visits.

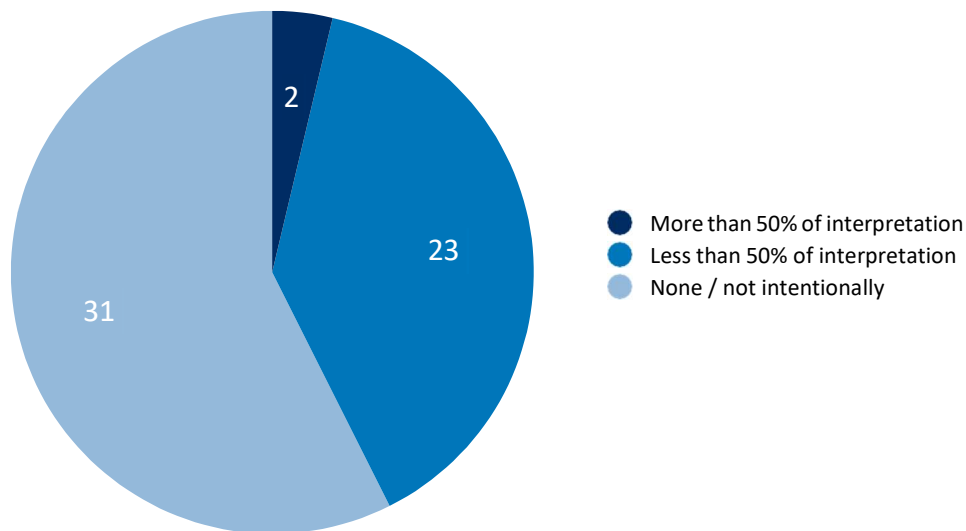


Figure 81. Relation of on-site interpretation to the school curriculum (n = 56)

Interpretation themes tended towards conventional empirical themes. A total of 215 responses were received from 59 sites (Figure 82). These were fairly evenly balanced between industrial processes and technological history on the one hand (99 responses) and social and local history on the other (95 responses). A significant number (16 sites, or 27%) also explored themes around natural history, including geology.

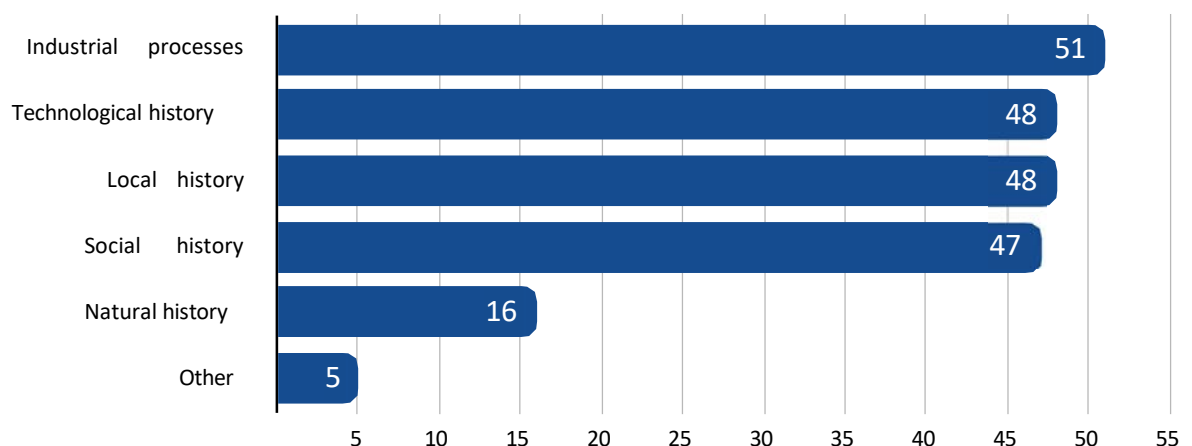


Figure 82. Themes explored in on-site interpretation (n = 215)

The 215 responses shown in the chart represent responses to interpretation questions from 59 different organisations

3.9 Marketing

3.9.1 Overview

Marketing was not a primary focus of the project, but it was felt useful to capture some data about current methods and approaches to provide an understanding of the strategic awareness within the sector about market position and the potential for growth. A majority of sites (34 out of 58, or 59%) stated that they wished to expand their operations over the next five year; the rest said they wanted to remain at the current level of operation.

Market intelligence from the Association of Independent Museums (AIM) suggest that visitor numbers for most museums are still below 2019 levels. Although there was good recovery between 2022 and 2023, most sites have reported lower than anticipated visitor numbers in 2024. At the same time the numbers of UK families taking holidays overseas increased in 2024.⁶⁰

The reasons for this may be relatively superficial and short-term (poor summer weather), but there could also be some systemic and/or generational shifts which will have a longer-term and deeper impact on industrial heritage sites. Nevertheless, given the challenging market conditions (Figure 83), remaining at current levels realistically means increasing visitor numbers.

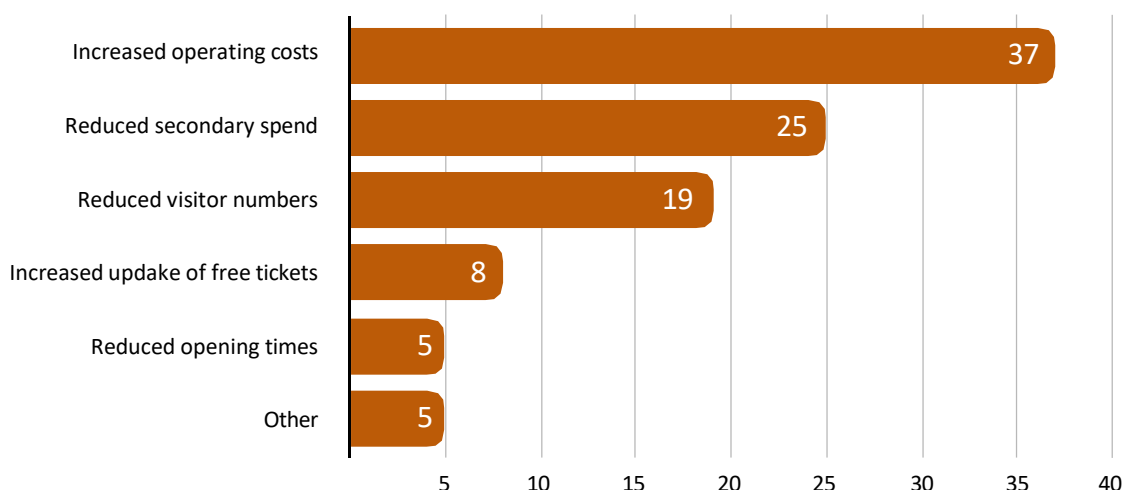


Figure 83. Impacts of the cost of living challenge on industrial heritage sites (n = 99)

The 99 responses shown in the chart represent responses to cost of living questions from 58 different organisations

3.9.2 Understanding markets

Only a handful of larger sites demonstrated a professional approach to marketing. These ranged from more traditional ‘museum’ offers, such as the **Ironbridge Gorge Museum Trust** (WM) to commercial ‘visitor attraction’ offers such as the **Seaton Tramway** (SW). These sites had a strategic approach to marketing, good awareness of market segments and either had in-house professional teams or made use of external marketing consultants.

There was widespread awareness among the sample of 71 questionnaire and interview responses that existing markets are skewed towards a more elderly demographic, and that attracting younger audiences

⁶⁰ AIM 2022; AIM 2023; British Airways 2024.

was critical to long-term growth and success. This was not reflected in the current audience segmentation. Around 20% of sites (11 of 54 responses) reported that their single most important market segment was 'enthusiasts and special interest groups', suggesting a strong reliance on a small group of visitors who prioritised traditional industrial heritage. The majority of respondents (24 out of 54, or 44%) focussed their visitor offer on family tourists and day trippers (Figure 84).

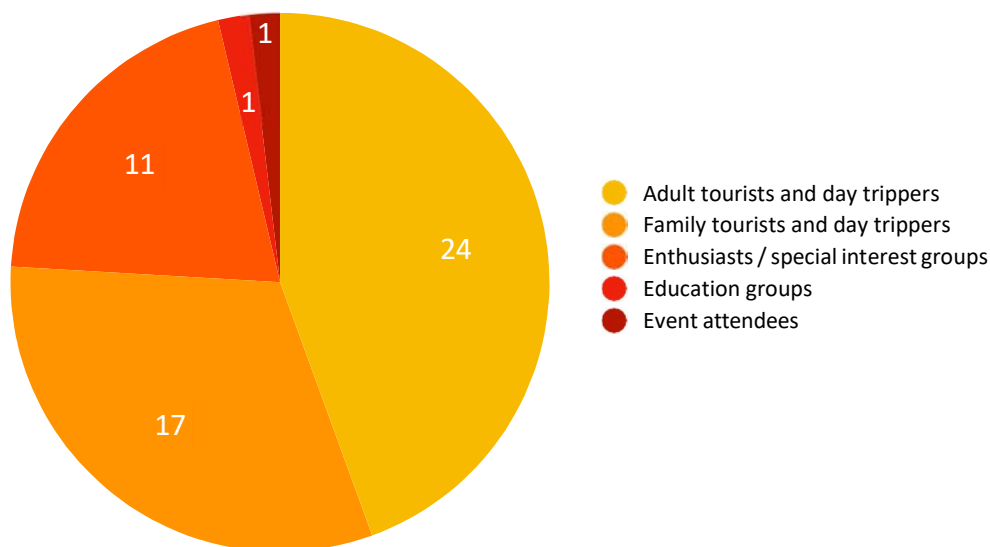


Figure 84. Current market segments identified by industrial heritage sites (n = 54)

It would be unhelpful to draw general conclusions from this unsophisticated breakdown of market segments, which represents a snapshot of a limited sample. More sophisticated segmentation tools are available, and could be used by industrial heritage sites; however many reported a lack of resources and time to do this.

In 2022 Historic England developed a suite of seven colour-coded market segments for heritage visitors with the support of the strategy and insight consultancy Morris Hargreaves McIntyre. These identify potential visitors on the basis of their existing interests and enthusiasms for heritage, and their likely future engagement and participation.⁶¹ Both the **Ironbridge Gorge Museum Trust** (WM) and the **Black Country Living Museum** (WM) have also undertaken work on audience segmentation to create more sophisticated analysis of an increasingly splintered and divergent set of audiences.

3.9.3 Promotional opportunities

Most sites are aware of, and seek to capitalise on, wider consumer trends. Christmas and Halloween provide useful opportunities for special events and marketing offers. Steam railways in particular have capitalised on the children's fictional character 'Harry Potter'. The Black Country Living Museum has made good use of its role as a venue for filming a popular period gangster TV series 'Peaky Blinders', and has developed a good market for themed special events.

Many sites offer annual passes as a function of the gift aid regulations, and some of these have proved successful in driving repeat visits and increasing secondary spend. However some organisations have found managing larger numbers of non-paying visitors challenging, and in some cases it is not apparent that the additional secondary spend is sufficient to offset the reduced ticket sales.

3.9.4 Marketing mechanisms

A total of 313 responses were received from 59 sites about the mechanisms they used to deliver marketing. Together these identified 25 different approaches; many sites used several different methods. These were grouped into two broad categories: traditional and social, defined as:

- **Traditional.** Site's own website, or featuring on other websites (such as TripAdvisor); providing editorial content for local newspapers, radio and television; paid-for advertising on newspapers and broadcast media; newsletters (printed and emailed); posters and leaflets.
- **Social.** Use of social media platforms.

A total of 190 (61% of 313) responses reported using different types of traditional media, with 123 responses reporting use of social media (39%). The breakdown for each is shown in Figures 85 and 86 below.

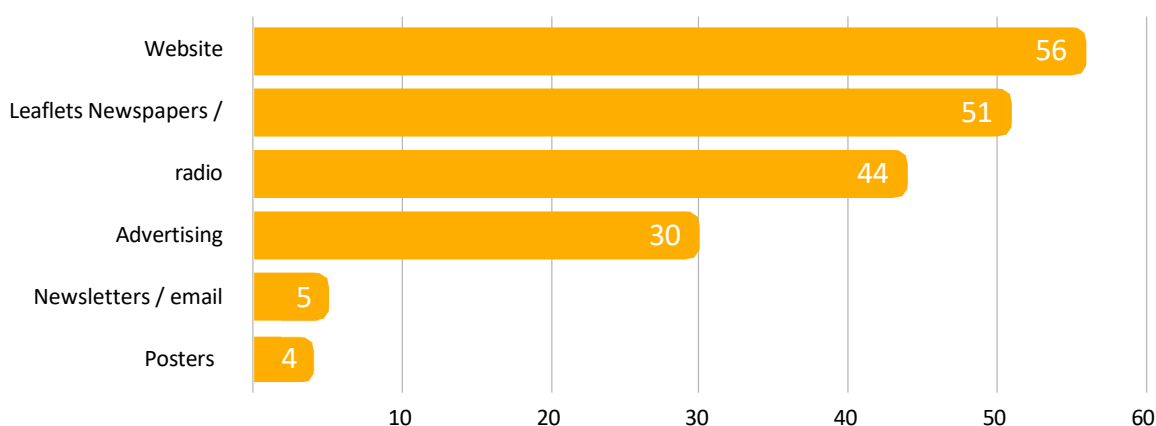


Figure 85. Use of traditional media for marketing — numbers of sites (n = 56)

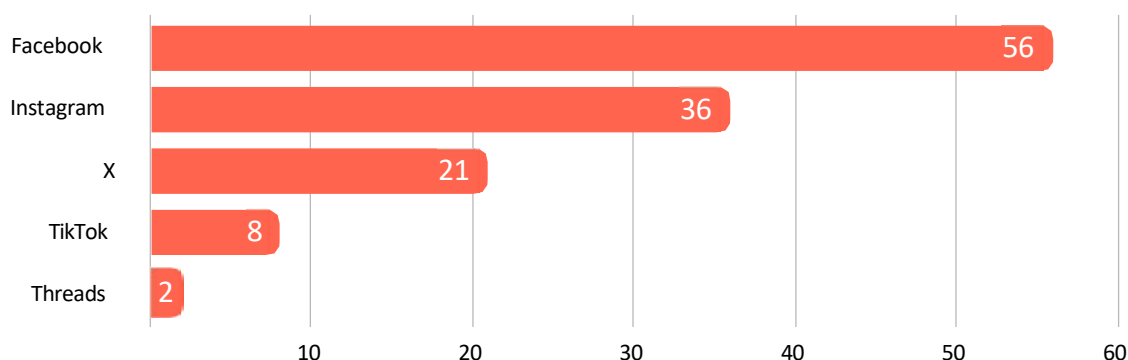


Figure 86. Use of social media for marketing — numbers of sites (n = 56)

Social media reported by the sample are skewed towards older demographics. Figure 87 shows the demographic spread by age of four widely-used social media platforms in the UK in 2024.⁶²

⁶² Statista: <https://www.statista.com/statistics/1464776>

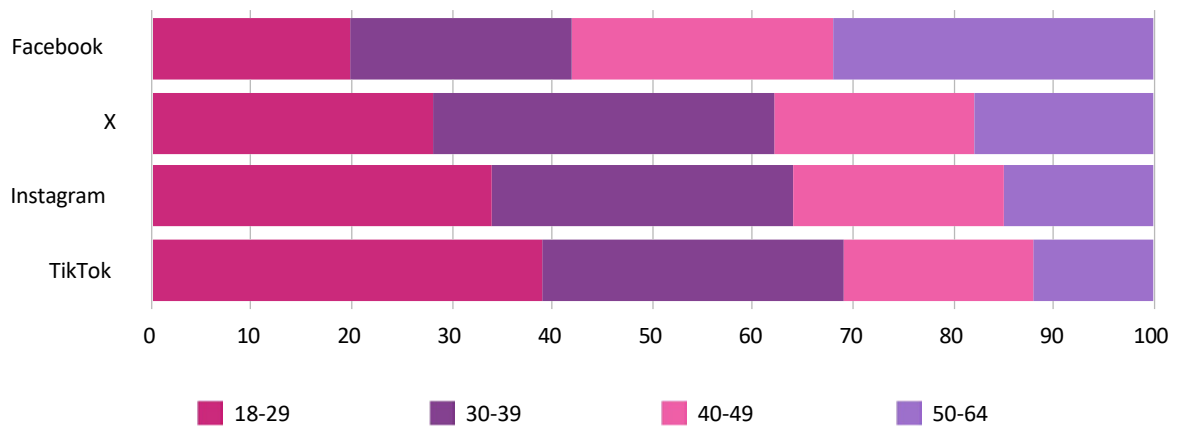


Figure 87. Age demographics of selected social media platforms in the UK

TikTok is the most widely-used social media app amongst younger online users, with 75.6% of 15-24 year-olds and 63.2% of 25-34 year-olds using the app.⁶³ Decision making around travel and experiences increasingly involves TikTok, with 23% of UK consumers using TikTok for holiday inspiration — of which 18% booked a trip as a direct result of viewing content on the platform.⁶⁴ Many industrial heritage sites have successfully used TikTok to engage with new audiences, including the **Black Country Living Museum** (WM), **Kempton Steam Museum** (LSE) and **Whitchurch Silk Mill** (LSE) (Figure 88).

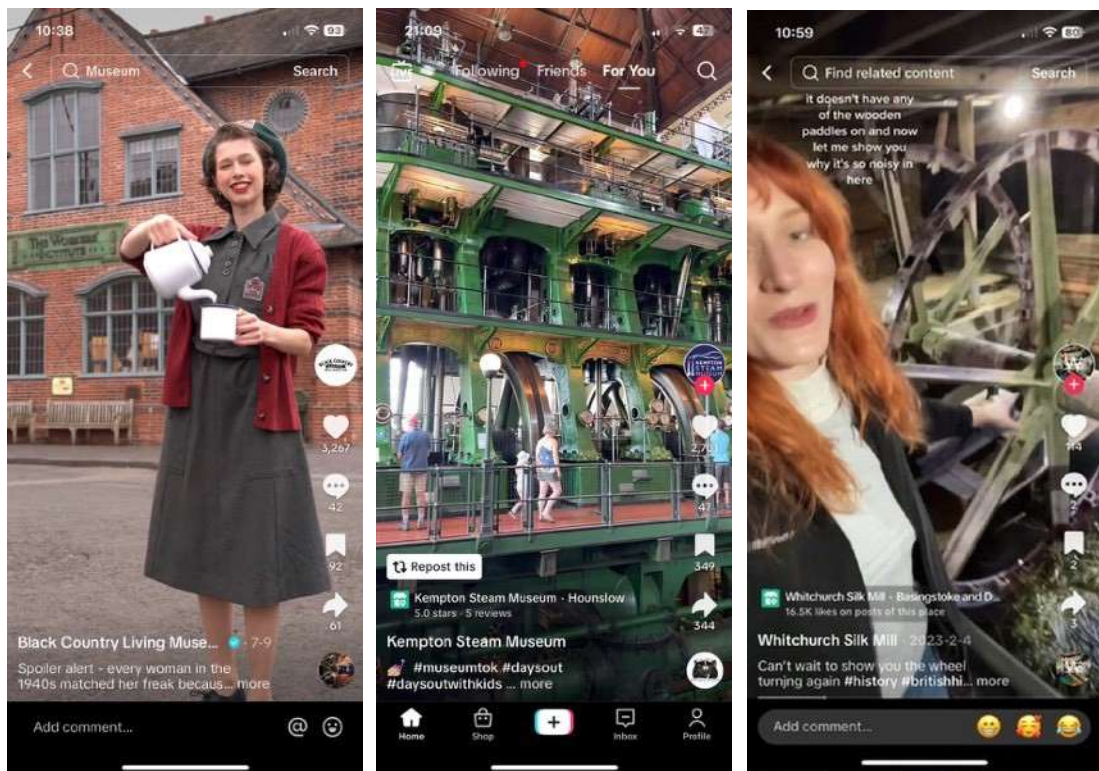


Figure 88. TikTok posts from selected industrial heritage sites

⁶³ Statista: <https://www.statista.com/statistics/1899540>

⁶⁴ British Airways 2024

Many sites appear to favour Facebook because — in the words of one respondent — 'it is used by 'our' demographic, especially in the village'. Similar comments suggested that most of the industrial heritage sites in the questionnaire and interview sample did not prioritise marketing and promotion to new audiences. These responses were at odds with a stated desire by 77% of sites (44 out of 57 respondents) to increase and/or improve their digital output and promotion. The majority identified capacity and/or time as the greatest obstacle to doing so; a significant number felt that this could be improved by appointing digital volunteers or apprentices, or through extra funding.

4 Discussion

Despite the limitations of the study, it is possible to discern some overall trends in both the larger sample of 682 sites and the smaller sample of 71 sites. These lead to some tentative and general discussion about the wider industrial heritage sector, and its resilience and sustainability for the near future.

4.1 Ownership and governance

Broadly speaking, the ownership and governance of sites falls into three main categories. The largest, comprising the majority of sites, are those in public- or third-sector ownership — most of which operate as ‘museum’ type visitor attractions. There are smaller numbers of sites which are monuments in the landscape (usually, but not always in public ownership), and another minority group of sites in private ownership.

Taking the largest category first, the positive aspect is that the owners’ intentions are benign and beneficial. Indeed most charitable trusts which own or manage industrial heritage sites are set up with educational and conservation purposes. Local authorities also have a public duty of care. These governance structures ensure that decision-making takes place within frameworks that are designed for the well-being of the site in question. The problem arises when the entities and individuals who are operating within those structures and frameworks are not able to deliver the conservation and educational aims to which they aspire.

Two clear threats are present.

First is that many of the organisations charged with the care of industrial heritage are unable to mobilise resources to undertake their duties — whether this is because they don’t have sufficient resources, or because they are not able to make timely use of the resources that they do have. There have been significant long-term reductions in local authority funding for museums, culture and heritage. These have not directly impacted on many of the sites in this study, but they are having an effect in the wider museum sector and elsewhere, and are likely to have impacts in the future. Moreover local authority cuts have an indirect impact on the availability of advice and information to support safe and sustainable management of these sites. Among charitable trusts, this report has found that most sites are making relatively small financial surpluses, and nearly two-thirds have less than six months’ operating costs in reserve.

Second, many of the people charged with running those organisations do not have the capacity to keep abreast of the rapidly-changing contexts within which they operate. Most charitable trusts are extremely well-run, with conscientious people doing their best to manage their various fiduciary and other responsibilities. However many smaller charities are unable to recruit new Trustees, or to find Trustees with sufficient experience and expertise in critical areas such as financial management, human resources, marketing and governance. Many industrial heritage charities are governed by heritage enthusiasts — a function of their origin and appeal — but this does not necessarily make for effective governance. Many organisations have also reported finding it extremely difficult to access training and support to undertake their governance roles effectively.

Sites in private ownership seem to fall into two groups. On the one hand are sites where the owners take great pride and care in their conservation and maintenance — these are usually, but not always, smaller sites. On the other hand are those sites where ownership of a heritage asset is seen as a burden, which do not always receive the best or most timely conservation attention.

4.2 Management, people and skills

The governance issues noted above are reflected in approaches to management. Just over half of the questionnaire respondents in this study had a business plan, management plan or strategic plan. These are functioning businesses which are responsible for delivering positive experiences to millions of customers (visitors), and for ensuring the employment of staff. Strategic and business planning is essential for stakeholders to have confidence in, and provide support for, these organisations in the future.

The industrial heritage sector is supported by large numbers of part-time staff, and by volunteers. Most staff and volunteers have received limited training about many aspects of their role(s) — and many are not qualified for the work they are doing. Many sites have no paid staff at all, and most of those which do have very few — the majority of which are part time. Recruitment is difficult, particularly for younger demographics; most organisations are not able to offer good career mobility and/or professional development opportunities that are competitive with other sectors such as retail and administrative work. On the positive side many roles are varied, and provide an opportunity to learn a wide range of skills, many of which might be transferable.

The result is a sector which describes itself as inadequately staffed for sustainable operation. There is a heavy reliance on volunteers, with nearly six volunteers for every paid member of staff. Volunteers tend to be subject enthusiasts, so whilst it is relatively easy to find people to do technical work (such as operating machinery), there were significant skills gaps in administrative functions. Again there are serious demographic challenges — most volunteers at industrial heritage sites are over 50, and most of those are over 65. Managing volunteers also generates a great deal of work for staff.

Skills are not always being passed on in a systematic manner, nor in a way which is generally conducive to individuals' well-being and professional development. Of course there are some exceptional cases, and many of the case studies highlighted in this report provide excellent examples of how coherent action in partnership with others can generate meaningful and useful apprenticeship and skills development opportunities. However these are the exception. There are skills gaps emerging in technical areas — notably steam engineering and millwrighting — but also, and perhaps more important for long-term resilience and sustainability, in non-technical but equally specialised professional functions such as artefact conservation, curation and collections, financial management, administration and interpretation.

The general picture is of a sector facing a people crisis. The wide range of professional skills that are needed to manage industrial heritage sites are often not recognised or valued. At the moment this is manageable, but retirements and departures during the next 5-10 years may see it turn into a more serious situation.

4.3 Visitors, finance and marketing

Visitors are the philosophical *raison d'être* for most industrial heritage sites — and are also the primary income providers, whether directly through ticket sales and secondary spending, or indirectly through providing support as taxpayers or National Lottery players. There is a significant disparity between a small number of large sites — which are responsible for the vast majority of all public experience of industrial heritage — and the much larger numbers of very small sites, which comprise most of the organisations in this study. For many smaller sites, current visitor numbers are not going to provide sustainable income in the medium term. This is particularly the case when it is not possible — whether for financial, operational, staffing or political reasons — to expand facilities or the visitor offer.

Financially the sector is marginal. There is significant turnover but surpluses overall are quite low. Again there are exceptions, but most sites are struggling to make enough money to cover anticipated maintenance liabilities. Moreover, as noted above, reserves are generally very low. As noted above, there are issues around

budgets for local authority sites which are already proving challenging in some cases, and these concerns may increase in the future.

The Covid pandemic had a short-term impact on visitors, which was largely ameliorated by Covid-related grant aid schemes. These were helpful for many sites but did not represent a significant income boost for the sector as a whole. The cost of living challenges which have emerged since the Covid pandemic, and particularly since the Russian invasion of Ukraine in 2022, have had a much more significant impact on finances. This has squeezed sites from two directions — increased costs, particularly fuel (both heritage fuels and other energy costs), and reduced visitor spending.

Most industrial heritage sites are very good at marketing themselves to existing audiences. Effective use is made of memberships, newsletters and some social media (mainly on platforms used by older demographics) to ensure a good level of repeat visits and sustained interest from enthusiasts, as well as local audiences. However many sites seem reluctant to engage with new audiences, or to develop offers which appeal to different market segments.

4.4 Conservation

Overall the conservation of industrial heritage sites is quite positive. Most sites had experienced no change in their condition since 1998, and around a fifth had seen improvements since then. Most sites were in good or fair condition — however the majority of sites also reported repair backlogs.

Historic building conservation requires particular skills; these are not generally specific to industrial heritage sites and are well-represented in the wider heritage sector. Moreover, as noted above, the designated status of many of these sites creates a safety net which should ensure that repair and maintenance are managed effectively — although this does require adequate resourcing of public bodies, and in particular local authorities, to ensure appropriate advice and regulation. Many smaller sites appear to be unaware of some of the issues presented by historic designated structures. As noted above, spending on repair and maintenance is likely to comprise a significant part of the budget for many sites — and for some these liabilities may make them unsustainable in the medium- to long-term.

Historic plant and machinery is an essential ingredient in making an industrial heritage site special and unique. The majority of sites have historic machinery and run it frequently; however most are not able to access qualified professionals to maintain and repair it. This is probably another function of the demographic juncture which sites face at present: there are fewer active people who have had first-hand real-world experience of, say, mining and steam engine operation. Much of their knowledge has been embedded through years of practical experience; younger colleagues have only ever known this as ‘heritage knowledge’. This presents some interesting challenges and opportunities for sector skills development and training.

Perhaps one of the biggest challenges for many industrial heritage sites is the question of fuel cost and availability. This is particularly the case for coal, which has seen a hugely volatile market in recent years — and now a sharply declining one. Experiments with alternatives to coal have had mixed results, but have not been widely successful. Finding a solution to this problem is an existential crisis at the heart of the industrial heritage sector. Coal-fired steam engines, both stationary and mobile — with all of their complex smells, sights, sounds and sublime sensations — are central to the meaning of industrial heritage. Indeed, arguably, the steam engine is deeply rooted in the very foundations of British identity: it is one of the truly unique contributions that these islands have made to the world. Therefore to imagine a situation where there are no steam engines in England would be, for many, quite traumatic — akin to the ravens leaving the Tower of London.

However, whilst some organisations and umbrella groups have worked together to pool expertise and experience, notably in the heritage railway sector, there is now a great urgency to arrive at a sustainable solution. This should be done collectively. It may be possible to find sustainable UK-based sources of coal, but this seems unlikely — certainly in the short- to medium-term — and brings with it a number of additional challenges. The ideal solution would be for the UK industrial heritage sector to develop an alternative fuel of its own, on its own. This could drive innovation and sustainability, and also create potential export markets.

Climate change is another issue with widespread ramifications. Most sites have experienced flooding, storm damage, erosion and other climate-related issues in recent years.

4.5 Access and interpretation

Many industrial heritage sites present challenges of access for less mobile visitors, and this is not widely ameliorated with innovative approaches to interpretation. These shortcomings reflect the difficulties noted above with governance, management and resources. As in other areas there are good sector exemplars, and mechanisms need to be found which cascade the lessons learned out to other areas.

There are also significant gaps between educational aspirations and delivery. These are both internal and external. Internal issues — that is, those within industrial heritage organisations — include a lack of resources, and/or a lag between setting the strategy and making the changes to achieve it (including funding bids). Moreover frequently the offer to schools is not clear or is not made at all. External issues include lack of time and resources for schools to make visits / trips off site; together with compliance and safeguarding risks.

5 Recommendations

This review has identified ten recommendations for the Industrial Heritage Support Officer (IHSO) and its steering group. These are actions which are intended to improve the resilience and sustainability of publicly-accessible designated industrial heritage sites.

All of these actions should be considered to be long-term, in the sense that they are ongoing measures to improve resilience. However the specific recommendations set out here (in 2025) are for actions which are short-term (within the next year or two), medium-term (within the next three to five years) and long-term (within the next 10 years).

5.1 Short-term

I. Create baseline

- Rationale: To overcome the challenges of intermittent large-scale studies, to enable regular and timely focussed analysis of the situation. The current study is the first review on this scale in 26 years. The sample is too large and unrepresentative for meaningful analysis. A baseline set of 100 (12-13 per region) 'museum' type sites (as defined in this report) could be identified for focussed longitudinal analysis and longitudinal study. This work could identify consistent measurable indicators that would be representative of the sector.
- Recommended action: A short study to identify baseline sites and set out key metrics and approaches for longitudinal study.

II. IHSO support

- Rationale: Place-based and/or specialist networks are essential for many individual sites, as they enable them to access skills and experience which they would otherwise lack. These networks also create a stronger and more resilient sector as a whole. The IHSO role is critical to developing and managing these networks, but people and organisations change rapidly and it is not always possible to manage the information flow. This role urgently needs additional administrative support to ensure that the networks are up to date.
- Recommended action: a part-time IHSO post is created, primarily to support network development.

III. Network research

- Rationale: Many sites don't see themselves as exclusively 'heritage' attractions; instead they serve a number of leisure, recreation and well-being functions. Some sites have well-developed non-heritage networks, funding and engagement — particularly with the wider arts and culture sectors. It would be useful to explore in more detail those places where the successful diversification of management approaches and funding has been achieved, and how this can be realised across a wider range of industrial heritage sites. The present study contains a number of launching points from which to develop this.
- Recommended action: a focussed study on approaches to the diversification of governance, management and funding for industrial heritage.

IV. Advocacy development

- Rationale: Advocacy for the sector is mixed. Some sites are able to leverage good political support — for example large sites (such as Ironbridge), sites within the portfolio of a large national body (such as the National Trust), and certain types of site (such as railways). However most of the sites in this study are very much 'below the radar' of political awareness, even at a local level. One consistent concern for which such advocacy would be hugely advantageous is the question of long-term fuel availability. Given industrial heritage's is a key part of the story of many UK World Heritage Sites, this advocacy should be at a UK-wide level.
- Recommended action: engagement with existing All Party Parliamentary Groups (APPGs) and other groups

to enhance advocacy for industrial heritage, ideally with UK-wide support from Historic England (HE) and its counterparts where possible, while recognising that heritage is a devolved matter.

5.2 Medium-term

V. Volunteer renaissance

- **Rationale:** This study has shown that all industrial heritage sites rely heavily on volunteers, some extensively. Most have reported that volunteers are hard to find, difficult to retain, and come from a limited demographic pool. A few sites have had more positive stories to tell, and it would be worth exploring in more detail how lessons from the successes can be adapted to other sites in the sector. It may be possible to develop and empower ‘community champions’ for industrial heritage.
- **Recommended action:** Development and implementation of a two-stage volunteer action project for industrial heritage:
 - Stage 1 — a detailed audit of the current situation across a representative sample of sites, using the 100 identified in the baseline study (see Recommendation I above) as a starting point.
 - Stage 2 — working with heritage actors with extensive experience of large-scale volunteer recruitment and management (such as the National Trust and the Canal and River Trust), as well as non-heritage actors (such as the National Association for Voluntary and Community Action), set up a series of pilot projects for recruiting, pooling and exchanging volunteers with particular skills, or in particular locations.

VI. Skills enhancement

- **Rationale:** Skills shortages are an issue for most sites. Whilst many sites reported a lack of technical and engineering skills, it is evident that the majority also struggle with IT, marketing, fundraising and management skills. Some sites have successfully overcome these challenges, and it will be worth exploring these in more detail to see what lessons can be learned for the wider sector. This could follow the model of successful partnership programmes for building conservation skills, as well as with schemes such as the Clore Leadership programmes.⁶⁵ It could benefit from close consultation and overlap with those schemes.
- **Recommended action:** Development and implementation of a two-stage skills action project for industrial heritage:
 - Stage 1 — a detailed audit of the current situation across a representative sample of sites, using the 100 identified in the baseline study (see Recommendation I above) as a starting point.
 - Stage 2 — set up a series of pilot projects for skills development (apprenticeships, technical education and NVQs) in partnership with specialist providers such as engineering councils, colleges of further education — and with sector bodies including Icon and the Association of Independent Museums. This is likely to develop into two separate streams: one for technical skills, and one for (much-needed but often overlooked) non-technical skills such as marketing, finance and human resource management.

⁶⁵ <https://www.cloreleadership.org>

VII. Audience development / marketing

- Rationale: Collectively the 682 sites in this survey — and English industrial heritage more generally — make a substantial contribution to both heritage value and popular culture. Much of the UK's inbound tourism is heritage-driven, and the unique industrial story of England has enormous global resonance. A more coherent approach to marketing and audience development, building on previous initiatives such as the European Routes of Industrial Heritage (ERIH) and engaging with national and regional tourism organisations and devolved regional government (and arms-length bodies) would help secure the long-term future of many sites who rely on visitor revenue to support operations.
- Recommended action: Develop a strategy for 'joined up thinking' around industrial heritage promotion, perhaps starting at a regional level.

VIII. Sector mentoring

- Rationale: Skills enhancement through formal training (see Recommendation VI above) is part of the solution for the acute shortage of skills that is likely to impact the sector in the next decade. However less formal mentoring and support between organisations can be an effective way of enhancing capacity in the sector, and sharing experience more openly between organisations and individuals. With improved network connections resulting from the appointment of IHSO support staff (see Recommendation II above), a formal network should be established to create a focussed system of mentors and mentees for specific skills development through personal/professional development plans. This would be led by larger organisations who would support smaller sites in their regions.
- Recommended action: Create a formal mentoring scheme for sector-wide professional development.

5.3 Long-term

IX. Heritage fuel research

- Rationale: Heritage fuel is a significant issue for sites running historic machinery. The situation is particularly acute for steam engines, partly as a result of recent fluctuations in the market for coal, but mainly because of the rapid decline in coal use in the mainstream economy. Heritage constitutes just 0.5% of the UK coal market. Experiments with alternatives to coal have not hitherto been successful. The sector needs to work collectively to either (a) find sustainable UK-based sources of coal, or (b) develop an alternative fuel on its own. In the short term it needs to do both. In the longer term the same issues (decreasing supply to the mainstream market) will also impact machinery using petroleum products.
- Recommended action: The IHSO works closely with partners — particularly the heritage railway sector — towards setting up a UK-wide consortium to address this issue through practical solutions. The ultimate aim would be to secure Research and Development grants through a mechanism such as the UK Innovation Fund, and/or philanthropic support, to create sustainable heritage fuel alternatives on a commercial basis for global markets.

X. Strategic review

- Rationale: Although this review has found that most sites are managing to sustain their existence, there will be demographic, environmental and financial challenges during the next decade that will impact on visitors, volunteers and sites. Public funding will remain limited. Some of the recommended actions set out above may help to mitigate these pressures; however a long-term strategic vision could help guide decision-making about funding allocation and other support. Not all sites will remain open, and not all sites can remain open. The heritage interests of future generations will change. It makes more sense to focus resources on the long-term security of key sites, places and landscapes. A review of industrial heritage assets and their suitability for long-term retention should be part of a vision for what 'industrial heritage' should look like in, say, 2050.
- Recommended action: This requires collective action by the sector as a whole, working with other partners including the Association of Leading Visitor Attractions (ALVA), AIM, Historic England and Visit England. It should also extend beyond England to become a UK-wide operation. The outcome should be

a statement of priorities for conservation and interpretation of designated industrial heritage sites accessible to the public, along with a strategic action plan for support.

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Appendix 1 — status of 682 industrial heritage sites

A1.1 Introduction

A1.1.1 Background

This Appendix is a list of 682 sites, organised by region.

The 608 sites that appeared in the 1998 inventory are listed and numbered in the same order as they were then. The 74 additional sites recorded in the 2024 inventory are listed at the end of their respective regional tables, in blue, and denoted with a '+'. The quantities of original (1998), additional (2024) and total sites by region are:

- North East — 45 original sites and 11 additional sites, giving a total of 56 sites.
- North West — 70 original sites and 13 additional sites, giving a total of 83 sites.
- Yorkshire and the Humber — 55 original sites and 8 additional sites, giving a total of 63 sites.
- East Midlands — 77 original sites and 4 additional sites, giving a total of 81 sites.
- West Midlands — 65 original sites and 10 additional sites, giving a total of 75 sites.
- East of England — 95 original sites and 4 additional sites, giving a total of 99 sites.
- London and South East — 105 original sites and 9 additional sites, giving a total of 114 sites.
- South West — 96 original sites and 15 additional sites, giving a total of 111 sites.

The list represents a snapshot of the situation in September 2024, as far as could be ascertained from the available sources. It provides basic information about the current use, status and ownership of each of the 682 sites, and has been populated from a combination of:

- Figures 1-8 of the 1998 report;
- Data supplied by the Industrial Heritage Support Officer in May 2024;
- Information from the questionnaires and interviews conducted as part of the main project;
- Desk-based research undertaken between August and October 2024.

Sites which were covered by responses to the 2024 survey (questionnaires or interviews) are shown in bold and annotated as described below. Some respondents covered several sites.

Of these, three sites listed in 1998 could not be identified in 2024. They are:

- Groundwork Discovery Centre (NW). Possibly at or near Northwich, Cheshire.
- Old Bakery (SW). Possibly at or near Seaton, Devon.
- Easterfield Windmill (EE). Possibly at or near Totham, Essex.

This appendix should not be regarded as a comprehensive and complete list of all the designated industrial heritage sites in England that are open to the public.

A1.1.2 Abbreviations and indications

No

- These are the numbers given to the sites in Figures 1-8 of the 1998 report (see above). Each of the 1998 Figures covered an English region. For easier comparison with the previous report the numbering sequence for sites within each region has not been changed, even where the site names may be different. New sites have been added at the end: the numbering sequence is continued but these additions are denoted with a '+'. Sites which responded to the 2024 survey are listed first, other sites are those supplied by the IHSO.

Name

- Current names of sites are given; these sometimes differ from the names used in the 1998 report. As noted above the same numbers are used in both reports, so cross-referencing with the previous study should be straightforward.
- Abbreviations: Ctre — Centre; Mus — museum; Rly — Railway; Stn — Station.

Use

- Site. Ruin or structural remains not part of a larger heritage attraction.
- Museum. Place run primarily as a heritage attraction and open to the public.
- Facility. Place run primarily as a non-heritage public or semi-public venue (eg. arts).
- Commercial. Leisure or non-leisure use, eg. shop, office, warehouse, holiday accommodation.
- Infrastructure. Public use for modern transport, communications or service industries.
- House. Private dwellings — house, houses or apartments.
- Disused. Intact building (as opposed to a site, above) with no occupier, and not part of any other commercial business, museum, facility or house.

Access

- Private. **No public access.** Privately owned and not accessible to the public, or infrastructure which is publicly owned but not accessible for safety or operational reasons (eg. tunnels).
- Restricted. **Restricted public access.** Privately or publicly owned and only accessible to the public occasionally or in part. Commercial premises, shopping centres, multi-tenanted spaces (many mills or former mills), pubs, hotels and holiday lets fall into this category.
- Public. **Regulated public access.** Controlled admission, open to the public on a regular basis. Some places may only open infrequently. Admission charges apply to most of these sites, but not all. Active railway stations are included in this category.
- Open. **Open access.** Largely or entirely open sites accessible from public footpath / highway at no charge (permission may be needed in some cases). Canals are included in this category.

Ownership

- Private company. Commercial owner whose main business is not primarily heritage (although they may operate a number of heritage assets as part of that business).
- Private individual(s). Individual or family owner whose main focus is not heritage (usually a private house or holiday accommodation).
- Charitable trust. Registered charity, community interest organisation (CIO), community interest company (CIC) or similar not-for-profit vehicle. This category is for those charitable trusts that are concerned with a specific site or a small group of associated sites — for example a local building preservation trust with several sites (not the National Trust).
- Local authority. Usually the county council or unitary authority, but this category also includes parish councils, National Parks and other public bodies such as internal drainage boards. Sites which are operated by third parties are denoted with an asterisk.
- Other ownerships are listed by the specific owner when this is a national charity, public infrastructure / utility company — for example English Heritage, the National Trust, the Canal and River Trust, Network Rail, National Museums and so-on. Private non-corporate owners are not listed by name.

Change

- I. Condition of industrial heritage appears to have improved since 1998.
- D. Condition of industrial heritage appears to have declined since 1998.
- N. No apparent or known change in condition of industrial heritage since 1998.
- X. Site as listed in 1998 survey not identifiable in 2024.
- +. New site not inventoried in 1998.

2024

- N. Did not respond to the 2024 survey.
- Qu. Responded to the 2024 questionnaire.
- Int. Interviewed as part of the 2024 survey.
- Q+I. Responded to the 2024 questionnaire and was also interviewed.

A1.2 Sites by region

A1.2.1 North East

No	Name	Use	Access	Ownership	Change	2024
1	Marske Mill	Site	Open	Local authority	N	N
2	National Mus of Royal Navy	Museum	Public	National Museum	I	N
3	Tockett's Watermill	Commercial	Restricted	Private company	I	N
4	Hart Windmill	House	Private	Private individual	N	N
5	Killhope Lead Mining Mus	Museum	Public	Local authority	I	N
6	Leap Mill Farm Watermill	House	Private	Private individual	N	N
7	Old Fulling Mill Durham	Not known	Not known	Durham University	D	N
8	Hopetown Darlington	Museum	Public	Local authority	I	N
9	Causey Arch	Site	Open	Local authority	N	N
10	Beamish	Museum	Public	Charitable trust	I	N
11	Bank Top Stn	Infrastructure	Public	Network Rail	N	N
12	Derwentcote Steel Furnace	Site	Open	English Heritage	I	N
13	Brusselton Incline	Site	Open	Local authority	I	N
14	Locomotion	Museum	Public	National Museum	I	N
15	Tees Cottage Pumping Stn	Museum	Public	Charitable trust	N	N
16	Norham Stn	House	Private	Private individual	N	N
17	Ridsdale Ironworks	Site	Open	Not known	I	N
18	Shildon Engine House	Site	Open	Local authority	N	N
19	Heatherslaw Mill	Museum	Public	Private company	I	N
20	Wylam Rly Mus	Museum	Public	Local authority	N	N
21	Brinkburn Priory Mill	Commercial	Restricted	Landmark Trust	I	N
22	Otterburn Mill	Commercial	Public	Private company	I	N
23	Woodhorn Colliery Mus	Museum	Public	Local authority	I	Int
24	Cragside	Museum	Public	National Trust	N	N
25	Allenheads Heritage Centre	Museum	Public	Not known	N	N
26	Castle Point Lime Kilns	Site	Open	National Trust	I	N
27	Old Pottery Corbridge	Site	Public	Private individual	N	N

No	Name	Use	Access	Ownership	Change	2024
28	Lambley Viaduct	Site	Open	Local authority	N	N
29	Langley + Blagill Lead Mills	Site	Restricted	Private individuals	N	N
30	Tanfield Railway	Museum	Public	Charitable trust	I	Qu
31	St Mary's Lighthouse	Museum	Public	Local authority	N	N
32	Heaton Mill	Site	Open	Local authority	N	N
33	Whitburn Windmill	Site	Restricted	Local authority	I	N
34	Whinfield Coke Ovens	Site	Open	Local authority	N	N
35	Jesmond Dene Mill	Site	Public	Local authority	N	N
36	Discovery Museum	Museum	Public	Local authority	I	N
37	Friar's Goose Pumping Stn	Site	Open	Local authority	D	N
38	Souter Lighthouse	Museum	Public	National Trust	N	N
39	Fulwell Windmill	Museum	Public	Local authority	I	N
40	Ryhope Engines Mus	Museum	Public	Charitable trust	I	N
41	Dunston Staiths	Museum	Public	Charitable trust	I	N
42	The Fans Museum	Museum	Public	Network Rail	N	N
43	Washington F Pit Mus	Museum	Public	Local authority	N	Qu
44	Victoria Tunnel	Museum	Public	Charitable trust	N	Qu
45	Bowes Railway	Museum	Public	Charitable trust	N	N
46	Path Head Water Mill	Museum	Public	Charitable trust	+	Qu
47	Ford Colliery Engine House	Site	Open	Private company	+	N
48	Cockfield Fell	Site	Open	Not known	+	N
49	Inkerman Farm Coke Ovens	Site	Open	Private individuals	+	N
50	Middlehope Lead Mine	Site	Open	Private individual	+	N
51	Carrshield Lead Mine	Site	Open	Private individuals	+	N
52	Allen Smelt Mill	Site	Open	Not known	+	N
53	Allensford Blast Furnace	Site	Open	Charitable trust	+	N
54	Hareshaw Ironworks	Site	Open	Private individuals	+	N
55	Winlaton Mill Ironworks	Site	Open	Local authority	+	N
56	Beadnell Limekilns	Site	Open	Not known	+	N

A1.2.2 North West

No	Name	Use	Access	Ownership	Change	2024
1	Bunbury Water Mill	Museum	Public	Charitable trust	I	N
2	Nether Alderley Mill	Museum	Public	National Trust	N	N

No	Name	Use	Access	Ownership	Change	2024
3	Groundwork Discovery	Not known	Not known	Not known	X	N
4	National Waterways Mus	Museum	Public	Canal + River Trust	I	Int
5	Stretton Watermill	Museum	Public	Local authority	N	N
6	Silk Museum Macclesfield	Museum	Public	Charitable trust	I	N
7	Quarry Bank Mill	Museum	Public	National Trust	I	Qu
8	Crewe Heritage Centre	Museum	Public	Charitable trust	N	N
9	Lock 57 The Canal Centre	Commercial	Public	Private company	N	N
10	Heron Corn Mill	Museum	Public	Charitable trust	N	N
11	Gleaston Water Mill	Museum	Public	Private individual	I	N
12	Duddon Furnace	Site	Open	Local authority	N	Int
13	Brampton Watermill	House	Private	Private individual	N	N
14	High Mill Alston	Disused	Private	Private individual	N	N
15	Newland Furnace	Museum	Public	Charitable trust	N	N
16	Greenside Mine	Site	Open	Local authority	N	N
17	Haig Colliery Mining Mus	Disused	Private	Not known	D	N
18	Howk Bobbin Mill	Site	Open	Local authority	I	Int
19	Beckside Mill Kirkby	House	Private	Private individual	N	N
20	Wythop Mill	House	Private	Private individual	N	N
21	South Tynedale Rly	Museum	Public	Charitable trust	N	N
22	Wetheriggs Pottery	Disused	Private	Private individual	D	N
23	Hogget Gill Lead Smelter	Site	Open	National Trust	N	N
24	Sparket Mill	Holiday	Restricted	Private individual	N	N
25	Acorn Bank Watermill	Museum	Public	National Trust	N	N
26	Nenthead Mines	Museum	Public	Charitable trust	N	Qu
27	Stony Hazel Forge	Site	Open	Local authority	N	Int
28	The Dock Mus	Museum	Public	Local authority	I	N
29	Stott Park Bobbin Mill	Museum	Public	English Heritage	I	N
30	Eskdale Mill	Museum	Public	Charitable trust	N	N
31	Coniston Copper Mines	Site	Open	Local authority	N	N
32	Dunham Massey Sawmill	Museum	Public	National Trust	N	N
33	Rochdale Nine Locks	Infrastructure	Open	Canal + River Trust	N	Int
34	Bridgewater Canal	Infrastructure	Open	Private company	N	N
35	Albion Warehouse	Commercial	Restricted	Private company	N	N
36	Science and Industry Mus	Museum	Public	National Museum	N	Int

No	Name	Use	Access	Ownership	Change	2024
37	Haigh Windmill	Site	Restricted	Local authority	I	N
38	Wigan Pier Heritage Ctre	Disused	Private	Not known	D	N
39	Crimble Mill	Disused	Private	Private company	N	N
40	Lancashire Mining Mus	Museum	Public	Local authority	N	Qu
41	Barton Swing Aqueduct	Infrastructure	Restricted	Private company	N	N
42	Bancroft Mill Engine Mus	Museum	Public	Charitable trust	I	N
43	Marsh Windmill	Museum	Restricted	Private company	I	N
44	Queen Street Mill Textile Mus	Museum	Public	Local authority	N	N
45	Lytham Windmill	Museum	Public	Charitable trust	N	N
46	Oak Mount Mill	Museum	Public	Charitable trust	N	N
47	Steamtown Railway Mus	Infrastructure	Private	Private company	D	N
48	Helmshore Mills Textile Mus	Museum	Public	Local authority	N	N
49	Royal Albert Dock	Commercial	Restricted	Private company	N	N
50	Cannington Shaw Bottle	Disused	Private	Charitable trust	N	N
51	Merseyside Maritime Mus	Museum	Public	National Museum	N	N
52	World of Glass	Museum	Public	Charitable trust	I	N
53	Shore Road Pumping Stn	Infrastructure	Restricted	Network Rail	N	N
54	Bidstone Windmill	Site	Open	Local authority	N	N
55	Ellenroad Engine House	Museum	Public	Charitable trust	N	N
56	Trent and Mersey Canal	Infrastructure	Open	Canal + River Trust	N	Int
57	Bunbury Locks Bridge	Infrastructure	Open	Canal + River Trust	N	Int
58	Anderton Boat Lift	Infrastructure	Public	Canal + River Trust	N	Int
59	Wrenbury Lifting Bridge	Infrastructure	Open	Canal + River Trust	N	Int
60	Sedgwick Aqueduct	Infrastructure	Open	Canal + River Trust	N	Int
61	Marple Aqueduct	Infrastructure	Open	Canal + River Trust	N	Int
62	Glasson Basin	Infrastructure	Open	Canal + River Trust	N	Int
63	Lewis Textile Mus	Facility	Restricted	Local authority	D	N
64	Leasowe Lighthouse	Museum	Public	Local authority*	I	N
65	Peoples' History Mus	Museum	Public	Charitable trust	I	N
66	Mus of Yorks Dales Lead	Disused	Not known	Charitable trust	D	N
67	Bolton Steam Mus	Museum	Public	Private company	N	Qu
68	Cheesden Lumb Mill	Site	Open	United Utilities	I	N
69	Lancaster Maritime Mus	Museum	Public	Local authority	N	N
70	Mus of Transport GM	Museum	Public	Transport for GM	N	N

No	Name	Use	Access	Ownership	Change	2024
71	Beaconsall Living Mus	Museum	Public	Charitable trust	+	Qu
72	Lion Salt Works	Museum	Public	Local authority*	+	Qu
73	Grane Mill	Museum	Public	Charitable trust	+	Qu
74	Leigh Spinners	Facility	Restricted	Private company	+	N
75	Islington Mill	Facility	Public	Charitable trust	+	N
76	Alderley Edge Mines	Site	Open	National Trust	+	N
77	Backbarrow Ironworks	Museum	Public	Charitable trust	+	Qu
78	Saltom Coal Pit	Site	Open	Local authority	+	N
79	Jane Pit	Site	Open	Local authority	+	N
80	Duke Pit Fan House	Site	Open	Local authority	+	N
81	Aspen Colliery / Coke Ovens	Site	Open	Local authority	+	N
82	Oldknow's Lime Kilns	Site	Open	Local authority	+	N
83	Murgatroyd's Brine Pumps	Site	Restricted	Charitable trust	+	N

A1.2.3 Yorkshire and the Humber

No	Name	Use	Access	Ownership	Change	2024
1	Yarnbury Dressing Floor	Site	Open	Private individual	N	N
2	Filey Railway Stn	Infrastructure	Public	Network Rail	N	N
3	Crakehall Watermill	Commercial	Restricted	Private individual	I	N
4	Old Gang Lead Mill	Site	Open	Local authority	I	N
5	Holgate Windmill	Museum	Public	Charitable trust	I	N
6	Craven Lime Works	Site	Open	Local authority	I	N
7	Gayle Mill Hawes	Museum	Public	Charitable trust	I	N
8	Low Mill Bainbridge	Commercial	Restricted	Private individual	N	N
9	Aiskew Mill Bedale	Commercial	Restricted	Private individual	I	N
10	Stanley Ferry Aqueduct	Infrastructure	Restricted	Canal + River Trust	N	Int
11	Rosedale Iron Kilns	Site	Open	Local authority	N	N
12	Surrender Lead Smelting Mill	Site	Open	Local authority	N	N
13	Leeds Canal Basin	Infrastructure	Open	Canal + River Trust	N	Int
14	Elvington Brickyard Pump	Site	Private	Private individual	N	N
15	Embsay + Bolton Steam Rly	Museum	Public	Charitable trust	N	N
16	Cononley Lead Mine	Site	Open	Local authority	N	N
17	Gunnarside Gill	Site	Open	Local authority	N	N
18	Grassington Moor Lead Mine	Site	Open	Local authority	N	N

No	Name	Use	Access	Ownership	Change	2024
19	Esk Mill Danby	House	Private	Private individual	N	N
20	Grinton Lead Smelt Mill	Site	Open	Local authority	I	N
21	Ravenscar Alum Works	Site	Open	National Trust	N	N
22	North Yorkshire Moors Rly	Museum	Public	Charitable trust	N	N
23	Shibden Hall	Museum	Public	Local authority	N	N
24	Piece Hall Halifax	Commercial	Public	Charitable trust	N	N
25	Little Germany	Commercial	Public	Private individuals	I	N
26	Colne Valley Mus	Museum	Public	Charitable trust	N	N
27	Bingley Five Rise Locks	Infrastructure	Open	Canal + River Trust	N	Int
28	Leeds Industrial Mus	Museum	Public	Local authority	N	N
29	Thwaite Mills Mus	Disused	Public	Canal + River Trust	N	Int
30	National Coal Mining Mus	Museum	Public	Charitable trust	I	N
31	Keighley + Worth Valley Rly	Museum	Public	Charitable trust	N	N
32	Salts Mill Saltaire	Commercial	Restricted	Private company	N	N
33	Huddersfield Stn	Infrastructure	Public	Network Rail	N	N
34	Bradford Industrial Mus	Museum	Public	Local authority	N	N
35	Hessle Whiting Mill	Museum	Public	Local authority	N	N
36	Reesons Mill Hibaldstow	Not known	Private	Private individual	N	N
37	Springhead Pumping Stn	Infrastructure	Private	Yorkshire Water	I	N
38	North Howden Windpump	Site	Private	Private individual	N	N
39	Withernsea Lighthouse Mus	Museum	Public	Charitable trust	N	N
40	Burton Agnes Old Hall	Museum	Public	English Heritage	N	N
41	Stamford Bridge Viaduct	Site	Open	Local authority	N	N
42	Skidby Windmill	Museum	Public	Local authority	I	N
43	Abbeydale Industrial Hamlet	Museum	Public	Local authority*	N	N
44	Worsborough Mill Mus	Museum	Public	Local authority	N	N
45	Elsecar Newcomen Engine	Museum	Public	Local authority*	I	N
46	Kelham Island Industrial Mus	Museum	Public	Local authority*	N	N
47	Terminal Warehouse	Commercial	Restricted	Not known	I	N
48	Shepherd Wheel	Museum	Public	Local authority*	N	N
49	Mousehole Forge	House	Private	Private individuals	N	N
50	Wortley Top Forge	Museum	Public	Charitable trust	N	N
51	Rockley Blast Furnace	Site	Open	Charitable trust	N	N
52	Bedgreave New Watermill	Museum	Public	Local authority	N	N

No	Name	Use	Access	Ownership	Change	2024
53	Waltham Windmill	Museum	Public	Local authority*	N	N
54	Wrawby Windmill	Museum	Public	Charitable trust	N	N
55	High Corn Mill Skipton	Commercial	Restricted	Private company	N	N
56	Sandtoft Trolley Bus Mus	Museum	Public	Charitable trust	+	Qu
57	Middleton Railway	Museum	Public	Local authority*	+	Qu
58	Gibson Mill	Museum	Public	National Trust	+	N
59	Sheffield Cementation	Site	Open	Charitable trust	+	N
60	Catcliffe Glass Cone	Site	Open	Local authority	+	N
61	Rockingham Porcelain Wks	Site	Open	Local authority	+	N
62	Keld Heads Lead Smelter	Site	Public	Private company	+	N
63	Hemmingfield Colliery	Site	Restricted	Charitable trust	+	N

A1.2.4 East Midlands

No	Name	Use	Access	Ownership	Change	2024
1	Masson Mills	Museum	Public	Private company	I	N
2	Peak Rail	Museum	Public	Private company	N	N
3	Lathkill Dale NNR	Site	Open	Local authority	N	N
4	Museum of Making	Museum	Public	Charitable trust	I	N
5	Sandiacre Lock Cottages	Museum	Public	Charitable trust	N	N
6	Stainsby Mill Hardwick	Museum	Public	National Trust	N	N
7	Fallgate Mill Ashover	House	Private	Private individual	N	N
8	Stone Edge Cupola	Site	Open	Local authority	N	N
9	Clay Cross Tunnel	Infrastructure	Private	Network Rail	N	N
10	High Peak Junction	Museum	Public	Local authority	I	N
11	Middleton Top Engine House	Museum	Public	Local authority	N	N
12	Shardlow Heritage Centre	Museum	Public	Charitable trust	N	N
13	Midland Railway Centre	Museum	Public	Charitable trust	N	N
14	Cromford Mill	Museum	Public	Charitable trust	I	N
15	Heage Windmill	Museum	Public	Local authority*	N	N
16	Pleasley Pit	Museum	Public	Charitable trust	I	N
17	North Mill Belper	Commercial	Restricted	Private company	I	N
18	Crich Tramway Village	Museum	Public	Charitable trust	N	N
19	Magpie Mine	Museum	Public	Charitable trust	N	N
20	Morley Park Blast Furnaces	Site	Open	Charitable trust	N	N

No	Name	Use	Access	Ownership	Change	2024
21	Bennerley Viaduct	Site	Open	Charitable trust	I	N
22	Caudwell's Mill at Rowsley	Museum	Public	Charitable trust	N	N
23	Sharpe's Pottery Museum	Museum	Public	Charitable trust	N	N
24	Cat and Fiddle Windmill	Commercial	Restricted	Private company	N	N
25	North Leverton Windmill	Museum	Public	Charitable trust	N	N
26	Misterton Soss Pumphouses	Houses	Private	Private individuals	I	N
27	Kiln Warehouse Newark	Commercial	Private	Private company	I	N
28	Ollerton Watermill	Commercial	Restricted	Private individual	N	N
29	Bestwood Winding Engine	Museum	Public	Local authority	I	N
30	Tuxford Windmill	Commercial	Restricted	Private individual	N	N
31	Framework Knitters Mus	Museum	Public	Charitable trust	N	N
32	Kings Mill Viaduct	Site	Open	Local authority	I	N
33	Nottingham Canal Mus	Commercial	Restricted	Private company	N	N
34	Boughton Pumping Stn	Commercial	Restricted	Private company	I	N
35	Papplewick Pumping Stn	Museum	Public	Charitable trust	N	N
36	Green's Windmill	Museum	Public	Charitable trust	N	N
37	Ashby Canal	Infrastructure	Open	Canal + River Trust	N	Int
38	Pinchbeck Engine Mus	Museum	Public	Local authority	N	N
39	Dobson's Mill	Museum	Public	Local authority*	D	N
40	Maud Foster Mill	Museum	Public	Private individual	N	N
41	Sibsey Trader Windmill	Museum	Public	English Heritage	N	N
42	Alvingham Water Mill	House	Private	Private individual	N	N
43	All Saints Brewery Stamford	Commercial	Restricted	Private company	N	N
44	Bateman's Brewery	Commercial	Restricted	Private company	N	N
45	Heckington Windmill	Museum	Public	Charitable trust	N	N
46	Sneath's Mill	Museum	Public	Charitable trust	N	N
47	Cogglesford Watermill	Museum	Public	Local authority	I	N
48	Dogdyke Pumping Stn	Museum	Public	Local authority*	N	N
49	Ellis' Windmill	Museum	Public	Local authority	N	N
50	Claythorpe Watermill	Museum	Public	Private company	N	N
51	Hagg Windmill	Disused	Private	Not known	D	N
52	Wigston Framework Knitters	Museum	Public	Charitable trust	N	N
53	Wymondham Windmill	Commercial	Restricted	Private company	N	N
54	Kibworth Harcourt Mill	Museum	Restricted	SPAB	I	Int

No	Name	Use	Access	Ownership	Change	2024
55	Claybrooke Watermill	Commercial	Private	Private company	N	N
56	Taylor's Bellfoundry	Commercial	Restricted	Charitable trust	N	N
57	Great Central Rly	Museum	Public	Private company	N	N
58	Abbey Pumping Stn	Museum	Public	Local authority	N	N
59	Moir's Furnace	Museum	Public	Charitable trust	N	N
60	Whissendine Windmill	Commercial	Restricted	Private individual	N	N
61	Foxton Canal Mus	Museum	Public	Charitable trust	N	N
62	Snibston Discovery Mus	Demolished	Private	Local authority	D	N
63	Ashton Mill	Disused	Private	Private individual	D	N
64	Canal Mus Stoke Bruerne	Museum	Public	Canal + River Trust	I	Int
65	Calke Abbey Estate	Museum	Public	National Trust	N	N
66	Cosgrove Aqueduct	Infrastructure	Open	Canal + River Trust	N	Int
67	Cromford Canal	Infrastructure	Open	Local authority	N	N
68	Whaley Bridge + Bugsworth	Infrastructure	Open	Canal + River Trust	N	Int
69	Battlefield Rly, Shacklestone	Museum	Public	Charitable trust	N	N
70	Stop House Braunston	Museum	Public	Canal + River Trust	N	Int
71	Chesterfield Canal	Site	Open	Charitable trust	N	N
72	Lea Wood Aqueduct	Site	Open	Local authority	N	N
73	Wigwell Aqueduct	Site	Open	Local authority	N	N
74	Foxton Inclined Plane	Museum	Public	Charitable trust	N	N
75	National Stone Centre	Museum	Public	Charitable trust	N	Qu
76	Peak District Mining Museum	Museum	Public	Charitable trust	N	N
77	Bugsworth Canal Basin	Infrastructure	Open	Canal + River Trust	N	Int
78	Nottingham Industrial Mus	Museum	Public	Local authority*	+	Qu
79	Rocks by Rail	Museum	Public	Charitable trust	+	Qu
80	Chain Bridge Forge	Museum	Public	Local authority*	+	Qu
81	Lumsdale Mills	Site	Open	Charitable trust	+	N

A1.2.5 West Midlands

No	Name	Use	Access	Ownership	Change	2024
1	Tar Tunnel	Museum	Restricted	Charitable trust	N	Int
2	Bedlam Furnaces	Site	Public	Charitable trust	I	Int
3	Wrickton Watermill	Museum	Restricted	Private individual	I	N
4	Snailbeach Lead Mine	Museum	Public	Local authority*	N	N

No	Name	Use	Access	Ownership	Change	2024
5	Wappenshall Canal Wharf	Disused	Restricted	Local authority*	I	N
6	Cambrian Railways	Museum	Public	Charitable trust	I	N
7	Severn Valley Railway	Museum	Public	Private company	N	Int
8	Granville CP (Muxton)	Site	Open	Local authority	N	N
9	Cantlop Bridge	Site	Open	English Heritage	N	N
10	Iron Bridge	Site	Open	English Heritage	I	N
11	Daniels Mill	Museum	Public	Charitable trust	I	N
12	Jackfield Tile Mus	Museum	Public	Charitable trust	I	Int
13	Hay Inclined Plane	Museum	Public	Charitable trust	N	Int
14	Broseley Clay Pipe Mus	Museum	Public	Charitable trust	I	Int
15	David and Sampson Engines	Museum	Public	Charitable trust	I	Int
16	Coalport China Mus	Museum	Public	Charitable trust	I	Int
17	Coalport Bridge Toll House	House	Private	Private individual	N	N
18	Darby Furnace	Museum	Public	Charitable trust	I	Int
19	Coleham Pumping Stn	Museum	Public	Local authority*	I	N
20	Shugborough Watermill	Museum	Public	National Trust	N	N
21	Etruria Industrial Museum	Museum	Public	Charitable trust	N	N
22	Bratch Pumping Stn	Infrastructure	Private	Severn Trent Water	N	N
23	National Brewery Ctre	Disused	Private	Private company	D	N
24	Brindley's Mill	Museum	Public	Charitable trust	I	N
25	Cheddleton Flint Mill	Museum	Public	Local authority*	N	N
26	Sandfields Pumping Stn	Museum	Restricted	Private company	N	N
27	Froghall Wharf and Limekilns	Site	Open	Local authority	N	N
28	Harecastle Tunnels	Site	Open	Canal + River Trust	N	Int
29	Mosty Lea Mill	Facility	Restricted	Charitable trust	N	N
30	Gladstone Pottery Museum	Museum	Public	Local authority	N	N
31	Marston's Albion Brewery	Commercial	Private	Private company	N	N
32	Hatton Pumping Stn	Houses	Restricted	Private individuals	I	N
33	Brewery Heritage Centre	Museum	Public	Charitable trust	N	N
34	Churnet Valley Railway	Museum	Public	Private company	N	N
35	Chatterley Whitfield Colliery	Museum	Restricted	Local authority	N	N
36	Claymills Pumping Stn	Museum	Public	Severn Trent Water	N	N
37	Granville CP (Lodge Furnace)	Site	Open	Local authority	N	N
38	Forge Mill Needle Museum	Museum	Public	Local authority	N	N

No	Name	Use	Access	Ownership	Change	2024
39	Maple Brook Pumping Stn	Infrastructure	Private	South Staffs Water	N	N
40	Longden-on-Tern Aqueduct	Site	Open	Private individual	N	N
41	Forton Aqueduct	Site	Open	Not known	N	N
42	Newport Lock / Bridge	Site	Open	Local authority	N	N
43	Mus of the Jewellery Quarter	Museum	Public	Local authority	N	N
44	Mortimers Cross Watermill	Museum	Public	English Heritage	N	N
45	Mus of Royal Worcester	Museum	Public	Charitable trust	N	N
46	Hereford Waterworks Mus	Museum	Public	Charitable trust	N	N
47	Bewdley Mus	Museum	Public	Charitable trust	N	N
48	Churchill Forge	Museum	Restricted	Private individual	N	Int
49	Danzey Green Windmill	Museum	Public	Charitable trust	N	N
50	Wootton Wawen Aqueduct	Infrastructure	Open	Canal + River Trust	N	Int
51	Tysoe Windmill	Site	Private	Private individual	N	N
52	Charlecote Watermill	Commercial	Restricted	Private individual	N	N
53	Wellesbourne Watermill	Disused	Private	Private individual	N	N
54	Chesterton Windmill	Museum	Restricted	Local authority	I	N
55	Walsall Leather Mus	Museum	Public	Local authority	N	N
56	Black Country Living Mus	Museum	Public	Charitable trust	I	N
57	Berkswell Windmill	Museum	Restricted	Private individual	N	N
58	Birchills Canal Museum	Not known	Private	Private individual	D	N
59	Lock Museum Willenhall	Museum	Public	Charitable trust	N	N
60	Red House Glass Cone	Museum	Restricted	Local authority	I	N
61	Sarehole Mill	Museum	Public	Local authority	N	N
62	Engine Arm Aqueduct	Site	Open	Canal + River Trust	N	Int
63	New Hall Mill	Museum	Restricted	Private company	N	N
64	Awbridge Bridge	Site	Open	Canal + River Trust	N	Int
65	Smethwick Engine House	Site	Open	Canal + River Trust	N	Int
66	Mus of Cannock Chase	Musem	Public	Private company	+	Qu
67	Mill Meece Pumping Stn	Museum	Public	Severn Trent Water	+	N
68	Shrewsbury Flaxmill Malting	Museum	Restricted	Historic England	+	Qu
69	Carpet Mus Kidderminster	Museum	Public	Charitable trust	+	N
70	Middleport Pottery	Museum	Restricted	Charitable trust	+	N
71	JW Evans Silverworks	Museum	Restricted	English Heritage	+	N
72	Coffin Furniture Works	Museum	Public	Charitable trust	+	N

No	Name	Use	Access	Ownership	Change	2024
73	The Pen Museum	Museum	Public	Private company	+	Int
74	Blists Hill Blast Furnaces	Museum	Public	Charitable trust	+	Int
75	Cobbs Engine House	Site	Open	Local authority	+	N

A1.2.6 East of England

No	Name	Use	Access	Ownership	Change	2024
1	Stracey Arms Windpump	Museum	Public	Local authority*	N	N
2	Billingford Windmill	Museum	Public	Local authority*	N	N
3	Sutton Windmill	House	Private	Private individual	D	N
4	Berney Arms Windmill	Museum	Restricted	English Heritage	N	N
5	Euston Watermill	Museum	Restricted	Private individual	N	N
6	Thurne Dyke Windpump	Museum	Restricted	Private individual	I	N
7	Norwich Printing Mus	Museum	Public	Charitable trust	D	N
8	Gunton Park Sawmill	Museum	Public	Charitable trust	I	N
9	Wicklewood Windmill	Museum	Restricted	Local authority*	I	N
10	Fakenham Gasworks Mus	Museum	Public	National Gas	N	N
11	Wolferton Station Mus	House	Private	Private individual	I	N
12	Hickling Windmill	Disused	Private	Private individual	N	N
13	East Dereham Windmill	Museum	Public	Local authority*	I	N
14	Denver Windmill	Museum	Public	Charitable trust	N	N
15	St Benet's Level Windpump	Infrastructure	Private	Crown Estate	N	N
16	Letheringsett Watermill	Commercial	Restricted	Private individual	N	N
17	Snettisham Watermill	House	Private	Private individual	N	N
18	Clayrack Windpump	Site	Restricted	Charitable trust	N	N
19	Little Cressingham Mill	Museum	Restricted	Charitable trust	N	N
20	Bircham Windmill	Commercial	Public	Private company	N	N
21	Cley Windmill	Commercial	Restricted	Private company	N	N
22	Old Buckenham Windmill	Museum	Public	Local authority*	I	N
23	St Olave's Windpump	Museum	Public	Local authority*	I	N
24	Lowestoft Maritime Mus	Museum	Public	Local authority*	I	N
25	Mid Norfolk Rly	Museum	Public	Charitable trust	N	N
26	Boardman's Windpump	Museum	Public	Charitable trust	N	N
27	Horsey Windpump	Museum	Public	National Trust	N	N
28	Herringfleet Windmill	Site	Open	Private individual	N	N

No	Name	Use	Access	Ownership	Change	2024
29	Creeting St Mary Windmill	Commercial	Restricted	Private individual	N	N
30	Stanton Windmill	Disused	Private	Private individual	N	N
31	Saxtead Green Windmill	Museum	Public	English Heritage	N	N
32	Flatford Mill	Facility	Restricted	National Trust	N	N
33	Framsden Windmill	Museum	Restricted	Private individual	N	N
34	Woodbridge Tide Mill	Museum	Public	Charitable trust	I	N
35	Great Thurlow Windmill	Not known	Private	Private individual	N	N
36	Thorpeness Windmill	Not known	Restricted	Private individual	N	N
37	Theltenham Windmill	Museum	Public	Charitable trust	N	N
38	Long Shop Museum	Museum	Public	Charitable trust	N	N
39	Lower Mill Dalham	Not known	Not known	Private individual	N	N
40	Letheringham Water Mill	Commercial	Restricted	Private company	N	N
41	Pakenham Water Mill	Museum	Public	Charitable trust	N	N
42	Buttrum's Windmill	Museum	Public	Local authority	N	N
43	Bardwell Windmill	House	Private	Private individual	N	N
44	Holton Windmill	Disused	Private	Private individual	N	N
45	Baylham Watermill	Disused	Private	Charitable trust	N	N
46	Ixworth Watermill	Disused	Private	Private individual	N	N
47	Drinkstone Post Mill	Disused	Private	Private individual	D	N
48	Barnack Windmill	Disused	Private	Private individual	D	N
49	Great Gransden Windmill	Disused	Private	Local authority	I	N
50	Great Mill Haddenham	Not known	Private	Charitable trust	N	N
51	Hinxton Watermill	Museum	Public	Charitable trust	I	N
52	Houghton Watermill	Museum	Public	National Trust	N	N
53	Impington Windmill	Museum	Restricted	Private individual	N	N
54	Lode Mill	Museum	Public	National Trust	N	N
55	Madingley Windmill	Disused	Not known	Not known	N	N
56	Quy Mill	Commercial	Restricted	Private company	N	N
57	Over Windmill	Disused	Private	Private individual	N	N
58	Great Chishill Windmill	Museum	Public	Charitable trust	I	N
59	Sacrewell Watermill	Museum	Public	Private company	I	N
60	Isleham Lime Kilns	Site	Open	Local authority	N	N
61	Northfield (Shade) Windmill	Museum	Restricted	Charitable trust	I	N
62	Stevens Windmill Burwell	Museum	Restricted	Charitable trust	I	N

No	Name	Use	Access	Ownership	Change	2024
63	Stretham Old Engine	Museum	Public	Local authority	N	N
64	Swaffham Prior Windmill	Commercial	Restricted	Private individual	N	N
65	Wicken Windmill	Commercial	Restricted	Private individual	N	N
66	West Wratting Windmill	Disused	Private	Private individual	N	N
67	Cambridge Mus of Tech	Museum	Public	Charitable trust	I	N
68	Fulbourn Windmill	Museum	Restricted	Private individuals	I	N
69	Downfield Windmill	Disused	Restricted	Private individual	N	N
70	Bourne Windmill	Museum	Public	Charitable trust	I	N
71	Bromham Watermill	Museum	Public	Local authority	N	N
72	Barton-le-Cley Watermill	Commercial	Restricted	Private company	N	N
73	Stevington Windmill	Museum	Restricted	Local authority	N	N
74	Mill Green Mill and Mus	Museum	Public	Local authority	N	N
75	Redbournbury Mill	Museum	Restricted	Private individual	N	N
76	Cromer Windmill	Museum	Public	Charitable trust	I	N
77	Kingsbury Watermill	Commercial	Restricted	Private company	N	N
78	Stock Windmill	Museum	Public	Local authority	N	N
79	Rayleigh Windmill	Museum	Public	Local authority	N	N
80	Bourne Watermill	Museum	Public	National Trust	N	N
81	Spring Valley Mill	Disused	Private	Private individual	D	N
82	Mountnessing Windmill	Museum	Public	Local authority	N	N
83	Bocking Windmill	Museum	Restricted	Local authority	I	N
84	Ramsey Windmill	Disused	Private	Private individual	I	N
85	John Webb's Windmill	Museum	Public	Local authority*	N	N
86	Thorrington Tide Mill	Disused	Private	Private individual	N	N
87	Wickham B'p Trestle Viaduct	Site	Open	Local authority	D	N
88	Aythorpe Roding Windmill	Commercial	Restricted	Private individual	N	N
89	Alderford Watermill	Museum	Public	Local authority	N	N
90	Nene Valley Railway	Museum	Public	Charitable trust	N	N
91	Stansted Windmill	Museum	Public	Local authority*	N	N
92	Finchingfield Windmill	Museum	Restricted	Local authority	N	N
93	Waltham Abbey Gunpowder	Museum	Public	Charitable trust	N	N
94	East Anglian Rly Mus	Museum	Public	Charitable trust	N	N
95	Easterfield Watermill	Not known	Not known	Not known	X	-
96	Colne Valley Rly	Museum	Public	Charitable trust	+	Qu

No	Name	Use	Access	Ownership	Change	2024
97	Bayes Croft Malting	Museum	Public	Charitable trust	+	-
98	Charles Burrell Mus	Museum	Public	Local authority*	+	-
99	Mus of Power Langford	Museum	Public	Charitable trust	+	-

A1.2.7 London and the South East

No	Name	Use	Access	Ownership	Change	2024
1	Pitstone Windmill	Museum	Public	National Trust	N	N
2	Quainton Windmill	Museum	Public	Private individual	I	N
3	Ford End Watermill	Museum	Public	Charitable trust	N	N
4	Lacey Green Windmill	Museum	Public	Charitable trust	I	N
5	Brill Windmill	Museum	Public	Local authority*	I	N
6	Venn Watermill	Museum	Restricted	Private individual	D	N
7	Stadhampton Watermill	Disused	Private	Private individual	N	N
8	Wheatley Windmill	Museum	Restricted	Charitable trust	N	N
9	Cholsey and Wallingford Rly	Museum	Public	Charitable trust	N	N
10	Mapledurham Watermill	Commercial	Restricted	Private individual	N	N
11	Charney Watermill	Museum	Restricted	Local authority	N	N
12	Lower Kingstone Watermill	Disused	Private	Private individual	N	N
13	Tooley's Boatyard	Commercial	Restricted	Charitable trust	N	N
14	Church Mill Standlake	Disused	Private	Private individual	N	N
15	Combe Mill Blenheim	Museum	Public	Private individual	N	N
16	Hook Norton Brewery	Commercial	Restricted	Private company	N	N
17	Buckler's Hard	Commercial	Restricted	Private individual	N	N
18	Whitchurch Silk Mill	Museum	Public	Private company	N	N
19	Paultons Park Watermill	Commercial	Restricted	Private company	I	N
20	Winchester City Mill	Museum	Public	National Trust	N	N
21	Bursledon Brickworks	Museum	Public	Charitable trust	N	N
22	River Wey Aqueduct	Site	Public	Charitable trust	N	N
23	Headley Water Mill	Commercial	Private	Private individual	N	N
24	Longparish Upper Water Mill	House	Private	Private individual	I	N
25	Bursledon Watermill	Disused	Private	Charitable trust	N	N
26	Gosport Rly Stn	Houses	Private	Private individuals	I	N
27	Eling Tide Mill	Museum	Public	Local authority	I	N
28	Twyford Waterworks	Museum	Public	Southern Water	N	N

No	Name	Use	Access	Ownership	Change	2024
29	Eastney Engine Houses	Museum	Public	Local authority	N	N
30	Calbourne Water Mill	Museum	Public	Private individual	N	N
31	Yafford Mill	House	Private	Private individual	D	N
32	Lower Calbourne Watermill	House	Private	Private individual	N	N
33	Bembridge Windmill	Museum	Public	National Trust	N	N
34	Barnham Windmill	House	Private	Private individual	I	N
35	Horsted Keynes Watermill	Not known	Private	Private individual	N	N
36	Halnaker Windmill	Museum	Restricted	Local authority	I	N
37	Ifield Watermill	Museum	Public	Charitable trust	I	N
38	Woods Mill Nature Reserve	Site	Open	Charitable trust	N	N
39	High Salvington Windmill	Museum	Public	Local authority*	N	N
40	Jill Windmill	Museum	Public	Local authority*	N	N
41	Coultershaw Beam Pump	Museum	Public	Charitable trust	I	Qu
42	Shingley Windmill	Disused	Private	Private individual	D	N
43	Amberley Museum	Museum	Public	Charitable trust	N	Qu
44	Lowfield Heath Windmill	Museum	Public	Private company	I	N
45	Haxted Mill Lingfield	House	Private	Private individual	D	N
46	River Wey / Dapdune Wharf	Infrastructure	Open	National Trust	N	N
47	Shalford Mill	Museum	Public	National Trust	N	N
48	Chilworth Gunpowder Mills	Site	Open	Local authority	N	N
49	Cobham Mill	Museum	Public	Environment Agcy	I	N
50	Outwood Windmill	House	Private	Private individual	N	N
51	Buckland Windmill (sawmill)	House	Restricted	Private individual	I	N
52	Gomshall Mill	Commercial	Restricted	Private company	I	N
53	Brooklands Museum	Museum	Public	Charitable trust	I	N
54	Shirley Windmill	Museum	Public	Local authority*	N	N
55	Ravensbury Mill	House	Restricted	Private individuals	N	N
56	Whitbread Brewery London	Commercial	Restricted	Private company	N	N
57	Southall Railway Centre	Commercial	Private	Network Rail	N	N
58	Wapping Hydraulic Pwr Stn	Disused	Private	Private company	D	N
59	Ram Brewery Wandsworth	Commercial	Restricted	Private company	N	N
60	Brixton Windmill (Ashby's)	Museum	Restricted	Local authority*	I	N
61	Wimbledon Windmill Mus	Museum	Public	Local authority*	I	N
62	Kew Bridge Steam Mus	Museum	Public	Charitable trust	N	Int

No	Name	Use	Access	Ownership	Change	2024
63	House Mill Bromley-by-Bow	Museum	Public	Charitable trust	N	N
64	Kempton Steam Museum	Museum	Public	Thames Water	I	N
65	Upminster Windmill	Museum	Public	Local authority*	N	N
66	London Canal Museum	Museum	Public	Charitable trust	N	N
67	Crossness Pumping Station	Museum	Public	Thames Water	I	N
68	Swanton Mill Mersham	House	Private	Private individual	D	N
69	Union Windmill Cranbrook	Museum	Public	Local authority*	N	N
70	Stelling Minnis Windmill	Museum	Public	Local authority*	N	N
71	Wellesborough Windmill	Museum	Public	Local authority*	N	N
72	Woodchurch Windmill	Museum	Public	Local authority*	N	N
73	Drapers Windmill Margate	Museum	Restricted	Local authority*	N	N
74	West Kingsdown Windmill	Private	Restricted	Local authority	N	N
75	Connaught Pumping Stn	Disused	Private	Southern Water	N	N
76	Crabble Corn Mill	Museum	Public	Charitable trust	I	N
77	Chart Gunpowder Mills	Museum	Public	Charitable trust	N	N
78	Herne Windmill	Museum	Public	Local authority*	N	N
79	Shepherd Neame Brewery	Commercial	Public	Private company	N	N
80	Spa Valley Railway	Museum	Public	Private company	N	N
81	Crampton Tower Mus	Museum	Public	Local authority*	N	N
82	Hythe Watermill	House	Private	Private individual	N	N
83	Chillenden Windmill	Museum	Public	Local authority*	N	N
84	Chilham Mill	Commercial	Restricted	Private company	N	N
85	White Mill Heritage Ctre	Museum	Public	Charitable trust	N	N
86	Meopham Windmill	Museum	Public	Local authority*	N	N
87	Sarre Windmill	Disused	Private	Private individual	D	N
88	West Blatchington Windmill	Museum	Public	Local authority*	N	N
89	British Engineerium	Disused	Private	Private individuals	D	N
90	Michelham Priory Watermill	Museum	Public	Charitable trust	I	N
91	Nutley Windmill Uckfield	Museum	Public	Charitable trust	N	N
92	Stone Cross Windmill	Museum	Public	Charitable trust	N	N
93	Park Watermill Batemans	Museum	Public	National Trust	N	N
94	Argos Hill Windmill	Museum	Public	Local authority*	N	N
95	Chailey Windmill Mus	Museum	Public	NHS	N	N
96	Bartley Watermill	House	Private	Private individual	N	N

No	Name	Use	Access	Ownership	Change	2024
97	Cotswold Woollen Weavers	Commercial	Restricted	Private company	N	N
98	Ascott-under-Wychwood Mill	House	Private	Private individual	N	N
99	Three Bridges	Infrastructure	Restricted	NW / CRT / LA	N	N
100	Hanwell Lock Flight	Infrastructure	Open	Canal + River Trust	N	Int
101	Greatham Windmill	Not known	Not known	Not known	N	N
102	Cherry Gardens Waterworks	Not known	Private	Not known	N	N
103	Bluebell Railway	Museum	Public	Private company	N	Qu
104	Rother Valley Railway	Museum	Public	Charitable trust	N	N
105	Didcot Railway Centre	Museum	Public	Charitable trust	N	N
106	SS Robin at Trinity Buoy	Museum	Public	Charitable trust	+	Qu
107	National Mus of Computing	Museum	Public	Charitable trust	+	Qu
108	Markfield Beam Engine	Museum	Public	Local authority*	+	Qu
109	Romsey Signal Box	Museum	Restricted	Charitable trust	+	Qu
110	Southern Maltings Ware	Facility	Restricted	Charitable trust	+	Qu
111	Eastchurch Aviation Mus	Museum	Restricted	Not known	+	Qu
112	Brook Low Level Pumping Stn	Museum	Public	Local authority*	+	N
113	Oare Gunpowder Works	Site	Open	Local authority	+	N
114	Brockham Lime Kilns	Site	Open	Local authority*	+	N

A1.2.8 South West

No	Name	Use	Access	Ownership	Change	2024
1	Kit Hill	Site	Open	Local authority	N	N
2	Grenville United Mines	Site	Open	Local authority	N	N
3	Botallack Mine	Site	Open	National Trust	N	N
4	Lizard Point Lighthouse	Museum	Public	Trinity House	N	N
5	Treffry Viaduct	Site	Open	Charitable trust	I	N
6	Levant Beam Engine	Museum	Public	National Trust	I	Qu
7	South Tincroft	Site	Open	Local authority	I	N
8	Geevor Tin Mine Mus	Museum	Public	Local authority*	I	Int
9	Tolgus Tin Mill	Museum	Public	Private company	N	N
10	Cotehele Quay	Museum	Public	National Trust	N	N
11	Charlestown Harbour	Infrastructure	Open	Private company	N	N
12	Old Mill Padstow	Commercial	Restricted	Private company	N	N
13	Treway Watermill	Not known	Private	Private individual	D	N

No	Name	Use	Access	Ownership	Change	2024
14	Pendeen Watch Lighthouse	Infrastructure	Restricted	Trinity House	N	N
15	Levant Mines and Engines	Museum	Public	National Trust	I	N
16	Old Bakery	Not known	Not known	Not known	X	N
17	Bovey Tracey Pottery Mus	Museum	Public	Private company	D	N
18	Exeter Waterfront	Commercial	Public	Private companies	I	N
19	Coldharbour Mill Mus	Museum	Public	Charitable trust	N	N
20	Bicclescombe Watermill	Museum	Public	Local authority*	N	N
21	Starcross Atmospheric	Facility	Restricted	Charitable trust	N	N
22	Finch Foundry	Museum	Public	National Trust	N	Qu
23	Morwelham Quay	Museum	Public	Private company	N	N
24	Hele Mill	Commercial	Restricted	Private company	N	N
25	Town Mills Torrington	Commercial	Restricted	Private company	N	N
26	Wheal Betsy	Site	Open	National Trust	N	N
27	Town Mill Totnes	Facility	Public	Charitable trust	N	N
28	Halsannery Limekiln	Site	Open	Not known	N	N
29	Otterton Mill	Commercial	Public	Private individual	N	N
30	Dartmouth Steam Rly	Museum	Public	Private company	N	N
31	Powder Mills	Site	Open	Not known	N	N
32	South Devon Railway	Museum	Public	Charitable trust	N	N
33	Sturminster Newton Mill	Museum	Public	Private company	N	N
34	Town Mill Lyme Regis	Museum	Public	Charitable trust	I	N
35	Boar Mill Corfe Castle	Disused	Private	National Trust	N	N
36	Upwey Mill	House	Private	Private individual	N	N
37	Melbury Abbas Mill	House	Private	Private individual	N	N
38	Place Mill Christchurch	Museum	Public	Local authority	I	N
39	Poole Museum	Museum	Public	Local authority	N	N
40	Hamlet House Maltings	House	Private	Private individual	I	N
41	Mangerton Mill Mus	Commercial	Public	Private company	N	N
42	Sandalholme Pottery	Houses	Private	Private individuals	D	N
43	Swanage Railway	Museum	Public	Charitable trust	N	N
44	White Mill Dorset	Museum	Public	National Trust	N	N
45	Clapton Mill Crewkerne	Museum	Restricted	Private individuals	N	N
46	Burcott Watermill	Commercial	Public	Private company	N	N
47	Charterhouse Lead Works	Site	Open	Forestry Comm	N	N

<i>No</i>	<i>Name</i>	<i>Use</i>	<i>Access</i>	<i>Ownership</i>	<i>Change</i>	<i>2024</i>
48	Westonzoyland Pumping Stn	Museum	Public	Charitable trust	N	Qu
49	Gants Mill	Commercial	Restricted	Private individual	N	N
50	Wookey Hole Paper Mill	Commercial	Public	Private company	N	N
51	Lundy Island Lighthouse	Commercial	Restricted	Landmark Trust	I	N
52	Dunster Watermill	Museum	Public	National Trust	N	N
53	Ashton Windmill Wedmore	Museum	Public	Local authority*	N	N
54	Rowlands Mill Ashill	House	Private	Private individual	I	N
55	Rode Mill	Commercial	Restricted	Private company	I	N
56	West Somerset Railway	Museum	Public	Local authority*	N	N
57	Hinton Farm Mill	Commercial	Restricted	Private company	N	N
58	Piles Mill	Disused	Private	National Trust	N	N
59	Orchard Mill Williton	Not known	Private	Not known	N	N
60	Museum of Bath Stone	Museum	Public	Charitable trust	I	N
61	Wilton Windmill	Museum	Public	Local authority*	N	N
62	Kennet and Avon Canal Mus	Museum	Public	Charitable trust	N	N
63	Blacklands Mill	Commercial	Restricted	Private company	N	N
64	Caen Hill Locks	Infrastructure	Open	Canal + River Trust	N	Int
65	Kilcott Mill	House	Private	Private individual	N	N
66	Egypt Mill	Commercial	Restricted	Private company	N	N
67	Dean Heritage Centre	Museum	Public	Charitable trust	N	N
68	Waterways Mus Gloucester	Museum	Public	Canal + River Trust	N	Int
69	Whitecliff Furnace	Site	Open	Charitable trust	N	N
70	Arlington Mill	House	Private	Private individual	N	N
71	Elms Colliery Nailsea	Site	Open	Local authority	N	N
72	Old Mill Lower Slaughter	Disused	Private	Private individual	N	N
73	Wheal Coates	Site	Open	National Trust	N	N
74	Sherborne Steam + W'wheel	Museum	Public	Charitable trust	N	N
75	Aller Moor Pumping Stn	House	Private	Private individual	N	N
76	Wheal Martyn Mus	Museum	Public	Charitable trust	N	N
77	Avon Valley Railway	Museum	Public	Charitable trust	N	N
78	Underfall Yard	Museum	Public	Charitable trust	N	N
79	Priston Mill Somerset	Commercial	Restricted	Private company	N	N
80	Blagdon Waterworks	Museum	Restricted	Bristol Water	N	N
81	Stratford Watermill Blaise	Site	Open	Local authority	N	N

No	Name	Use	Access	Ownership	Change	2024
82	Bristol Temple Meads Stn	Infrastructure	Public	Network Rail	N	N
83	Claverton Pumping Station	Infrastructure	Public	Canal + River Trust	N	Int
84	Bristol Old Sation	Commercial	Restricted	Network Rail	N	N
85	SS Great Britain	Museum	Public	Charitable trust	N	N
86	Brunel's Passenger Shed	Commercial	Restricted	Network Rail	N	N
87	Dundas Aqueduct	Infrastructure	Open	Canal + River Trust	N	Int
88	Saltford Brass Mill	Museum	Public	Local authority*	N	Qu
89	Fairbairn Crane Bristol	Museum	Restricted	Local authority	N	N
90	Tuckers Maltings	Commercial	Restricted	Private companies	N	N
91	Alderholt Mill	Commercial	Restricted	Private company	N	N
92	Crofton Beam Engines	Museum	Public	Charitable trust	I	Int
93	Sutton Poyntz	Museum	Public	Wessex Water	N	N
94	PK Porthcurno	Museum	Public	Charitable trust	N	N
95	Kennet and Avon Canal	Infrastructure	Open	Canal + River Trust	N	Int
96	Pothesco Serpentine Works	Site	Open	National Trust	N	N
97	Seaton Tramway	Commercial	Public	Private company	+	Qu
98	Stroudwater Textile Trust	Museum	Public	Charitable trust	+	Qu
99	Clifton Suspension Bridge	Infrastructure	Public	Charitable trust	+	Qu
100	Home Mill / Trowbridge Mus	Museum	Public	Local authority	+	Qu
101	Dawes Twineworks	Museum	Public	Local authority	+	Qu
102	Kelly Mine	Museum	Restricted	Local authority*	+	Qu
103	Barge Workshop Bude	Museum	Public	Local authority	+	Qu
104	East Pool Mine	Museum	Restricted	National Trust	+	Qu
105	Somerset Brick + Tile Mus	Museum	Public	Charitable trust	+	N
106	Kingswood Heritage Mus	Museum	Public	Charitable trust	+	N
107	Wadworth's Brewery	Commercial	Restricted	Private company	+	N
108	Palmer's Brewery	Commercial	Restricted	Private company	+	N
109	Brandy Bottom Colliery	Site	Restricted	Private company	+	N
110	Ram Hill Colliery	Site	Restricted	Local authority*	+	N
111	Church Farm Colliery	Site	Open	Not known	+	N

Appendix 2 — financial data for 50 industrial heritage sites

This data has been drawn from information in the public domain, primarily Trustees Annual Reports held by the Charity Commission and/or in some cases reports filed at Companies House.

A2.1 Profitability over three years

This shows the average income for 2020-21, 2021-22 and 2022-23, the average expenditure for the same period, and the surplus (or deficit, shown in red) during that period. Income and expenditure figures have been drawn from data in the public domain, as set out in A2.2 and A2.3 below. Note: East Pool Mine, Levant Mine and Beam Engine, and Grane Mill are omitted from the list below for the reasons given in 3.4.4 of the report.

<i>Site</i>	<i>Income</i>	<i>Expenditure</i>	<i>Surplus</i>
Dogdyke Pumping Station	17,837	7,550	10,287
Bolton Steam Museum	24,673	16,570	8,103
Seaton Tramway	1,750,000	1,576,667	173,333
SS Robin	74,167	10,647	63,520
Whitchurch Silk Mill	341,483	370,767	-29,283
Ironbridge Gorge Museum	8,780,000	9,226,667	-446,667
Sandfields Pumping Station	18,487	13,780	4,707
Dunkirk Mill Museum	124,317	11,540	112,777
Chatterley Whitfield [1]	26,703	24,813	1,890
Clifton Suspension Bridge	2,440,000	2,223,333	216,667
National Museum of Computing	451,977	353,840	98,137
Trowbridge Museum *	99,648	91,128	8,520
Nottingham Industrial Museum	44,687	38,243	6,443
Dawes Twine Works	21,410	6,973	14,437
Markfield Beam Engine and Museum	15,263	9,227	6,037
Westonzoyland Pumping Station	35,680	29,867	5,813
Finch Foundry [2]	58,887	86,464	-27,577
Beaconsall Living Museum and Heritage Park	27,897	14,557	13,340
Churchill Forge	34,413	25,767	8,647
Coultershaw Heritage Site	26,780	20,863	5,917
Saltford Brass Mill	4,750	3,540	1,210
Trolleybus Museum at Sandtoft	176,753	172,350	4,403
Amberley Museum	798,110	787,273	10,837
Kelly Mine [3]	2,683	2,123	560

Site	Income	Expenditure	Surplus
Cromford Mills [4]	1,656,667	1,643,333	13,333
Backbarrow Ironworks	1,845	1,755	90
Nenthead Mines	23,840	24,310	-470
Museum of Cannock Chase [5]	77,036	77,036	-0
Victoria Tunnel	284,337	261,763	22,573
Kelham Island / Abbeydale [6]	1,074,377	1,213,333	-138,957
Pen Museum	87,470	73,530	13,940
Gauge Museum	173,362	78,293	95,069
Long Shop Museum	192,203	156,537	35,667
Waltham Abbey Royal Gunpowder Mills	404,393	580,150	-175,757
Rocks by Rail	30,810	35,820	-5,010
Romsey Signal Box [7]	8,744	12,567	-3,823
Shrewsbury Flaxmill Maltings [8]	121,993	190,053	-68,060
Bluebell Railway [9]	4,241,524	4,255,618	-14,094
Middleton Railway	117,100	134,937	-17,837
National Stone Centre	87,270	89,857	-2,587
Southern Maltings	189,317	148,643	40,673
Kempton Steam Museum	57,537	52,193	5,343
Tanfield Railway	72,970	72,330	640
Chain Bridge Forge [10]	9,446	5,030	4,416
Lancashire Mining Museum	148,897	116,743	32,153
Colne Valley Railway	62,280	31,299	30,981
Path Head Water Mill	25,440	22,160	3,280

A2.2 Income year-by-year

Site	2020-21	2021-22	2022-23
Dogdyke Pumping Station	24,870	13,190	15,450
Bolton Steam Museum	16,090	27,450	30,480
Seaton Tramway	1,460,000	2,170,000	1,620,000
SS Robin	1,300	10,300	210,900
Whitchurch Silk Mill	410,060	320,390	294,000
Ironbridge Gorge Museum	7,260,000	8,940,000	10,140,000
Sandfields Pumping Station	12,480	20,610	22,370
Dunkirk Mill Museum	13,580	9,100	350,270

Site	2020-21	2021-22	2022-23
Chatterley Whitfield [1]	27,410	8,040	44,660
Clifton Suspension Bridge	2,070,000	2,500,000	2,750,000
National Museum of Computing	496,620	386,240	473,070
Trowbridge Museum *	99,648	99,648	99,648
Nottingham Industrial Museum	30,530	47,850	55,680
Dawes Twine Works	42,390	12,540	9,300
Markfield Beam Engine and Museum	32,910	3,770	9,110
Westonzoyland Pumping Station	42,780	32,270	31,990
Finch Foundry [2]	72,968	60,865	42,828
Beaconsall Living Museum and Heritage Park	952	66,463	16,275
Churchill Forge	92,050	8,880	2,310
Coultershaw Heritage Site	37,400	12,420	30,520
Saltford Brass Mill	9,030	1,800	3,420
Trolleybus Museum at Sandtoft	133,190	203,150	193,920
Amberley Museum	648,970	817,040	928,320
Kelly Mine [3]	1,650	3,700	2,700
Cromford Mills [4]	1,930,000	1,540,000	1,500,000
Backbarrow Ironworks	5,420	4	112
Nenthead Mines	7,020	34,060	30,440
Museum of Cannock Chase [5]	77,036	77,036	77,036
Victoria Tunnel	242,100	316,950	293,960
Kelham Island / Abbeydale [6]	1,210,000	1,040,000	973,130
Pen Museum	72,390	135,270	54,750
Gauge Museum	99,900	259,507	160,679
Long Shop Museum	271,000	169,210	136,400
Waltham Abbey Royal Gunpowder Mills	306,640	417,550	488,990
Rocks by Rail	21,530	43,350	27,550
Romsey Signal Box [7]	8,895	8,369	8,969
Shrewsbury Flaxmill Maltings [8]	69,313	212,067	84,598
Bluebell Railway [9]	3,064,194	4,088,753	5,571,624
Middleton Railway	73,040	144,180	134,080
National Stone Centre	62,480	112,150	87,180
Southern Maltings	148,960	200,700	218,290
Kempton Steam Museum	41,920	62,170	68,520

Site	2020-21	2021-22	2022-23
Tanfield Railway	58,290	47,590	113,030
Chain Bridge Forge [10]	9,086	12,862	6,391
Grane Mill [11]	7,000	7,000	7,000
Lancashire Mining Museum	123,080	154,800	168,810
Colne Valley Railway	75,980	79,120	31,740
Path Head Water Mill	12,070	12,070	52,180
East Pool Mine	9,949	23,316	26,573
Levant Mine and Beam Engine	3,511	34,822	39,099

A2.3 Expenditure year-by-year

Site	2020-21	2021-22	2022-23
Dogdyke Pumping Station	6,830	4,980	10,840
Bolton Steam Museum	11,870	14,940	22,900
Seaton Tramway	1,190,000	1,680,000	1,860,000
SS Robin	4,300	7,220	20,420
Whitchurch Silk Mill	277,730	374,260	460,310
Ironbridge Gorge Museum	6,460,000	7,720,000	13,500,000
Sandfields Pumping Station	5,580	20,610	15,150
Dunkirk Mill Museum	19,950	4,840	9,830
Clifton Suspension Bridge	1,880,000	2,230,000	2,560,000
Chatterley Whitfield [1]	6,590	24,850	43,000
National Museum of Computing	303,960	357,910	399,650
Trowbridge Museum *	91,128	91,128	91,128
Nottingham Industrial Museum	39,460	38,770	36,500
Dawes Twine Works	4,720	8,540	7,660
Markfield Beam Engine and Museum	5,630	7,810	14,240
Westonzoyland Pumping Station	27,530	38,440	23,630
Finch Foundry [2]	90,335	98,410	70,647
Beaconsall Living Museum and Heritage Park	4,477	29,690	9,504
Churchill Forge	52,110	13,540	11,650
Coultershaw Heritage Site	12,210	23,880	26,500
Saltford Brass Mill	2,390	4,620	3,610
Trolleybus Museum at Sandtoft	153,360	202,490	161,200
Amberley Museum	569,940	771,880	1,020,000

Site	2020-21	2021-22	2022-23
Kelly Mine [3]	1,290	3,050	2,030
Cromford Mills [4]	1,430,000	1,630,000	1,870,000
Backbarrow Ironworks	586	1,540	3,140
Nenthead Mines	11,900	30,040	30,990
Museum of Cannock Chase [5]	77,036	77,036	77,036
Victoria Tunnel	248,430	230,600	306,260
Kelham Island / Abbeydale [6]	1,380,000	1,240,000	1,020,000
Pen Museum	61,500	76,680	82,410
Gauge Museum	110,730	52,060	72,090
Long Shop Museum	129,950	193,420	146,240
Waltham Abbey Royal Gunpowder Mills	506,880	581,030	652,540
Rocks by Rail	15,680	48,340	43,440
Romsey Signal Box [7]	13,720	11,574	12,407
Shrewsbury Flaxmill Maltings [8]	26,518	335,257	208,383
Bluebell Railway [9]	2,401,232	4,478,603	5,887,019
Middleton Railway	148,270	100,960	155,580
National Stone Centre	59,220	102,460	107,890
Southern Maltings	151,560	151,300	143,070
Kempton Steam Museum	28,820	56,300	71,460
Tanfield Railway	65,190	91,040	60,760
Chain Bridge Forge [10]	7,194	2,375	5,521
Grane Mill [11]	14,000	14,000	14,000
Lancashire Mining Museum	70,020	138,820	141,390
Colne Valley Railway	2,628	60,860	30,410
Path Head Water Mill	13,550	13,530	39,400
East Pool Mine	599,599	99,177	102,244
Levant Mine and Beam Engine	84,465	91,951	92,672

Appendix 3 — questionnaire

This table lists all of the questionnaire questions, and shows the number of responses and the level of accuracy of those responses. Accuracy is assessed by completeness and correctness. For example information provided about visitors, finance and staffing was often incomplete, and was also sometimes found to be incorrect when cross referenced against other sources. Accuracy is rated ‘good’, ‘fair’ and ‘poor’. Question types: FT — free text, MC — multiple choice.

No.	Question	Question type	Number of responses	Accuracy of responses
1	Site name	FT	61	Good
2	Site location	FT	56	Good
3	Site owner	FT	60	Fair
4	Address for communication (if not the same as site address)	FT	43	Good
5	Website address	FT	60	Good
6	What type of organisation is the owner?	MC	60	Fair
7	Is the site managed by the owner?	MC	60	Fair
8	If the answer to the above question is no, then what type of organisation manages the site?	MC	31	Fair
9	If you are a preservation trust or society / voluntary group, do you have charitable status?	MC	55	Good
10	Does your site (or part of) have accredited museum status?	MC	58	Good
11	What has been your annual income in each of the past three years?	FT	47	Poor
12	What has been your annual expenditure in each of the past three years?	FT	48	Poor
13	Please indicate the approximate level of financial reserves held at present	MC	57	Good
14	How much money has been spent on repair / maintenance in the past three years?	FT	46	Fair
15	What is your projected spend for repair / maintenance over the next five years?	FT	46	Good
16	Have you received a grant in the past three years? If so, use the text box below to detail the total amount, the awarding body and what it was used for (write NIL if no grant received)	FT	53	Good
17	Which of the following would you describe as a barrier to applying/winning grant bids?	MC	42	Good
18	What would help your organisation identify funding opportunities and produce successful bids?	MC	38	Good

<i>No.</i>	<i>Question</i>	<i>Question type</i>	<i>Number of responses</i>	<i>Accuracy of responses</i>
19	Is all or part of your site a Scheduled Monument?	MC	60	Good
20	Is all or part of your site a listed building?	MC	59	Good
21	Is the site in an area with additional landscape designations?	MC	46	Fair
22	Do you have any of the following: strategic plan, business plan, site management plan, health and safety plan, staff/volunteer training programme?	MC	58	Good
23	What percentage of your annual budget is through sponsorship?	MC	59	Good
24	Have you ever sought commercial support like private sector sponsorship?	MC	61	Good
25	What kind of support did you receive?	MC	31	Good
26	How easy was it to secure this support?	MC	41	Good
27	Do you use sponsorship as match funding for other grant or funding applications?	MC	48	Good
28	How easy has it been for you to secure public sector funding in the past five years?	MC	57	Good
29	Rank your main sources of public sector funding in the past 5 years from 1 (most funding) to 7 (least or no funding)	MC	42	Fair
30	Who looks after the day-to-day running of the site?	MC	59	Fair
31	What qualification does this person have?	MC	54	Fair
32	Do you have a curator on site?	MC	59	Good
33	Is curatorial advice available from elsewhere?	MC	47	Good
34	Do you have any of the following? (tick all that apply): education officer (FT or PT), education pack, education room, outreach programme, handling/loan collection, education responsibility, taught sessions for schools, new education visit programme, other.	MC	39	Good
35	How many people are employed full time at the site?	FT	56	Fair
36	How many people are employed part time at the site?	FT	55	Fair
37	What is the total FTE of employed staff at the site?	FT	52	Fair
38	Does your site have a volunteer group?	MC	59	Good
39	If yes, what is the age demographic of volunteers?	MC	55	Good
40	How many volunteers work in your organisation as a whole?	MC	55	Good

<i>No.</i>	<i>Question</i>	<i>Question type</i>	<i>Number of responses</i>	<i>Accuracy of responses</i>
41	How many volunteers work in which of these roles? Front of house, back office, technical, education, collections	MC	56	Fair
42	What is the approximate amount of volunteer hours worked per year?	FT	46	Good
43	What is the ideal number of volunteers you need for the site?	FT	54	Good
44	How easy is it to attract new volunteers?	MC	57	Good
45	Are you able to recruit a steady flow of young volunteers?	MC	54	Good
46	How have your volunteer numbers changed over the past 10 years?	MC	57	Good
47	If decreased, is this a problem?	MC	22	Good
48	Would you describe your site as adequately staffed for sustainable running?	MC	56	Good
49	Are there any special skills required to operate/ manage the site?	MC	57	Good
50	Do you require training courses to pass these skills on?	MC	53	Good
51	Do you require training courses to pass these skills on?	MC	59	Good
52	If yes, what?	FT	44	Fair
53	Are these skills generally: passed down informally, learned on site through specific training, learned elsewhere through specific training, will be undertaken through a training programme?	MC	53	Good
54	Over the past ten years, has the number of appropriately skilled people at your site increased, decreased or stayed the same?	MC	54	Good
55	In your opinion, how could the skills situation be improved?	FT	47	Good
56	Is the site currently open and safely accessible by the public?	MC	58	Good
57	Do you have a formal access statement?	MC	57	Good
58	What is the site capacity in line with the relevant Health and Safety Policies/Risk Assessments?	FT	52	Fair
59	Is your site open (tick all that apply): all year round, seasonally, every day, weekends only, variable?	MC	58	Good
60	Please indicate the level of public access to the site during main season	MC	56	Good
61	How many total visitors have you received in each of the last three years?	FT	56	Fair

<i>No.</i>	<i>Question</i>	<i>Question type</i>	<i>Number of responses</i>	<i>Accuracy of responses</i>
62	How many total school groups have visited the site in each of the last three years?	FT	50	Fair
63	Approximately how many children have visited the site in each of the last three years?	FT	51	Fair
64	Approximately how many organised parties have visited the site in each of the last three years?	FT	49	Fair
65	If the site has a museum, how many days per year can visitors gain access?	FT	43	Good
66	Is access to the site free, paid or by donation?	MC	58	Good
67	If paid, please indicate pricing structure to include: child, adult, family, concession, other	FT	35	Fair
68	Roughly what proportion of your income comes from secondary spend?	FT	50	Good
69	Can access to the site be easily gained by: cycle, motorbike/car/minibus/coach?	MC	58	Good
70	Is the site serviced by public transport?	MC	59	Good
71	Which of the following facilities do you have on site? (tick all that apply): café, parking, toilets, indoor display, shop, visitor centre, none	MC	59	Good
72	Is there physical access to the site for people with impaired mobility?	MC	57	Good
73	What accessibility features are available at the site?	MC	52	Good
74	If no/few accessibility features, what are the main factors restricting this provision?	MC	41	Fair
75	Do you monitor visitor satisfaction at the site?	MC	58	Good
76	If yes, how do you monitor visitor satisfaction at the site?	MC	53	Fair
77	Which of the following statements best describes the single most important market segment at your site?	MC	54	Good
78	Do you have any of the following? Site archives, record of historic fabric, site survey (full/partial)	MC	57	Good
79	How would you describe site condition?	MC	58	Good
80	Is there a repair backlog at present?	MC	57	Good
81	Do you have any of the following? Condition survey, repair schedule, conservation plan	MC	44	Good
82	Is there any original plant and machinery in-situ? If so, is it: functional and regularly used, operable but barely used, static and never used, n/a	MC	58	Good
83	Who provides conservation and maintenance advice on original plant/machinery?	MC/FT	47	Good

<i>No.</i>	<i>Question</i>	<i>Question type</i>	<i>Number of responses</i>	<i>Accuracy of responses</i>
84	Who provides you with building conservation advice?	FT	52	Fair
85	Do you have any plans for the site over the next five years?	MC	57	Good
86	Which of the following themes are interpreted at the site?	MC	59	Good
87	Which of the following [interpretation aids] do you offer?	MC/FT	59	Good
88	To what extent does school curriculum inform interpretation at the site?	MC	57	Good
89	Has your site recovered in terms of visitor numbers pre-pandemic?	MC	57	Good
90	How has your income changed since the pandemic?	MC	54	Good
91	Have you lost, retained or gained paid staff since the pandemic?	MC	35	Good
92	Has the pandemic has any unexpected long-term impact on your site and its sustainability?	FT	34	Fair
93	Has your site or any of your assets suffered damage due to climate-related issues over the past five years? If yes, what?	MC/FT	36	Fair
94	Has use of fossil fuels/climate change impacted your business plan in any way?	MC	54	Good
95	If yes, how?	FT	28	Fair
96	Do visitors express concerns on the ethics of continued use of fossil fuels on site?	MC	52	Good
97	Would you/are you considering the use of alternative fuels to run your exhibits?	MC	45	Good
98	The Carbon Literacy Trust runs training for Museums and Heritage Sites. Would this be something you'd find useful for your staff?	MC	49	Good
99	What support do you need to improve the carbon footprint of your site?	MC/FT	41	Good
100	How has the cost-of-living challenge affected your site?	MC/FT	48	Good
101	Which of the following promotional media do you use?	MC/FT	59	Good
102	Which of these do you find to be most successful and why?	FT	52	Fair
103	Do you have online collections?	MC	59	Good
104	Would you like to increase/improve digital output and promotion for the site?	MC	57	Good
105	If yes, rank the current barriers to doing so	MC	35	Good

<i>No.</i>	<i>Question</i>	<i>Question type</i>	<i>Number of responses</i>	<i>Accuracy of responses</i>
106	What would help you to increase/improve you digital output and promotion?	MC	28	Good
107	What do you think would attract more visitors to the site?	MC/FT	61	Good
108	If there is anything else you'd like to say, or if you have any suggestions on how to improve sustainability of industrial heritage sites, use the text box below. Go into as much detail as you wish.	FT	20	Fair

Appendix 4 — questionnaire respondents

Dogdyke Pumping Station
Bolton Steam Museum
Seaton Tramway
SS Robin at Trinity Buoy Wharf
Whitchurch Silk Mill Ironbridge
Gorge WHS Sandfields Pumping
Station Dunkirk Mill Museum
Clifton Suspension Bridge
Chatterley Whitfield
The National Museum of Computing
Trowbridge Museum
Nottingham Industrial Museum Dawe's
Twineworks
Markfield Beam Engine and Museum
Westonzoyland Pumping Station Finch
Foundry
Beconsall Living Museum and Heritage Park Churchill
Forge
The Coultershaw Heritage Site Saltford
Brass Mill
The Trolleybus Museum at Sandtoft
Amberley Museum
Kelly Mine
Derwent Valley Mills World Heritage Site Backbarrow
Ironworks
Nenthead Mines
Museum of Cannock Chase
Victoria Tunnel
Kelham Island Museum
Abbeydale Industrial Hamlet
Black Country Living Museum Pen
Museum
The Gauge Museum The
Long Shop Museum Lion
Salt Works
Waltham Abbey Royal Gunpowder Mills Whitchurch Silk
Mill
Rocks by Rail - the Living Ironstone Museum Romsey
Signal Box
Shrewsbury Flaxmill Maltings
Bluebell Railway plc Middleton
Railway
Bolton Steam Museum The
National Stone Centre
Southern maltings, Ware
Kempton Steam Museum
Tanfield Railway
Chain Bridge Forge

Grane Mill
Lancashire Mining Museum
Eastchurch Aviation Museum
Colne Valley Railway
Path Head Watermill
SPAB Wind and Watermills Section
Washington F Pit
Ironbridge World Heritage Site The
Barge Workshop
Quarry Bank
East Pool Mine
Levant Mine and Beam Engine