HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

Skills Investment Plan for Scotland's Historic Environment

Skills Profiles

March 2024

Contents

Introduction

To support the refresh of the Skills Investment Plan for the historic environment (SIP) sixteen roundtables took place from August- December 2023 in the sector areas that sit under the SIP and where cross cutting workforce needs had been identified. These consultations, led by key organisations, were supported by a wide range of individuals and organisations representing contractors, employers, volunteer run organisations, social enterprises, training providers, policy makers, stakeholders, funders and public and professional bodies. In total 340 people engaged in the consultation representing over 160 organisations. To establish the current context individuals and organisations were operating in, participants were asked about the opportunities and challenges, current and future skills needs and deficits and the training provision available and the quality. To identify the priorities for the next five years a consensus exercise was carried out that looked at the priorities but also started to identify the actions, outcomes, resources, partners and timescales needed.

This consultation helped to identify the six underlying principles and three priorities of the next five years of SIP delivery.

Underlying principles

- An inclusive sector for all
- Strong sector leadership and vision
- Data informed decision-making
- Secure, sustainable investment in skills
- Advocate for the importance of heritage skills
- Effective mechanisms for collaboration and leadership

Three priorities

- Growing provision and building capacity
- Attracting future talent and improving access
- Fostering innovation

Skills profiles were created from each roundtable to summarise the data and identify specific priorities for each area, which will feed into the delivery of the high-level SIP priorities. These skills profiles are not exhaustive but focus on where there was the most consensus and agreement within each consultation area. The Skills profiles will be used as a basis for collaboration and to support and monitor action over the next five years.

This document details the skills profiles for each area.

Archaeology

Collaboration, advocacy, and a sustainable model for skills provision were themes from the archaeology roundtable, reflecting themes from the broader roundtable discussions. Advocacy is needed to build understanding of the value of archaeology and the role of archaeologists. There is a specific need to advocate for the role of archaeology in construction and development, to drive demand for the right skills.

A sustainable skills ecosystem is needed that can grow awareness and provision through collaboration and alignment. Specifically on cross sector skills exchanges, succession planning and addressing the skills challenges identified in this skills profile.

Skills

During the discussion on skills needs and/or deficits, digital skills including AI, ethics, and fieldwork gained the most consensus.

Other groups were:

- Public engagement
- Specialist skills
- Interpretation
- Analysis, reporting and dissemination of the results
- Knowledge of the construction and planning sector
- And General skills (see below)

Specialist skills identified include post-excavation, geoarchaeology, dendrochronology, knowledge of waterlogged plant remains, curation, zooarchaeology, palaeobotany, ceramic specialists, numismatics, and scientific analysis.

The general skills identified were report-writing, publication, and project management skills. Some areas identified as skills needs or deficits are already being addressed through the development of an SQA accredited professional development award in fieldwork skills, piloting archaeological science fellowships to address skills succession planning in dendrochronology, and ongoing discussions with Skills Development Scotland over the development of an archaeology apprenticeship.

Roundtable attendees also stressed the need to understand the extent of the sector through a better knowledge of the planning and legislative systems, the construction industry, and the archaeology sector itself.

Career Pathways

There is an acknowledgement that there is an issue with inequalities in the sector. Archaeology relies on a single-entry route and there is consensus that the lack of clear, sustainable, and equitable alternative career pathways into and through the workforce is constraining the sector. In addition, there is a need to attract future talent, and for this to be successful it is important that there are clear pathways of entry.

The predominant entry route into archaeology is currently through university. The Roundtable highlighted the opportunities around and need for further synthesis between university departments and industry to ensure that those students wishing to enter into a career in archaeology, are equipped with the right skills.

Apprenticeships are currently being explored to train those looking to enter the sector or change careers. Apprenticeship schemes for post-excavation roles was identified as a priority.

Training Provision

Roundtable participants identified a range of training provision available both formal and informal. The most common form of CPD identified was through internal training with organisations reaching out for *ad hoc* specialised external training from experts in the field. Informal peer support networks were also highlighted as a method for upskilling particularly those working in local council areas.

Examples of good practice included on the job training and development, placements, field schools and work-based learning that allow students to get real hands-on experience and skills. Roundtable participants highlighted good practice apprenticeship and traineeship models such as the Archaeological Practice NVQ and Craft Fellowships. Examples of good professional body training were also mentioned, including BAJR's Skills Passport, Archaeology Scotland's provision, Chartered Institute for Archaeologists (CIfA) CPD and PDP, and Museum Galleries Scotland's cross-sector training.

Challenges finding training providers and a lack of experienced people to deliver training are barriers to accessing current provision. There is a perception that there is provision for general archaeology skills, but provision is lacking for the more specialist skills. One solution suggested that specialist skills could be developed within public sector organisations to increase industry access to specific specialist skills.

Issues with the lack of communication between universities and employers were highlighted as one of the main problems in current training provision, alongside the lack of time, funding, and succession planning, which meant that important skills are at risk of being lost.

Higher and Further Education Stats

The overall number of Archaeology students studying at Scottish Higher Education providers has decreased when compared to the data from 2015/16. However, according to HESA, there has been a slight increase in enrolments between 2019/20 and 2021/22, from 455 students (285 undergraduates and 170 postgraduates) to 515 (320 undergraduates and 195 postgraduates).[1]

In the 2021-2022 period, 35 students registered to further education for archaeological subjects.[2] The main archaeology subject available in colleges in Scotland for the 2021-22 period is "Core GIS Skills (SCQF 5)" delivered by Lews Castle College (Isle of Lewis) although the audience demographic for this is currently unknown.

Archaeology Skills Priorities

Five priorities were identified through the roundtable and through analysis of the data. These priorities are:

- Address a lack of post excavation specialists
- Upskilling on digital methods, including AI
- Develop sustainable and equitable career entry routes and career pathways
- Continue to develop and build infrastructure for training provision including a sustainable system to support specialists
- Developing skills and knowledge around Net Zero

---

[1] HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk
[2] Dataset provided by Scottish Funding Council data analysis team upon request.

Architecture, Engineering, Planning and Surveying (AEPS)

For the purpose of this skills profile the definition of AEPS skills is: skills that support architectural, engineering, planning and surveying activity, with a conservation specialism and a heritage focus.

Similarly to other roundtables, the need for collaboration, advocacy and data were highlighted.

The sector is in a good place to deliver on key government policies such as Scotland's Climate Change Plan[3], delivering the Place Principle[4], the just transition[5], the National Planning Framework 4[6], heat in buildings[7], Passivhaus[8], tenement maintenance[9] and housing 2040[10] .

More is needed to advocate for the sector's role and value in delivering these agendas, and the requirement to develop new skills and upscale existing skills provision to maximise this opportunity. Our Past, Our Future-Scotland's national strategy for the historic environment provides an opportunity to support this work through the 'delivering the transition to net zero' priority.

There is also a need to advocate for the mainstreaming of the 'conservation' aspect of the construction industry, to ensure it is visible within policy, planning and provision. Developing closer relationships with Local Authorities and Scottish Government were identified as being important drivers for skills.

There was consensus that cross-sectoral collaboration, as well as partnerships between organisations, institutes, professional bodies, and higher education providers, was vital to

---

[3] For more information on the latest updates to Scottish Government's "Scotland's 2018-2032 Climate Change Plan", see https://www.netzeronation.scot/ and https://www.gov.scot/publications
[4] For more information on the place principle see Place Principle.
[5] For more information on Scottish Government's plans for just transition, see Just Transition.
[6] National Planning Framework 4 can be accessed online.
[7] For more information about the energy efficiency policy see Energy Efficiency: Heat in buildings.
[8] For more information about Passivhaus see A guide to Passivhaus.
[9] More information on tenement maintenance see Tenement Building Working Group.
[10] More information see Housing to 2040.

help address a need for conservation literacy among key stakeholders, and in creating clearer pathways both into the sector and for professionals already working in AEPS.

Career Pathways and Skills Profile

There are challenges around attracting future talent and creating a workforce pipeline for the sector. While there are structured pathways into specific roles, pathways do not reflect the diversity of roles in this area. A focus on the creation of clearer pathways into the sector is required as well as effective training to support these pathways.

All four disciplines identified the need to engage with young people to promote the diversity of careers in this area, and to expand the geographic reach across Scotland.

There was a consensus that pathways into the sector can be confusing, difficult, and lengthy, dissuading future professionals from pursuing careers in AEPS.

There are additional challenges with provision, specifically costs and disappearing courses, especially in the areas of surveying and construction. A lack of trainee opportunities was identified as an issue in (conservation accredited) surveying and architecture. But a focus on the development of technical skills and more vocational training opportunities was identified as an opportunity. Conservation officers, conservation accredited surveyors, urban designers, building surveyors, quantity surveyors, and residential surveyors were identified as roles where there are shortages

Higher and Further Education Stats

According to Higher Education Statistics Agency (HESA) data, the number of Architecture, building and planning students studying at Scottish higher education providers has had a small increase in recent years (between 2019-20 and 2021- 22) at both undergraduate (from 4,355 to 4,440) and postgraduate (from 1,980 to 2,790) levels.[11] However, these statistics do not show how many of these students are on accredited courses. The funding for these courses is seen as precarious due to their length, and the requirement for practical work. Additionally, providers are increasing the number of places for oversees fee-paying students who may not remain in Scotland following graduation leaving a domestic deficit. There is also a perception among some of the disciplines (such as surveying and planning) that provision in their area is reducing. Therefore, the actual state of the skills pipeline remains unclear.

There is a need for collaboration between employers and higher education providers to embed industry-specific skills into university courses and training resources, as well as to mainstream conservation awareness, with a greater focus on energy efficiency, retrofitting, and repurposing.

---

[11] HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk

Training Provision

Roundtable participants identified a range of current provisions, mainly from Higher Education providers and professional bodies, with some prominent third-sector organisations. Provision tends to be accredited by professional bodies. This is a highly academic sector with very few alternative routes. The most mentioned type of provision was CPD, both formal and informal, provided by professional bodies.

Attendees emphasised that professional bodies offer good quality and accessible courses. Specific examples included Royal Institute of Chartered Surveyors (RICS) retrofit work, Royal Institute of British Architects (RIBA)'s online CPD pathway, the Council on Training in Architectural Conservation (COTAC)'s "Understanding conservation", and the Royal Incorporation of Architects in Scotland (RIAS) CPD. There was a strong consensus that collaborative CPD spaces across the professions and trades were needed, providing the opportunity to learn together.

While conservation training provision was identified at all levels, it is consistently missing from undergraduate provision as it is seen as a "specialism" that not every student will study, rather than as a "core" skill.

There were also issues identified with the accessibility of training provision regionally and for micro businesses.

Accreditation

Accreditation is a way of demonstrating skills, competency, and level of knowledge. This part of the sector has highly structured entry routes and CPD provision. However, in some areas, accreditation uptake is declining; for example, fewer graduates are entering the RICS assessment of competency. There is also a declining number of accredited planning schools in Scotland, which impacts on the number of students undertaking accredited qualifications. While conservation awareness among specifiers can be an issue, even when specifiers have a good level of conservation awareness, it is difficult to ask for accredited professionals when the pool is diminishing.

Skills needs

Roundtable members identified the following skills needs: building pathology, carbon assessment, conservation skills for AEPS professionals, urban design skills, surveying, specialist traditional building skills, digital, procurement knowledge for contracts, knowledge of policy and retrofit skills.

As was the case in other roundtables, effective succession planning will be essential in ensuring that no skills are lost when experts retire or leave the AEPS sector.

The consultation specifically identified local authorities and planners as requiring support to develop skills and knowledge.

AEPS Skills Priorities:

Six priorities were chosen collectively by the roundtable through voting:

- Demystify mainstream repair and maintenance toward conservation
- Higher Education
- Trades and Professions joint learning
- Develop a collective approach to address skills, knowledge gaps, and training in local authorities
- Innovation – practical application/knowledge sharing
- Engaging with schools and young people

These were merged into four priorities for the next five years of delivery.

- Build conservation awareness (various audiences including higher education and Local authorities)
- Foster better collaboration between institutions - Trades/Professions joint working
- Create skills outputs from research outcomes
- Engaging with schools and young people

Archives and Libraries

For the purpose of this skills profile the definition of libraries and archives skills is *Record keeping and information professionals working in libraries and archives*

Similarly, to other roundtables the need for advocacy, digital literacy, and collaboration were highlighted. Attendees also stressed the need to support wellbeing, create clear and sustainable pathways into the sector and address issues around the lack of resources.

Advocacy

Raising awareness of libraries and archives, their social importance and the public perceptions of information professionals and their work was identified as being important. Increased awareness will support the sector to attract future talent and funding which could help with resourcing issues.

Attracting future talent and improving access

The sector needs to work with schools, influencers and community groups to raise awareness and understanding of jobs in the information management sector, and advocate for the benefits and possibilities of a career in libraries and archives

A lack of workforce diversity is a challenge that needs to be addressed. There is a requirement to build clearer and sustainable pathways into the sector, primarily through the creation of more accessible vocational models such as apprenticeships or other work-based learning opportunities, and graduate roles. Collaboration between further education providers, higher education providers and employers is needed to support this work and create a pipeline for the future workforce.

Resourcing

There is a lack of resources across the sector in the form of under-funding, under-staffing, and lack of training provision and skills planning. There was concern that staffing issues were causing over-stretched staff capacity, poor staff wellbeing, and an increased risk of staff burnout potentially leading to skilled talent leaving the sector. Supporting wellbeing was a common theme in the consultation and the skills and knowledge to support a healthy work environment which promotes positive wellbeing is required. Collaboration between organisations and more opportunities for informal training and peer-to-peer learning was also identified as being important.

Skills Profile

Digital literacy and innovation is a priority for skills development. There is an agreement that there is limited understanding and a lack of confidence across workforce when it comes to advanced digital literacy. There is a need to upskill staff around machine learning, Artificial Intelligence and digital collections. At the same time, it was felt that professionals still needed to be knowledgeable in analogue practices and techniques.

Roundtable attendees also highlighted the need for the development of training for more transferrable and inter-disciplinary skillsets such as data protection and freedom of information, data science and analysis, soft skills (especially management of people, resource, projects, events, risk and change), leadership & governance, strategic planning, communications & advocacy, fundraising and documenting procedures. Some of which is already delivered by professional bodies. This suggests that there is a lack of awareness of what is available, what is available isn't accessible or is not being delivered at a scale to meet skills needs.

There are challenges with the demographics of the workforce and a need for succession planning to avoid the loss of key specialist and core skills. However, a hugely expert workforce within the sector could provide an opportunity for both succession planning and knowledge sharing. Succession planning for leadership is another area requiring focus.

Training Provision

This sector benefits from several competency or learning frameworks including the ARA's archivist, records manager and archive conservator competency frameworks; CILIP Professional Knowledge and Skills Base; Information and Records Management Society (IRMS); Digital Preservation Coalition (DPC); and the National Archives (TNA) "Knowledge to Know How" digital preservation training. ARA, IRMS and Chartered Institute of Libraries and Information Professionals (CILIP) also offer routes to professional registration of certification.

Roundtable participants identified a range of training provision available from Higher Education to CPD. The most mentioned level of provision was CPD, both formal and informal, with varying levels from beginner to advanced. In terms of formal training, professional bodies were cited as some of the main providers of CPD. Conferences were agreed to be one of the most used formal training resources, with one group stating that "historically conferences have been a stalwart of learning". Out with provision from professional bodies, learning tends to be informal, through networks and there is a desire for more structured informal learning opportunities.

The National Archives' also provides a peer mentoring model which was cited as good practice.

There is a consensus that lack of resources were one of the main issues with training provision, causing a lack of budget, capacity and planning. In particular sector wide planning and alignment around training.

A training provision gap around legal and industrial archives was identified.

Higher and Further Education Stats

According to HESA, the number of information services students studying at Scottish Higher Education providers has decreased, shifting from 710 students (0 undergraduates and 710 postgraduates) in 2019-20 to 455 (0 undergraduates and 455 postgraduates) in 2021-22.[12] The lack of graduate qualifications was identified in the ARA CILIP 2023 Workforce Mapping report as a barrier to both entry and progression.

While the theoretical learning from higher education provision is felt to be good, the consultation identified gaps in current provision around more practical skills and digital preservation.

Library and Archives Skills Priorities

The roundtable identified five priorities for the next five years of delivery:

- Advocacy
- Increase opportunities for informal training
- Increase opportunities for collaboration
- Upskilling in data science (theory and practice)
- Developing mechanisms for succession planning

Another priority was identified through analysis of the data:

- Developing progressive pathways

---

[12] HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk

Conservation

The conservation pillar closely aligns with the experience and priorities in the industrial heritage, heritage science and the traditional buildings skills and materials pillars.

Similar themes relating to a lack of resources, the need for collaboration and a strategic approach, and issues around data, which were identified in the broader roundtables, were identified in the conservation roundtable.

Unsurprisingly, a lack of resources to develop and deliver training provision was identified as by far the biggest challenge to developing a sustainable skills ecosystem for conservation.

There is a need for more collaboration 'at the top' and more joined up thinking when it comes to skills issues. A collaborative approach is needed to address skills and workforce issues including better workforce planning, and more structured knowledge sharing and succession planning. It was suggested that a skills forum should be formed to provide a platform to discuss skills issues and enable collaboration.

To support a strategic approach to skills development there is a need to map supply and demand to identify gaps. Icon's accreditation process provides an opportunity to identify training needs through their membership.

Other areas of consensus were challenges around skills provision and the lack of skilled staff.

Skills Profile

A large number of skills were identified as either being a skills need or a skills deficit. This reflects the broad number of specialist skills that fall under the conservation footprint (Icon's membership accounts for 152 different material specialisms). The skills which had the most consensus related to:

- Established material specialisms where there are a low number of fully trained professionals, such as stone, stained-glass and archaeological conservation.
- New and emerging areas of conservation practice, including the skills to care for and conserve modern materials and time-based media.
- Highly technical skills that relate to broader material specialisms, for example within the field of book and paper conservation there are very few individuals with the skills to undertake highly technical treatments to parchment, seals and fragile paper collections (including the large newspaper collections held in the library and archive sector).

- Areas of conservation practice where there is not a tradition of following a 'conservation' approach – i.e. areas where there is an established workforce, but there is still the need to develop practitioners' understanding of the underpinning principles, ethical guidelines and working practices of the conservation profession to improve outcomes for the built heritage and collections in their care. This included those practicing as architectural conservators – such as heritage carpenters.
- Work related skills including project management, business skills and soft skills.

As well as upskilling the current and future workforce, there is a requirement for basic conservation skills for local authorities, and conservation awareness for non-conservators.

Related to this is the need for a more strategic, collaborative approach to succession planning for skills identified as at-risk, which could be supported by utilising skills sharing, mentoring, and peer learning.

Attracting future talent and improving access

Bursary models were highlighted as working well but were rare.

There was a consensus that apprenticeship models tended to work well and that more of them would help get skilled workers into the sector. The main issues around the creation of apprenticeships and other work-based learning opportunities were the lack of funding, the capacity of micro-organisations and sole traders to host apprentices, and the fear that there are no positions available for apprentices at the end of their training. Difficulties following Brexit of offering opportunities to international students were also mentioned.

Training Provision

Roundtable participants identified a range of training provision from beginner to advanced. For CPD, roundtable attendees pointed to Icon primarily and other professional bodies such as Chartered Institute of Libraries and Information Professionals Scotland (CILIPS), Archives and Records Association (ARA) or Scottish Library and Information Council (SLIC) for book and paper related conservation. The sector is well networked and informal skills and knowledge sharing is common.

In general, there was a consensus that the current training provision lacks progressive levels with a disproportionate amount of training aimed at the lower level. Roundtable attendees suggested that increased collaboration around sharing resources, skills sharing, mentoring, inter disciplinary provision and peer learning would help address some of the challenges around upskilling and reskilling. Building organisational capacity to deliver training and developing training skills was needed to build a culture of continuous professional development in the workforce and provide early career support.

The consultation identified a need for specialist training in Scotland to ensure that there is an availability of skilled staff, and a pathway for future specialists. The quality of provision where it exists wasn't felt to be an issue. The challenge for the sector is that training is declining

and perceived to be ad-hoc and disparate even when allowing for available provision in the rest of the UK. Access to and the cost of training was prohibitive.

There is a need for provision that incorporates more practice and practical skills development, as well as a need for more accredited learning or clearer standards so that individuals, volunteers, and employers in the sector can understand the level of competency being developed.

Higher and Further Education Stats

There are few higher education courses offering conservation related subjects in the wider UK, and only one in Scotland at the University of Glasgow.

According to HESA, the number of Heritage Science superclass[13] students studying at Scottish Higher Education providers has decreased, shifting from 55 students (0 undergraduates and 55 postgraduates) in 2019-20 to 35 (0 undergraduates and 35 postgraduates) in 2021/22.[14]

Student enrolments on conservation subjects in Scotland have remained stable or decreased between 2019/20 and 2021/22. Fine art conservation enrolments remain stable at 15 postgraduate enrolments. Glass crafts have also remained stable at 5 postgraduate enrolments. Conservation of building enrolments have experienced a slight decline from 55 to 50 postgraduate enrolments in 2019/20 and 2021/22 respectively.

On a wider UK context, student uptake of conservation subjects between 2019/20 and 2021/22 has primarily increased. Fine art conservation enrolments have increased from 185 students (80 undergraduate and 100 postgraduate) in 2019/20 to 260 students (135 undergraduates and 125 postgraduates) in 2021/22. Similarly, enrolments for Conservation of buildings have also increased from 300 (25 undergraduate and 275 postgraduate) to 325 (10 undergraduate and 315 post). In contrast, enrolments for Glass crafts have lowered from 45 students (20 undergraduate and 25 postgraduate) to 40 students (20 undergraduates and 20 postgraduates).

Conservation Skills Priorities

The consultation identified five priorities for the next five years of delivery.

- Create a strategic approach to building competency
- Develop a structure for progressive CPD and practical application of training
- Understand the role of accreditation and standards
- Build capacity and skills to train others
- Create a structure for knowledge sharing and succession planning

---

[13] A superclass is a group of higher and further education subjects which have in common programme particulars.

[14] HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk

Heritage Science

The term 'heritage science' is used to encompass all technological and scientific work that can benefit the cultural heritage sector, whether through improved management decisions, enhanced understanding of significance and cultural values or increased public engagement (National Heritage Science Forum).

The heritage science footprint crosses and supports archaeology, industrial heritage, conservation and traditional building skills and materials.

As such this skills profile supports an equal partnership of Independent Research Oganisations (IRO's) and non-IRO's and a culture of collaboration and co-creation.

The cross-cutting themes of collaboration, advocacy, data, funding, and diversity were predominant throughout the heritage science roundtable. Other topics discussed were succession planning and attracting future talent, the need for clear pathways into the sector, and community engagement.

Collaboration and co-creation

Higher education providers have a vital role to play in upskilling the incoming and existing workforce. There is a desire for closer collaboration between universities and industry around heritage science, to support the development and sustainability of heritage science skills through the incorporation of industry-required skills into the curriculum. This would help to bridge any discrepancy identified between theoretical instruction and the practical application required by the industry.

This is particularly important at practitioner level as it was felt that there were good collaborations at a policy and institutional level.

It was suggested that the sector may want to consider identifying or developing a university and industry network to facilitate partnerships through membership groups, encouraging networking, joint research, collaboration, and skills sharing. NHSF and the Icon heritage science group maybe useful platforms for this

The need for closer collaboration around training facilities and access to collections for training purposes was also identified.

Advocacy

Advocating for the importance of heritage science education, research, and skills to the Scottish Government and the wider public was identified as a priority. The former would be addressed with an emphasis on capacity building and quality education, which can support revenue generation and national strategy links, while the latter would focus on community engagement.

Attendees proposed that the sector's work should be aligned with the sustainable development plans of the Scottish Government and the United Nations Sustainable Development Goals (SDGs). This alignment aims to increase awareness of heritage science's value and role in Scotland, and to make a stronger case for funding, the need for resources, capacity building, and the development of sustainable skills pathways. This would identify heritage science's role in delivery but also the skills needed to support this. There was an agreement that heritage science is integral to delivering wellbeing, tourism, net zero, climate change impact and adaptation ambitions. The enhanced understanding of these areas, provided by heritage science, has a positive economic impact.

Data

There is a need for improved data to identify, record and monitor current and emerging skills shortages, gaps and demand. This will require using the findings from this consultation and other sources to map existing and future skills needs against education and training provision to scope need.

Pathways

Although the scientific analysis of heritage has been taking place for decades, heritage science is a relatively new and interdisciplinary field. The pathways into heritage science are diverse and varied, which is a strength; however, heritage science roles can struggle with visibility. More awareness raising is needed of the opportunities for careers in heritage science.

There are few early career posts and a lack of permanent employment, especially at entry levels. There is a need for "continuity starter roles" that can offer a more seamless transition from higher education and vocational training to entry-level positions, potentially through work-based learning posts or post-doctoral positions (where appropriate).

There are also challenges for the existing workforce because of a lack of clear progression routes.

Succession Planning

Succession planning and the training of trainers are vital in this sector due to its highly technical and specialized skill requirements and the limited number of specialists. It was suggested that the sector could seek lessons from other sectors and countries to effectively address this issue.

Skills Profile

A range of skills needs and deficits, both specialist and transferrable were identified by the consultation.

Specialist skills were identified across the disciplines of heritage science and can be grouped into general baseline science skills, archaeological science skills, building pathologies, digital science, climate science and architecture and engineering.

The skills most widely mentioned were dendrochronology, skills to support specialist equipment, lab-based skills, material science skills and knowledge and skills to support a scientific approach.

Broader heritage skills include traditional building skills, and digitising and organising collections.

Transferrable skills focused on data modelling and statistics, fundraising, skills to support delivering net zero, risk management, and overall digital skills with an emphasis on AI and design.

Training Provision

Due to the interdisciplinary nature of heritage science and the diverse backgrounds of heritage scientists, the consultation identified a wide, albeit not exhaustive, range of existing training provisions.
In most areas, heritage science is primarily taught in universities, initially as part of various undergraduate degrees (such as chemistry, archaeology, architecture, etc.), and then as part of specialised postgraduate conservation courses. However, there is limited accessibility to these courses due to a lack of public funding. As a result, provision is either through very expensive specialist courses with small numbers of learners aimed at building competence in particular professions, or more generic multidisciplinary programs

In the UK, the majority of conservation courses focus on heritage management rather than heritage science. However, there is growing awareness of the importance of this specialism with recent investment in lab facilities and new provision. To continue to grow heritage science skills it is important that heritage science curriculum is embedded into relevant provision including heritage management.

Some CPD is delivered by professional bodies including the Chartered Institute of Archaeology (CIfA), the Institute of Conservation (Icon) and the Institute for Historic Building

Conservation (IHBC). The international nature of this discipline is also represented by European skills provision.

There is an opportunity for alignment of provision as part of a progressive pathways approach, along with a need for more visibility and better understanding about what is available. It was felt that Continuing Professional Development (CPD) tends to be self-identified and self-led by individual practitioners, and there is a lack of a training framework for the sector. Additionally, a lack of trainers was identified as an issue. Roundtable attendees also highlighted that at times, training for specialist skills and techniques is too short to properly gain proficiency, such as a 2-hour Bayesian training, which was cited as an example of poor practice. There is a concern that a superficial understanding of these skills can be misleading. These shorter training sessions are primarily for awareness raising rather than CPD, and sustained investment in training outside of current provision is needed to develop specialists.

Higher and Further Education Stats

Due to the interdisciplinarity of heritage science, there are many higher education pathways in Scotland that feed into the heritage science workforce. For this skills profile, we have looked at changes in enrolment numbers for archaeological sciences, physics, chemistry, architecture, earth sciences and civil engineering. There are difficulties in accessing data due to the way subjects areas are grouped into superclasses.

The number of Archaeological Science students in Scotland has remained stable at 110 students from 2019/20 to 2021/22. It is worth noting that the number of postgraduate students decreased from 5 in 2019/20 to 0 in 2021/22. In the UK, archaeological science enrolments have increased in the past two years from 740 in the academic year 2019/20 to 825 for the academic year 2021/22 is 825.[15]

The number of students enrolled in Forensic and archaeological sciences subjects in Scotland has increased by 30%, shifting from 740 in 2019/20 to 960 in 2021/22.[16]

The number of students studying Earth Sciences in Scotland has increased from 1,150 students (730 undergraduate 420 postgraduate) in 2019/20 to 1,635 (770 undergraduate and 860 postgraduate) in 2021/22. This increase is the highest increase in postgraduate enrolments, which doubled.

The number of students studying Civil Engineering in Scotland has remained stable over the past few years, with an enrolment number of 3,660 students for the 2021/22 academic year.[17]

---

[15] Of these 825 students in 2021/22, 485 were undergraduates and 345 postgraduates. It is worth noting that 60 of those postgraduates are doing research. Source: HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk

[16] Of these 960 students in 2020/21, 825 are undergraduates and 135 postgraduate. Source: HESA (2023). *What do HE students study?*

[17] For reference, in 2019/20, 3,515 students were enrolled in Civil Engineering in Scotland.

This is also the case for Physics with a minor increase in enrolments which shifted from 3,045 in 2019/20 to 3,310 last year.

Undergraduate enrolments for Architecture, Building and Planning in Scotland continues to be strong and stable from 4,440 in 2019/20 to 4,360 in 2021/2

Lastly, enrolments for Chemistry in Scotland have slightly decreased since 2019, reducing from 2,805 to 2,760 last year.

Heritage Science Skills Priorities

The roundtable discussion identified three priorities, not in order of importance.

- Succession planning and knowledge sharing
- Advocacy and securing sustainable funding
- Developing structured skills provision

A further priority was identified in the data:

- Attracting future talent and career pathways

Heritage Tourism

The cross-cutting principles of collaboration, alignment, and strong sector leadership were emphasized during discussions. Priorities such as attracting future talent and improving access were also identified.

Attracting future talent and improving access

Advocacy among key stakeholders, engaging with local communities, and promoting careers within the sector were identified as vital for developing a healthy skills pipeline. The diversity of organisations and roles within heritage tourism, encompassing tangible and intangible culture as well as natural heritage, is a strength. However, this diversity can also make it challenging to define and explain. It is crucial to identify agreed key messages that effectively communicate the appeal of the sector and raise awareness of the breadth of heritage tourism.

There is a need to work collaboratively with sector employers, influencers and third sector organisations to promote the idea that heritage tourism roles can lead to rewarding careers by demonstrating to young people the benefits of working in the sector and the variety of jobs available. Overcoming assumptions that heritage tourism roles are only seasonal jobs and not viable career options presents a challenge, and there is a necessity to illustrate progressive pathways. While the pathway analogy is commonly used, some participants in the roundtable felt that a 'web' metaphor, reflecting the open, diverse, and varied nature of work options, would be more appropriate. These progression routes (or webs) need to be supported by accredited training, qualifications and personal development opportunities. Graduate programs and work-based learning opportunities were specifically mentioned as necessary to adequately upskill future talent and facilitate entry into and progression through the heritage tourism workforce.

Recruitment practices were identified as hindering the talent pipeline but also hindering organisational ability to recruit a diverse range of people. A shift is needed in current practices to "recruit on aptitude and train on skills". Organisations need to recruit based on the candidate's personal qualities and mindset rather than skills and qualifications. There is a need to change our approaches and expectations by providing opportunities to grow our own skills inhouse and here is an opportunity through employability programmes and engaging with public and third sector partners to be more inclusive

Skills

The skills highlighted as either a need or a deficit fell into eight categories:

- **Visitor experience and visitor management skills** including advanced customer service, languages, and skills relating to compliance like health and safety
- **Business/entrepreneurial skills** including commercial skills, finance, marketing and sales. Best practice cases from inside and outside the sector could be used to train the industry on appropriate leadership and business skills, ensuring they can develop the necessary skills to effectively manage their business and successfully engage with visitors. Support is particularly needed for self-employed and micro-businesses.
- **Soft skills** e.g communication, interpersonal, management and leadership skills (including trustees)
- **Community engagement and cultural activity** including interpretation skills, storytelling, cultural event management and supporting volunteers
- **Data** and other analytical skills
- **Digital Skills** including improving digital literacy and building a digital mindset which supports digital applications and innovation. Digital training on social media (especially TikTok), and AI were seen as crucial moving forward.
- **Mentoring** and trainer skills
- **Net zero/environmental sustainability**

Training Provision

Organisations identified a variety of training provisions utilised to support Continuing Professional Development (CPD) and entry into the workforce. CPD offerings are provided by commercial trainers, trade bodies, non-profits, and further and higher education institutions. Some of these courses address areas identified in the consultation as being either a skills need or deficit, such as exceeding visitor expectations, handling challenging situations, leadership and management, storytelling, and digital skills. In certain instances where provision exists, there may be a requirement to upscale or ensure provision is more consistently accessible and available.

Higher Education and Apprenticeship Stats

The number of tourism, transport and travel superclass students studying at Scottish Higher Education providers has fluctuated over the past five years. According to HESA, Scottish higher education students have increased from 2,455 students (2,020 undergraduates and 435 postgraduates) in 2019-20 to 2,585 (2,330 undergraduates and 255 postgraduates) in 2021-22. But there has been a significant drop in high-level study[18]

---

[18] HESA (2023). *What do HE students study?* [online] Available at: https://www.hesa.ac.uk

The tourism/travel subjects available in colleges in Scotland for the 2021-22 period included but were not limited to: "Travel & Tourism", "Tour Guiding", and "Event Management". Fifteen colleges across Scotland offered tourism/travel subjects during the 2021-22 period.

According to Scottish Funding Council, there were 633 students starting and 1,120 students in training in Hospitality and Tourism superclass at Scottish Modern Apprenticeship in Q3 2022/23. The Rural Skills and Travel Services MA courses were provided by 9 training centres, colleges, and industries across Scotland, and they are accredited with SCQF level 5, 6, and 7.

There are no specific apprenticeship pathways for visitor operations roles. However, there are pathways for cultural venue operations (SCQF level 7), Museums and Galleries Technicians (SCQF level 7), customer service apprenticeships (various levels), and a Foundation Apprenticeship in Hospitality (SCQF Level 4 and 5). The Hospitality, Travel and Customer Service Modern Apprenticeship frameworks are currently being re-designed with industry support with the work scheduled for completion in 2024.

Napier University have developed a Graduate Apprenticeship Business Management (Tourism and Hospitality). The first cohort started in September 2023.

Higher and further education offer vital pathways into the sector and serve as crucial sources for Continuing Professional Development (CPD). There are growing connections to these providers, presenting opportunities to influence content, which should be further developed. However, there is still a perception that the majority of travel and tourism provision primarily focuses on larger sectors such as hospitality and travel. While these courses impart important transferable skills, they also result in gaps in some of the core skills identified above, and careers in visitor attractions are less visible as potential destinations.

An issue was identified with the lack of visibility and alignment of existing provision, resulting in provision appearing disjointed or overcrowded. There is a need for alignment of current provision as part of a progressive approach for key roles. Participants expressed uncertainty about the relevance and quality of training provision. To address this, the suggestion of a "skills yellow pages" or a "TripAdvisor for skills" was made. This platform would not only list available training but also identify core provision as part of a progressive pathway approach, providing an understanding of the course level, competency level, knowledge developed, and quality.

Regional accessibility to training provision poses a challenge. While some provision exists to support skills development in priority areas, there is uncertainty about whether this provision adequately meets demand or provides the flexibility sought by employers where it is needed.

Lack of resources both financial and staffing was mentioned as a barrier to skills development. Extreme staff shortages in the sector make it increasingly difficult to find time for staff CPD

A collaborative approach to learning and best practice is needed by sector organisations and key stakeholders to develop and/ or access relevant sector training and maximise available

resources. Opportunities for the sharing of skills, knowledge and good practice across the industry is also required.

Heritage Tourism Skills Priorities

The consultation process identified three priorities for delivery over the next five years:

- Developing a commercial / entrepreneurial mindset
- Attracting future talent and improving access
- Soft skills development: "Recruit on aptitude and train on skills"

Historic Landscapes and Gardens

Cross-cutting themes of advocacy and resources identified in other roundtables, was also present in the historic landscapes and gardens roundtable. Other themes identified were attracting future talent and sustainable pathways, improved skills provision, and addressing climate change.

Advocacy

Advocating for the importance of historic landscape and gardens professionals and skills were seen as important in three ways-advocating to the general public to promote landscape skills and careers; advocating to local authorities for the importance of landscape professionals and standards of practice; and raising awareness of landscapes and gardens in delivering policy agendas including addressing the climate crisis.

Community engagement was thought to provide opportunities to engage with the public to raise awareness of the value of green spaces, and the importance of landscapes and gardens careers. Citizen Space projects were identified as providing an opportunity for intergenerational landscape knowledge exchanges and engagement with the environment.

Landscape architects are important to the planning process, but few councils employ any. Advocacy is needed to demonstrate the importance of these skills in meeting council and government agendas.

Attracting future talent and sustainable pathways

The consultation identified a need to focus on attracting future talent initiatives to address an ageing workforce demographic by inspiring, investing in, and engaging with young people. Suggestions included tailored school programmes and events that young people and families can engage with at all ages; collaboration with schools to embed land-based learning into the curriculum; and promoting landscape and gardens careers to career changers.

There is a need to build accessible and sustainable pathways into and through the sector including for key roles where there are identified shortages e.g., landscape architects, arborists and planners. The creation of more accessible work-based learning models such as apprenticeships and internships are becoming increasingly important with decreasing further and higher education provision. This would help address a lack of entry points, confusing pathways, and a lack of understanding of the qualifications available. There are

issues with the speed that qualifications are reviewed, and there is a perception that a move to a more meta skills approach particularly with apprenticeships has meant that some technical skills development has been lost.

Climate change

The climate change agenda was seen as an opportunity to demonstrate the importance of historic landscapes and gardens and the role professionals play on the preservation of the environment, the conservation of historic landscapes, and a source of knowledge to support nature-based solutions. However, roundtable participants questioned whether the sector is keeping up with the Government's Net Zero policies and prioritising the use of nature-based solutions as part of the journey to Net Zero. Skills to support adaptations, biodiversity and carbon neutral approaches were identified as being important.

Skills

The consultation highlighted the following areas as having skills needs or deficits- plant skills, knowledge of Scottish garden history, management of green spaces, biosecurity, pest and disease management, health and safety, operating machinery and landscape design. Developing skills which support nature-based solutions to the climate crisis were identified as a priority by the roundtable.

Also, a priority was the need to build conservation awareness in key stakeholders but specifically planners, applied trades, those in procurement, and within university provision

Shortages were identified in several job roles including landscape architects and technicians, arborists and in forestry roles but particular focus was given to landscape planning roles, where a lack of talent available is leading to positions being filled by people with different areas of expertise who do not have the qualifications nor the skills for the role.

Training Provision

Roundtable participants identified a range of training provision that span the Scottish Credits and Qualification framework, including national progression awards, further and higher education provision, accredited vocational learning and continuous professional development. However, it is unclear how much provision supports a conservation approach or could be used to support a conservation approach.

Vocational learning

There are three relevant modern apprenticeship frameworks available in trees and timber, rural skills and horticulture. These frameworks have just been reviewed. There is also a variety of work-based learning opportunities using Royal Horticulture Society qualifications, further education provision and bespoke organisational programmes.

CPD

The vast majority of CPD mentioned was accredited, often delivered by the Landscape Institute, Lantra providers, Royal Botanical Gardens Edinburgh, Rural Skills or University of Edinburgh. When CPD was delivered in-house, it often included networking, conferences and short courses focusing on the development of specific practical skills.

Further and higher education

Reflecting the sector's broad skillset, further education courses mentioned include HNC's and HND's in horticulture, landscaping and plantsmanship. Concern was expressed about the decline in further education courses relevant to this part of the sector. Providers are experiencing funding reductions, reduced delivery time, and struggling to attract students onto relevant courses.

Degrees are available in silviculture and arboriculture, ecology, environmental science, environmental conservation, garden design, planning (urban and rural) and landscape architecture. In higher education there is a need for more practical training to compliment theory. There has been a decrease in provision for key higher education places at the same time as an increase in the allocation of places for oversees fee paying students who may return home following graduation, leaving a domestic deficit.

Higher and Further Education Stats

The exact number for higher and further education students by subject is not available on Higher Education Statistics Agency (HESA)'s website nor the Scottish Funding Council's database.

According to Scottish Funding Council, there are 385 students studying in the Gardening/Floristry/Plant Sales superclass in Scottish Further Education, while there were 155 students studying in the Amenity/Horticulture/Sports grounds superclass in 2021-22.

According to HESA, the number of landscape design superclass students studying at Scottish Higher Education providers has decreased, shifting from 250 students (60 undergraduates and 190 postgraduates) in 2019-20 to 155 (55 undergraduates and 100 postgraduates) in 2021-22. The courses within the agricultural superclass provide transferable skills for student to work in gardens such as sustainable agriculture and landscape development and horticulture[19]. The number of agriculture superclass students studying at Scottish Higher Education providers has also decreased, shifting from 1,430 (1,190 undergraduates and 240 postgraduates) in 2019-20 to 1,280 (1,075 undergraduates and 205 postgraduates) in 2021-22

Landscapes and Gardens Skills Priorities

---

[19] According to HECoS subject codes

Five priorities were identified in the consultation. Four of which were skills priorities:

- Attracting Future Talent: Inspiring and investing in young people
- Skills to support nature-based solutions
- Increasing conservation awareness
- Defining progressive career pathways in key job roles

The last priority, while important falls out with the skills investment plan remit:

- Raising awareness of the landscape as part of the historic environment

Industrial Heritage

For the purpose of this skills profile industrial heritage is defined in line with the [Dublin principles](#) as *places, structures, and landscapes as well as related machinery, objects or documents that provide evidence of past or ongoing industrial processes of production, extraction of raw materials, their transformation into goods, and related energy and transport infrastructure. Industrial heritage reflects profound connections between the cultural and natural environment, as industrial processes – whether ancient or modern – depend on natural sources of raw materials, energy and transport networks. It includes material assets –fixed and movable –, and intangible dimensions such as technical know-how, the organisation of work and workers, and the complex social and cultural legacy that shaped communities and brought major changes to entire societies and the world in general*

There is a considerable focus on industrial heritage skills with the publication in 2023 of Icon's NHLF-funded ['Industrial heritage conservation skills: A plan of action'](#) Unsurprisingly there is commonality in the recommendations in the Icon action plan and the priorities in this SIP profile, namely action to preserve existing knowledge, actions to support the professional workforce and actions to bring new people into the sector.

Findings

Cross cutting principles relating to collaboration, data, and the need for resourcing, which were identified in other roundtables, were also highlighted as needs and opportunities in the Industrial Heritage roundtable.

The Industrial heritage part of the sector is already well networked but the need for collaboration focused on fostering more partnership working, the removal of silos and the co-ordination of activity was identified. There was an emphasis on the importance of cross-sector working, due to the many sectors and skills involved in industrial heritage especially with active industrial businesses where skills survive in a commercial context. It was suggested that the sector in Scotland could build on its networks and become a skills hub for industrial heritage where organisations and individuals could work together to learn from each other. Collaboration in the sector could support the creation of networks to facilitate skill sharing, knowledge sharing, and brains trusts, but would require resources and a framework to address key issues including succession planning.

Data/research is required to map out where knowledge and skills live and to also learn from the approaches other countries have to preserving important industrial heritage skills.

Resources, particularly staffing, are needed to build the skills infrastructure to allow for the development of CPD and skills-sharing.

Other themes raised were developing conservation awareness in various audiences including specifiers and contractors but also curatorial staff and archivists. Mainstreaming conservation into qualifications, apprenticeships, and higher education provision faces barriers, including a lack of skills among providers, demographic challenges in the distribution of these skills, and issues related to geographic accessibility.

Skills

While useful skills do exist, a lack of conservation awareness among people with these skills exacerbates the problem for industrial heritage.

There are significant challenges in developing skills for this sector, primarily because the market size for these skills often renders them unattractive to training providers operating within an economic model. To address this, drivers for skill needs must be identified to facilitate the growth of provision where it is needed. The sector must take leadership and ownership of skill development initiatives.

The key skills highlighted during the roundtable were mechanical skills, or material skills (in particular relating to metals and alloys but also skills with wood, concrete, stone). Others included record keeping skills, Building Information Modelling (BIM) health and safety, and management.

Training Provision

Although there is not a huge amount of provision available, a range of types of provision was identified. Intergenerational learning and one to one instruction still play a large part in building skills and supporting skills succession planning.

Professional bodies like the Institute of Historic Building Conservation (IHBC), The Institution of Engineers in Scotland (IES), the national archives and the National Records of Scotland offer more formal CPD. Glasgow Caledonian University offers a material testing training CPD course, engineering materials training for structures and Graduate apprenticeships in engineering. The University of Highlands and Islands offer boatbuilding. Subject Specialist Networks like Industrial Museums Scotland (Go Industrial) and Scottish Transport and Industry Collections Knowledge (STICK) Network have provided fora for Skills and knowledge-sharing. However, capacity and resources are issues. There are also work-based learning models including boat-building apprenticeships at the Scottish Maritime Museum and craft fellows at Historic Environment Scotland.

The bigger infrastructure organisations like Network Rail and Scottish Canals offer internal provision for training courses and mentoring.

Besides formal training such as conferences, and training events, online learning platforms such as LinkedIn Learning, Future Learn and Moodle were cited.

A framework for provision, and a sustainable skills model needs to be developed if these skills are to be maintained. There is a gap in provision of practical application and standards for key skills, and a need to build conservation awareness amongst mainstream provision. Resources, support, budget, time for CPD and more structured training would deliver results.

Higher and Further Education Statistics

Industrial heritage knowledge and skills forms part of the education in a variety of professional qualifications in civil and mechanical engineering, architecture, history, geography, and archaeology. The total number of students enrolled in these subjects in 2021-22 in Scotland was 19,110.[20]

Most of these students will encounter aspects of, but not go on to work directly in, the historic built environment. At this time, there is no secondary, higher, or further education qualifications solely focused on industrial heritage or industrial archaeology. Scotland may be too small to sustain many in careers armed with such qualifications but there are opportunities to study abroad and in other nations that pool resources.

Industrial Heritage Skills Priorities

Three priorities were identified from the roundtable consultation:

- Pilot scheme which uses employability to develop skills at risk and builds in social impact analysis
- Scoping to assess what industrial skills provision is available in other countries
- Build capacity for delivery: Create a facilitator or co-ordinator role

A further three priorities were identified through data analysis:

- Create a framework for succession planning (transferring skills)
- Develop a framework for focusing on CPD – materials and mechanical skills
- Forge links with working industries that have a commercial need to nurture traditional skills

---

[20] According to HESA, in 2021-22 in Scotland, 3,660 people studied civil engineering, 4,655 studied mechanical engineering, 2,880 studied architecture, 6,230 studied history, 1,170 studied geography, and 515 students studied archaeology.

Museums and Galleries

The main themes identified during the Museums and Galleries roundtable are facilitating collaboration to support skills development, and the need for diversity and accessibility. A lack of resources and capacity to undertake training, or support skills and knowledge sharing were identified as the main barriers to accessing skills development. The consultation also emphasised the need to identify challenges around training provision.

Collaboration

A clear strategic vision around skills is needed and a co-ordinated approach to addressing workforce challenges including succession planning would help the resilience of the sector. Roundtable attendees highlighted opportunities to collaborate with other sectors e.g. health, gaming etc to facilitate joint industry training, maximise resources, and to share skills and best practice

Similarly, collaboration to establish skills sharing opportunities was seen as key to addressing skills gaps.

Diversity and Accessibility

Accessibility is a huge challenge for the sector and skills has a role to play in addressing barriers to inclusion. Specifically mentioned were anti-racism and decolonisation, skills to develop neurodivergent content and raising awareness of equalities issues. The main suggestions from roundtable attendees to tackle these issues were to provide more accessible and funded training including vocational training. Entry routes were still seen to be problematic with a lack of entry level opportunities, and it was felt that there was still some discrimination around recruiting people without post graduate qualifications.

Skills Profile

There were three main skills areas identified as either a need or a deficit by the consultation.

- A need for digital skills for museums and galleries, in particular IT, digital curation, digital marketing, digital conservation, and new technologies.
- Skills to support environmental sustainability.
- Soft and transferrable skills such as business management, crisis management, basic legal understanding, PR, evaluation, and project management.

Consideration also needs to be given to how volunteer run organisations and volunteers are supported to develop the skills they need with much of current provision being perceived to be inaccessible.

Training Provision

Roundtable attendees identified a variety of training provision available, both formal and informal. While most provision identified was to support CPD, Modern Apprenticeships were mentioned as a great pathway into the sector which helps to upskill the workforce and increase diversity and accessibility. The CPD identified is primarily done formally through national, membership and development bodies such as Museums Galleries Scotland, Museum Association and Arts Marketing Association. This provision is largely unaccredited but has a reputation for quality. National Museums Scotland was cited as a sector support provider for smaller museums and galleries in Scotland, providing regular training on core museum skills utilising the expertise of their staff. However, provision for core basic skills (including customer care, income generation, design principles, understanding audiences and collections care) was highlighted to be an issue particularly in the regional roundtables, and by local authority organisations that are having to prioritise internal recruitment.

There was consensus around other main issues including accessibility in general and the lack of structured, consistent, and quality-assured, industry standard training. There is a culture of sector employees taking responsibility for their own CPD which is constraining the ability of individuals to upskill, and employers and the sector to develop the skills they need.

Funding was identified as one of the main barriers to undertaking skills development with cuts to organisational budgets and the cost of good quality training specifically mentioned. There are also geographic issues with organisations and staff being unable to access provision. Training gaps were identified for vocational learning beyond Modern Apprenticeships level, and a need for heritage focused training provision to support net zero

Higher and Further Education Stats

According to the [2022 Survey of Scotland's Museums and Galleries](#), there is an estimated 3,770 paid members of staff and 4,930 volunteers. The majority of staff working in the museums and galleries sector have an academic qualification, with 39% having a degree level qualification, and 20% a postgraduate degree. It was felt that more could be done to ensure university content met employer needs

According to Scottish Funding Council and HESA, enrolments for Museum Studies in Scotland have increased between 2019/20 and 2021/22, shifting from 75 to 130 in two years.

Museums and Galleries Skills Priorities

Four priorities were identified in the roundtable consultation:

- Identify a system for skills and knowledge sharing to address workforce issues including succession planning.
- Develop a more inclusive culture and address barriers that exclude
- Create the environment for more cross-industry collaboration
- Create a strategic framework for training provision

And one priority was identified through analysis of the data:

- Fostering digital literacy and digital innovation

Traditional building skills and materials

For this purpose, traditional building skills is defined as the skills to repair and maintain traditional buildings and the wider historic built environment

Skills needs and deficits

There is a consensus that important skills needs and/ or deficits are retrofit skills, skills to support the repurposing of traditional buildings, stone masonry (bankers, fixers, carvers), stained glass, lead work, lime plastering, roofing and slating, sash window repairs and traditional joinery and metal casting.

In addition to specialist traditional skills more transferable skills were also identified including, trainer, assessor and verifier skills, and digital skills.

Also identified was a need to foster interdisciplinary awareness between trades and conservation awareness amongst stakeholders.

There is an issue with the level of skills available in specialist areas and an urgent need to upscale the delivery of provision relating to retrofit and stonemasonry.

Existing Training Provision

22,085 students were registered to construction related further education courses in 2021/22 (not including civil and structural engineering), approx. 6,215 students registered on Higher Education construction courses[21], and 12,795 modern apprentices in training. However, the focus of this provision is predominantly new build construction.

The consultation identified challenges that need to be recognised and addressed if we are to build a sustainable skills ecosystem for traditional building skills. There is the perception that provision is regressing, that the 'skills infrastructure isn't suitable, and mainstreaming conservation skills into construction provision isn't working'. Opportunities are not available or being taken up because of a lack of conservation knowledge and awareness of key stakeholders who could be drivers for skills development including those in further education. There is the perception that the importance of traditional building skills in relation to achieving net zero is not recognised partly due to a lack of understanding of a fabric first

---

[21] Including undergraduate (2,200 in Architecture and 1,990 in Building) and postgraduate (680 in Architecture and 1,345 in Building). See dataset at HESA (2024), "What do HE students study?" online at: https://www.hesa.ac.uk

approach. Therefore, there is a strong need for advocacy and to champion the importance of traditional skills in this area.

Due to the nature of traditional building skills and the need to show competence and compliance, training provision where it exists tends to be accredited or recognised by a professional body. Apprenticeship pathways exist for tiling, stonemasonry, roofing, flooring, slating and joinery but it is unclear whether these are used to develop conservation skills in these areas, and it was questioned whether these frameworks met industry needs. Some of these frameworks are being reviewed with industry support so there is an opportunity here.

There are other skills areas like stained glass where pathways do not exist and where generic frameworks which could be useful have been withdrawn. There are also short courses delivered by third sector organisations in areas like plastering, lime and lead work which act to upskill existing contractors but not at the scale required for national skills.

A few organisations were identified as case studies of good practice for existing training e.g. The Ridge, Scottish Lime Centre Trust, The Engine Shed, Aberdeen City Heritage Trust, Architectural Heritage Fund, Churches Trust, Society for Protection of Ancient Buildings and the National Federation for Roofing Contractors

Other examples of good practice Identified are:

- School provision focusing on attracting future talent
- Further education provision
- The integration of digital construction skills into provision
- Qualification development which takes industry's needs into consideration
- Graduate apprenticeships
- The supply chain involvement model

However, the research highlighted many issues with the current provision on offer with the most mentioned being the lack of a skills pipeline, lack of funding and support, disappearance of college courses, the lack of specialist providers and trainers, difficulties engaging with the skills system, meeting outdated assessment criteria, a lack of quality assurance and succession planning

Lack of provision including the numbers of places, the number of apprenticeship pathways and access to mainstream construction provision. There is also a lack of capacity to deliver training provision and a declining pool of skills and experience available to call upon

Access to provision. Traditional skills like joinery, stonemasonry, slating are skills needed nationally but accessibility to skills provision in rural and island communities is a challenge. There are big cold spots making it impossible in certain areas to develop the skills needed to maintain the local built environment

Inappropriate qualifications and training which does not meet industry needs. Various new apprenticeship models were suggested supporting a more flexible, modular approach.

Lack of clear and coherent pathways for some skills including those needed to support retrofit.

Ability for employers to engage due to the size of their business (small /micro)

A lack of opportunity to upskill.

The crisis that traditional building skills in Scotland is in, is also an opportunity to develop a more effective model that addresses these challenges.

Attracting future talent and improving access

The research identified the current skills context as one with recruitment challenges and a need to attract future talent by:

increasing the visibility of careers and engaging with career changers and young people from school upwards, providing guidance, effective use of social media, and upscaling successful programmes like Build Your Future.

Clear, varied and viable pathways to enter the sector that can be showcased.

Providing pre apprenticeship support including the use of foundation apprenticeships so that potential entrants can experience a career in construction.

Aligning activity in this space to maximise impact and reduce duplication of effort.

Priorities

Four priorities were chosen collectively by the roundtable through voting, and two priorities (5 and 6) was identified through analysis of the data. These priorities were:

1. Reverse erosion of training provision and create the foundations for a positive future
2. Build flexible delivery with alternative routes
3. Explore a national hub /mobile facility model
4. Fund training delivery and infrastructure
5. Deliver net zero
6. Attract future talent

Digital

'Digital' can encompass many differing strands of activity, but for the context of this profile digital is defined as using existing and new technologies which develop our understanding, support collaboration, innovation and automation. The following areas were identified in the roundtable as being important to the heritage sector

- Communication and digital marketing
- Interpretation and improved access
- Data collection and management
- Skills development and education
- Digital documentation
- Digitisation of collections, buildings, sites and monuments
- Improving and personalising user experience
- Construction
- Collections/asset management

Digital skills were the skills most identified as a need or deficit across the 16 roundtables. Whether that was basic digital skills to improve digital literacy, use of digital applications, implementing digital solutions or fostering digital innovation.

There is a difference in the level of skill identified by practitioners, researchers, and academics. Although a small sample, practitioners identified themselves as being at a senior level (level 6 or above out of 8 levels) with digital skills relating to collections management, social media, interpretation, and skills development, but only classed themselves as at a junior level (level 3 or below out of 8 levels) for immersive technology, digital documentation, asset management and data interrogation, modelling and visualisation. Researchers identified themselves as being at a senior level (level 6 or above out of 8 levels) for digital documentation, asset management and data interrogation, modelling and visualisation and 3D modelling. Academics identified themselves as having all round skills at a practitioner level (level 4 out of 8) rather than identifying as having more advanced skills in particular areas.

Themes of collaboration, alignment and strong leadership which were identified in the broader roundtable discussions were also identified in the digital roundtable.

Existing Provision

CPD is largely self-led. Roundtable participants identified a range of provision to support the development of skills and knowledge in areas including digital marketing, reality capture, AI, immersive technology, data and information management, 3D publishing and access, and new and emerging technologies. There is a plethora of courses and resources online

including on YouTube, LinkedIn, UDEMY and through AI tools. The issue isn't a lack of provision but a difficulty with understanding what is available, the quality of provision offered, the fast-changing nature of technology, the relevance for SME's and how it can be applied in a heritage setting. There is a feeling that the sector would benefit from a more collaborative, consolidated approach with more opportunities for shared learning and possible opportunities through developing micro credentials and short, sharp, industry focused training. There have been previous projects e.g. NHLF digital skills for heritage initiative which has captured useful data and provides useful learning.

Apprenticeship pathways are available in various fields such as digital marketing, cyber security, software development, data science, and analytics. However, apart from digital marketing, which is delivered by Museums Galleries Scotland to museums, it remains unclear what level of adoption these pathways have in the sector and whether they would be beneficial for most sector organizations, which are typically micro or SMEs.

MScs in digital related disciplines are available at Glasgow School of Art (MSc Heritage Visualisation), the University of York (MSc Digital Heritage) and University College London (MSc in Sustainable Heritage: Data Science) there are also MSc and undergraduate modules focusing on digital heritage or aspects of it. There is a desire for closer collaboration to facilitate joined up approaches between industry and academia which could provide a real-world focus to content, a pipeline for the skills needed in the heritage sector, and help academics keep up to date. Collaboration within the sector, out with the sector and internationally was also identified as being important if we are to nurture digital innovation.

Going forward provision needs to be more accessible. Organisations need support in understanding their level of digital literacy and in developing a corporate digital mindset, perhaps by defining a set of progressive digital proficiency levels tailored to their purpose. There needs to be opportunities to share case studies and best practice through 'state of the industry' style events. Opportunities for mentoring is important for organisations that 'do not know where to start' to nurture digital literacy and help contextualise existing provision to organisational contexts. Mentoring, shadowing, buddying and secondment particularly out with the sector was suggested as ways to foster innovation and digital leadership. Soft skills like problem solving, critical thinking, reflection, continuous learning that support curiosity and create the building blocks of 'how to learn' are seen as equally important as more technical solutions focused provision.

Specific areas identified as important were cyber security, digital disaster recovery training, digital leadership, technology 101 for managers, digital succession planning, mainstreaming basic levels of understanding into other core sectoral training and developing knowledge and resources regarding funding digital projects

Attracting future talent and improving access

There is a perceived lack of awareness amongst young people about the different digital roles in the sector including those undertaking digital courses or apprenticeships. Pathways

into roles are unclear and there is a need to define pathways of skills. Further investigation is needed to explore whether apprenticeships could be useful routes into the sector.

Priorities

The roundtable identified five priorities and a further priority was identified in the data:

- Developing digital leadership
- Facilitating employer engagement in higher education/further education provision
- Creating a data baseline to map skills and provision
- Developing mechanisms for skills sharing and joint training
- Identifying and making accessible programmes to support digital literacy
- Clarity around career pathways

Gàidhlig

Chaidh cuspairean co-chosmhail a chomharrachadh anns a' chearcall còmhraidh Gàidhlig mar a chaidh an comharrachadh ann am beachdachadh nan cearcaill còmhraidh eile. Chaidh prionnsapalan eadar-ghearraidh co-cheangailte ri tagrachd, co-obrachadh is co-thaobhadh, agus ceannardas làidir a chaidh a thogail aig na cearcaill còmhraidh eile, a chomharrachadh anns a' chearcall còmhraidh Gàidhlig cuideachd.

Chaidh a' feum air tagrachd a thogail leis a bheachd nach eil daoine is buidhnean buileach a' tuigsinn buntanas, luach agus buaidh cànan is dualchais na Gàidhlig a bharrachd air dìth thuigse air a dleastanas reachdail. Chaidh an cothrom agus am feum gus mothachadh mun Ghàidhlig àrdachadh le prìomh luchd-ùidhe a' nochdadh mar prìomhachas. Le iomradh sònraichte air luchd-dèanamh phoileasaidhean, buidhnean dualchais agus an roinn phoblaich ach cuideachd mothachadh Gàidhlig a thaobh dreuchdan a' gabhail a-steach arc-eòlaichean, ailtirean (mar eisimpleir *Ulaidhean Uibhist*), tasglannaichean, glèidheadairean thaighean-tasgaidh, treòraichearan luchd-tadhail agus àrd-dhreuchdan stiùiridh. Chaidh trèanadh sònraichte a thaobh planaichean cànain Gàidhlig a chomharrachadh cuideachd. Chaidh mothachadh mun Ghàidhlig a mhìneachadh leis a' chearcall còmhraidh mar thuigse air cànan, eachdraidh, dualchas agus sealladh na Gàidhlig agus na dleastanasan reachdail co-cheangailte ri seo. Chaidh cudrom a chur air gu bheil a' Ghàidhlig ceangailte ri iomadh roinn agus tha mothachadh mun Ghàidhlig a' cur ri ar n-eòlas, ar tuigse, ar meas agus ar ceangal ris ar n-àrainneachd, cultar agus dualchas.

Bhathar a' faireachdainn gu robh feum air siostam a thogail a bheir àrdachadh air mothachadh agus solar a bharrachd air taic do luchd-labhairt na Gàidhlig, aig gach ìre, tro cho-obrachadh agus co-thaobhadh. Chaidh mapadh de phrìomh bhuidhnean, eòlas, taic, goireasan agus sgilean, a bharrachd air a bhith a' dearbhadh far an deidheadh goireasan agus deagh chleachdadh a cho-roinn, a chomharrachadh mar phrìomhachas a bhiodh deatamach airson siostam a leithid seo. Tha feum air lèirsinn ro-innleachdail làidir, air àrd-stiùirichean a bhith mothachail mun Ghàidhlig, agus cothroman do luchd-labhairt na Gàidhlig sgilean ceannardais a leasachadh tro phrògraman leithid prògraman ceannardais Acadamaidh Iomairt Sòisealta agus trèanadh ionadail. Thàinig feum air cothroman gus misneachd a thogail am measg luchd-labhairt na Gàidhlig tarsainn gu làidir cuideachd. Bu chòir an fheadhainn aig a bheil na sgilean agus an eòlas-obrach a tha a dhìth anns an roinne, aig nach eil no aig a bheil glè bheag de sgilean Gàidhlig, a bhith air am brosnachadh

gus an sgilean Gàidhlig a leasachadh gu fileantachd a leigeas leotha na sgilean agus an eòlas a th' aca mu thràth a chleachdadh ann an co-theacsa Ghàidhlig.

Chaidh cothroman ceangailte ri dualchas cultarach do-bheantainneach (intangible cultural heritage) a chomharrachadh leis a' chearcall còmhraidh Gàidhlig a' gabhail a-steach cruthachadh àrainneachd airson ionnsachadh co-roinnte agus tuigse air cànan, àite, cleachdaidhean cultarach agus cudromachd. Ged a bha dealbhadh leantainneachd agus tar-aiseag sgilean agus eòlas traidiseanta nan cuspairean cumanta ann an grunn cearcaill chòmhraidh a' gabhail a-steach Dualchas Gnìomhachais agus Àrc-eòlas, tha buntanas nas fharsainge aig a' chuspair seo ri solar na Gàidhlig. Ciamar as urrainn dhuinn sgilean is eòlas, beul-aithris, sgeulachdan agus òrain bho na ginealaichean as sine agus giùladairean an dualchais a ghlèidheadh agus a thoirt seachad? Ciamar a chuidicheas giùladairean thraidiseanan agus cleachdaidhean traidiseanta sinn gus dèiligeadh ris na cùisean as cudromaiche san latha an-diugh, a' gabhail a-steach buaidh atharrachadh gnàth-shìde?

Solarachadh trèanaidh

Chomharraich com-pàirtichean a' chearcall còmhraidh raon de sholarachadh a' gabhail a-steach air-loidhne agus ann am pearsa, luchd-tòiseachaidh ag ionnsachadh na Gàidhlig gu iar-cheum. Chaidh dìth sùbailteachd, dìth solarachaidh co-cheangailte ri Gàidhlig san àite-obrach agus miann airson creideas uile an comharrachadh mar raointean leasachaidh. Bu chòir sgrùdadh a dhèanamh cuideachd air mar a bheir solar trèanaidh taic do dualchas cultarach do-bheantainneach co-cheangailte ris a' Ghàidhlig. Bu chòir beachdachadh air solar trèanaidh ann an co-theacs luchd-labhairt na Gàidhlig, luchd-èisteachd eadar-dhealaichte agus luchd-obrach san àm ri teachd.

Am measg eisimpleirean de dheagh chleachdadh a chaidh ainmeachadh tha solar eòlas ionadail air a leasachadh le coimhearsnachdan ionadail ann an Uibhist agus san t-Eilean Sgitheanach, a tha a' toirt còmhla buidhnean ionadail gus coimhead air na tha ag obair gu math, ciamar a dh' ionnsaicheas sinn bho chàch a chèile, ciamar as urrainn dhuinn obrachadh còmhla, a' gabhail a-steach buthan obrach agus clasaichean air-loidhne agus ann am pearsa, co-roinn eòlas eadar ghinealach, agus mapadh agus comharrachadh raointean-feum coitcheann.

Foghlam agus Ionnsachadh

Ged a tha Cunntas-sluaigh 2011 car sean a-nis, is e an dàta oifigeil as ùire a th' againn airson Alba air fad. Tha 57,600 air an clàradh mar neach-labhairt Gàidhlig anns a' Chunntas-sluaigh 2011 agus 87,100 neach air an clàradh le sgilean Gàidhlig.[22] Ann an 2022-3 bha 12,023 sgoilear clàraichte ann am Foghlam tro Mheadhan na Gàidhlig (5533 sgoilear) no Foghlam Luchd-ionnsachaidh na Gàidhlig (6490 sgoilear) ann an Alba.[23] Tha e-Sgoil a' leantainn air adhart le bhith lìbhrigeadh teisteanasan foirmeil aig ìrean Nàiseanta 5, Àrd Ìre

---

[22] National Records of Scotland (2015). 2011 Census: Gaelic Language Report.
[23] Bòrd na Gàidhlig (2023). Dàta Foghlaim Ghàidhlig (Gaelic Education Data) 2022-2024.

agus Àrd Ìre Adhartach airson Gàidhlig (Luchd-ionnsachaidh) do dh'inbhich. Chaidh 74 inbheach air an clàradh airson 2022-2023; 45 inbheach aig ìre Nàiseanta 5, 24 inbheach aig Àrd-ìre agus 5 inbheach aig ìre Sàr Àrd-ìre. Den 74 inbheach sin, bha 19 ag obair ann am foghlam.[24] Ann an 2022-23, chuir Sabhal Mòr Ostaig fàilte air an àireamh as àirde de dh'oileanaich a bh'aca a-riamh le 1,600 ag ionnsachadh an dà chuid air an campas agus air-loidhne, air cùrsaichean làn-ùine, pàirt-ùine agus goirid.[25] A rèir Oilthigh na Gàidhealtachd agus nan Eilean (UHI) bha 298 oileanach clàraichte air na cùrsaichean Gàidhlig aca ann an 2022.[26]

Tha goireasan *Learn Gaelic* agus an sreath telebhisean *Speak Gaelic* a' cuideachadh daoine gus Gàidhlig ionnsachadh le làrach-lìn *Learn Gaelic* ag aithris mu 44,000 neach-cleachdaidh gach mìos ann an 2022-2023.[27] Thuirt Duolingo, app airson cànain ionnsachadh, gun robh 1.8 millean neach air tòiseachadh air Gàidhlig ionnsachadh anns an Dùbhlachd 2023.[28] Tha sìor-fhàs de àireamhean luchd-cleachdaidh *Learn Gaelic*, *Speak Gaelic* agus Duolingo brosnachail agus a' nochdadh an ùidh a th'aig dhaoine ann a bhith ag ionnsachadh Gàidhlig. Ach, tha na h-àireamhan sin a' gabhail a-steach daoine a tha a' fuireach agus ag obair taobh a-muigh na h-Alba a bharrachd air an fheadhainn a dh' fhàg no nach eil gnìomhach ann an feachd-obrach na h-Alba. Gu tric chan eil na h-àrd-ùrlaran seo, nuair a thèid an cleachdadh nan aonar, a' leantainn gu sgilean Gàidhlig a tha riatanach airson an àite-obrach.

Solarachadh luchd-obrach agus Sgilean

Leis nach eil mòran stòran dàta rim faighinn mu chosnadh sa Ghàidhlig, tha e duilich a bhith a' dearbhadh a' bheàrn a dh' fhaodadh a bhith eadar an t-iarrtas airson agus an solar de sgilean cànain Gàidhlig. Ach, tha *Margaidh-obrach na Gàidhlig – Aithisg Dàta*[29] a chaidh fhoillseachadh le Leasachadh Sgilean na h-Alba ann an 2017 a' toirt seachad fianais air treandaichean agus a' toirt dhuinn dàta a thaobh cosnadh sa Ghàidhlig. San aithisg seo, chaidh na roinnean Rianachd phoblach, Gnìomhachasan cruthachail agus Turasachd, còmhla ri Foghlam, a chomharrachadh mar raointean cudromach airson cosnadh sa Ghàidhlig. Bha ro-aithrisean cosnaidh na roinne airson 2015-2027 an dùil ri àrdachadh mòr ann an cosnadh Turasachd ann an Alba, meud 21,200 dhreuchd, no fàs 10%, agus ann an roinn nan Gnìomhachasan cruthachail, meud 7,800 dhreuchd, no fàs 9%. Am measg nan dùbhlain a chaidh an comharrachadh airson cosnadh sa Ghàidhlig bha gainnead thagraichean leis na sgilean cànain riatanach, duilgheadas ann a bhith a' faighinn tagraichean leis a' mheasgachadh riatanach de Ghàidhlig agus sgilean teicnigeach, nach eil cuid de luchd-labhairt na Gàidhlig a' faireachdainn misneachail ann a bhith a' cleachdadh a'

[24] e-Sgoil (2023). Evidence of Impact Report 2023.

[25] Sabhal Mòr Ostaig (2023). Sabhal Mòr Ostaig a' Comharrachadh 50 Bliadhna an-Diugh. Ri fhaighinn: https://www.smo.uhi.ac.uk/sabhal-mor-ostaig-celebrates-milestone-50th-anniversary/

[26] Oilthigh na Gàidhealtachd is nan Eilean (2023). Total Gaelic Programme. Ri fhaighinn: https://www.uhi.ac.uk/en/about-uhi/gaelic/gaelic-language-plan2023/index.php

[27] MG ALBA (2023). Aithisg Bhliadhnail & Aithris nan Cunntasan 2022-2023.

[28] Chartered Institute of Linguists (2023). Duolingo 2023 - Global trends in language learning.

[29] Leasachadh Sgilean na h-Alba (2017). The Gaelic Language Labour Market: The Evidence – Data Report.

chànain san àite-obrach agus feum air àrdachadh mothachadh air iomadh cothrom cosnaidh sa Ghàidhlig.

Ged a bha grunn sgilean fa leth air an comharrachadh aig a' chearcall chòmhraidh mar fheum no air an robh cion, b' ann aig sgilean eadar-theangachaidh agus dearbhaidh a bu mhotha a bha co-aontachd agus an uairsin sgilean cruthachail m.e. sgilean ealain, dèanamh fhilmichean, cruthachadh susbaint, sgrìobhadh cruthachail, innse sgeulachdan. Bha e gu math duilich an ìre co-aontachd a dhearbhadh airson sgilean eile a chaidh an comharrachadh leis gu robh na h-àireamhan de freagairtean anns an dàta ìosal. Thog com-pàirtichean a' chearcall còmhraidh gu bheil tòrr dhreuchdan ann far am biodh sgilean Gàidhlig, no leasachadh sgilean Gàidhlig, na bhuannachdan mòra agus luachmhòr san roinn seo a bharrachd air dreuchdan Gàidhlig riatanach a tha ann mar-thà.

Prìomh ghnìomhan Gàidhlig

Coltach ri raointean obrach na roinne, bidh a' Ghàidhlig air a riochdachadh leis a' phròifil sgilean seo le na prìomh ghnìomhan aice fhèin. Bidh na gnìomhan seo a' biathadh a-steach agus a' lìbhrigeadh nam prionnsabalan bunaiteach agus na prìomhachasan is gnìomhan co-cheangailte ris an SIP.

Chomharraich com-pàirtichean agus mion-sgrùdadh air dàta a' chearcaill còmhraidh na prìomhachasan a leanas. Tha sinn air prìomh gnìomhan a mholadh airson iad seo. Thèid plana gnìomh a leasachadh aon uair 's gu bheil prìomhachasan air an aontachadh.

Prìomhachas bhon chearcall còmhraidh:

- Feumar beachdachadh air a' Ghàidhlig ann am poileasaidhean san uair a tha iad air an leasachadh - tha a' Ghàidhlig ann bhon toiseach
- Conaltradh nas fheàrr eadar a h-uile buidheann agus an cuid obrach.
- Misneachd ann an labhairt, sgrìobhadh, gràmar, sgilean cànain... - a' toirt taic do dhaoine aig a bheil na sgilean mar-thà.
- Brosnachadh a bhith a' co-roinneadh deagh chleachdadh agus sgrùdaidhean cùise airson diofar roinnean – a' cur nan goireasan gu lèir ri chèile. Obair com-pàirteachais agus conaltradh nas fheàrr.
- Nochd dualchas cultarach do-bheantainneach (ICH) gu làidir ann an dàta agus còmhraidhean a chearcaill còmhraidh, mar thoradh air an sin, tha sinn air taghadh gnìomh co-cheangailte ri dualchas cultarach do-bheantainneach a chruthachadh.

Prìomh gnìomhan a thathar a' moladh:

- Brosnaich luchd-ùidh, a' gabhail a-steach stiùirichean, luchd-dèanaimh phoileasaidhean agus eile ann am buidhnean dualchais agus roinnean co-cheangailte riutha, gus trèanadh mothachaidh Gàidhlig a dhèanamh.
- Cruthaich no cleachd lìonraidhean a th'ann mar tha gus obrachadh còmhla gus sgilean, trèanadh agus cothroman leasachaidh phroifeiseanta a leudachadh airson feachd-obrach na Gàidhlig an-dràsta agus san àm ri teachd.

- Leasaich lìonraidhean agus àite airson goireasan agus deagh chleachdadh a cho-roinn.
- Leasaich sgilean a bheireas taic do dualchas cultarach do-bheantainneach (ICH) a dhìon.

Gaelic

Cross cutting principles relating to the need for advocacy, collaboration and alignment, and strong leadership, which were identified in other roundtables were also identified in the Gaelic roundtable.

The need for advocacy was due to the perception that people and organisations don't understand the relevance, value and impact of Gaelic language and heritage but also don't understand their legislative responsibility. Gaelic awareness was defined by the roundtable as an understanding of Gaelic language, history, heritage and perspective and the legislative responsibilities associated with this. It was emphasised that Gaelic is implicit in many sectors and Gaelic awareness enhances our experience, understanding, appreciation and engagement with our environment, culture and heritage. There is an opportunity and need to grow awareness of Gaelic amongst key stakeholders specifically policy makers, heritage organisations and the public sector. Gaelic awareness is also needed in relation to sector job roles including archaeologists, architects (example of which is Uist Unearthed), archivists, museum curators, visitor operations and senior leadership roles. Specific training in relation to Gaelic language plans was also identified.

It was felt that there was a need to build a system that can grow awareness and provision but can also provide support to Gaelic speakers, of all levels, through collaboration and alignment. Mapping of key agencies and groups, knowledge, support, resources and skills, as well as determining where resources and good practice would be shared, were identified as vital in underpinning such a system.

A strong strategic vision is required and a need for senior leaders to have Gaelic awareness, and Gaelic speakers to have the opportunity to develop leadership skills through programmes like the Social Enterprise Academy's leadership programmes and localised training. Providing opportunities to build confidence amongst Gaelic speakers also came out strongly. Those with the skills and work experience needed for the sector, that have no or little Gaelic skills, should also be encouraged to develop their Gaelic skills to a fluency that allows them to use their existing skills and knowledge in a Gaelic context.

There are opportunities around intangible cultural heritage including creating an environment for shared learning and understanding of language, place, cultural practices and significance. While succession planning and passing on traditional skills and knowledge were common themes in several roundtables including industrial heritage and archaeology,

this theme has a broader relevance to Gaelic provision. How can we capture and pass on skills and knowledge, folklore, stories and song from older generations and tradition bearers? How can tradition bearers and traditional practices help us address today's most pressing issues including impacts of climate change?

Training provision

Roundtable participants identified a range of provision including online and in person, beginner Gaelic learning to postgraduate. A lack of flexibility in provision, a lack of provision relating to Gaelic in the workplace and a desire for accreditation were all identified as areas of improvement. How training provision can support Gaelic related intangible cultural heritage should also be explored. Training provision should be considered in the context of Gaelic speakers, different audiences, and the workforce of the future.

Examples of good practice cited includes local knowledge provision developed by local communities in Uist and Skye which brought together local groups to look at what is working well, how do we learn from each other, how can we work with each other, and involved online and in person workshops and classes, intergenerational knowledge sharing, and mapping and identifying areas of collective need.

Education and Learning

The 2011 Census, although dated, provides the most up to date official data for Scotland as a whole. There were 57,600 people recorded as Gaelic speakers in the 2011 Census with 87,100 having Gaelic language skills.[30] In 2022-23 there were 12,023 pupils enrolled in either Gaelic Medium Education (5533 pupils) or Gaelic Learner Education (6490 pupils) in Scotland.[31] E-sgoil continues to deliver formal qualifications in National 5, Higher and Advanced Higher in Gaelic (Learners) for adults. The enrolment for 2022-23 included a total of 74 adults; 45 adults at National 5 level, 24 adults at Higher level and 5 adults at Advanced Higher level. Of these 74 adults, 19 were working in education.[32] In 2022-23, Sabhal Mòr Ostaig welcomed its highest number of students ever with 1,600 learning both on campus and online, on full-time, part-time and short courses.[33] The University of the Highlands and Islands (UHI) reported 298 students enrolled in their Gaelic courses in 2022.[34]

Learn Gaelic resources and the TV series *Speak Gaelic* are continuing to support people in their Gaelic learning journey with the *Learn Gaelic* website monthly average unique users numbering 44,000 in 2022-3[35]. The language learning app Duolingo also reported 1.8 million

[30] Bòrd na Gàidhlig (2023). Dàta Foghlaim Ghàidhlig (Gaelic Education Data) 2022-2024.
[31] Scottish Government (2023). Pupil Census 2022 Supplementary Statistics.
[32] e-Sgoil (2023). Evidence of Impact Report 2023.
[33] Sabhal Mòr Ostaig (2023). Sabhal Mòr Ostaig Celebrates Milestone 50th Anniversary.
[34] University of the Highlands and Islands (2023). Total Gaelic Programme. Retrieved from: https://www.uhi.ac.uk
[35] MG ALBA (2023). Annual Report and Statement of Accounts 2022-2023.

users learning Scottish Gaelic in December 2023.[36] The increasing number of users of Learn Gaelic, Speak Gaelic and Duolingo highlight the growing interest in learning Gaelic and are encouraging. However, these numbers include people living and working out with Scotland as well as those that have left or are not active in the Scottish workforce. These platforms, when used for self-guided learning do not often result in the development of Gaelic skills required for the workplace.

Labour Supply and Skills

The lack of available data sources on Gaelic language employment, makes it difficult to determine the potential gap between the demand for and supply of Gaelic language skills. However, *The Gaelic Language Labour Market: The Evidence – Data Report*[37] published by Skills Development Scotland in 2017 gives us an illustration of trends and provides data regarding Gaelic language employment. In this report, the sectors of public administration, creative industries and tourism, along with Education, were identified as being important areas for Gaelic language employment. Industry sector employment forecasts for 2015-2027 anticipated a significant rise in tourism employment in Scotland, by 21,200 jobs, or a 10 per cent growth, and in the creative industries sector, by 7,800 jobs, or nine per cent growth. Challenges identified for Gaelic language employment included a lack of candidates with the necessary language skills, difficulty in securing candidates with the necessary mix of Gaelic and technical skills, that some Gaelic speakers do not feel confident in using the language in the workplace and a need to increase awareness of the many Gaelic language employment opportunities.

While several individual skills were identified at the roundtable as either a need or deficit, translation and proofreading skills had the most consensus followed by creative skills e.g. artistic skills, film making, content creation, creative writing, storytelling. It was very difficult to determine the level of consensus for other skills identified because the numbers of mentions in the data were low. Roundtable participants highlighted that there are a vast number of roles where there would be huge added value benefits from having some or developing Gaelic language skills in this sector as well as existing Gaelic essential roles.

Gaelic Priority Actions

As with the sector work areas, Gaelic will be represented by this skills profile with its own priority actions. These actions will feed into and deliver against the overarching principles and related priorities and actions in the skills investment plan.

---

[36] Chartered Institute of Linguists (2023). Duolingo 2023 - Global trends in language learning Retrieved from: https://www.ciol.org.uk
[37] Skills Development Scotland (2017). The Gaelic Language Labour Market: The Evidence – Data Report.

Roundtable participants and analysis of the roundtable data identified the following priorities for which priority actions have been created. An action plan will be developed once priorities have been agreed

Four priorities were identified by the roundtable and one priority was identified through the analysis of the data

- Gaelic needs to be considered in policies as they're being developed - Gaelic is there from the start
- Better communication between all organisations and their work.
- Confidence in speaking, writing, grammar, language skills... - putting support in place for people who already have the skills
- Sharing best practice and case studies for different sectors to be inspired - putting all of the resources together. Partnership working and better communication.
- Intangible Cultural Heritage (ICH)

These were merged into four priorities to be taken forward

- Encourage stakeholders including leaders, policy makers and others in heritage organisations and related sectors, to complete Gaelic awareness training.
- Create or use existing networks to work collaboratively to expand skills, training and professional development opportunities for the current and future Gaelic workforce.
- Develop networks and a hub for resources and sharing of best practice.
- Develop skills that help the safeguarding of Gaelic related intangible cultural heritage (ICH).

Net Zero

There were six areas considered when looking at the skills and training provision to support climate action:

- energy and carbon management
- Impacts, risk, and adaptation.
- circular economy
- sustainable travel
- sustainable procurement

Three additional areas were considered by roundtables focusing on traditional building skills and materials, historic landscapes and gardens and heritage tourism,

- retrofit and energy efficiency
- biodiversity and nature-based solutions, and
- sustainable tourism.

Cross cutting principles relating to advocacy, collaboration and alignment, strong leadership and sustainable funding, which were identified in other roundtables, were also identified as a need in the Net Zero roundtable.

There is a perception that the public, decision makers and their advisors don't understand the impacts of climate change on heritage assets, the role that the historic environment needs to play as part of the solution, and therefore the skills and training provision required to enable them to carry out this role. The sector needs to identify and build on opportunities for more cross sector collaboration to allow us to learn with others and showcase the sector as a solution to net zero. Advocacy is also needed within the sector with regards to the importance of taking action to address climate change, individual organisational responsibility, and effective action.

There is a plethora of opportunities for upskilling and reskilling in areas relating to net zero and as one consultation response stated 'with such great provision what are we not doing right? What's the missing piece?' There is a perception that training delivery is not consistent. It is either very basic or very advanced with a lack of progression. What provision is available is little understood. Several organisations were identified as providing high quality provision but not aligning it to other provision, or it not being accessible at a central point. Quality assurance is an issue with no standardised best practice. It was suggested that a capability framework like the one developed by the Scottish Government-funded Adaptation Scotland programme (Scotland Adapts: A Capability Framework for a Climate Ready Public Sector) may be able to help assess the stage an organisation is at, with identified provision to support organisations to move through the framework. For asset owners, knowledge of how to assess a heritage asset to understand the actions needed

including recording, mitigation, and adaptation is important. While skills is the focus of this profile and the Skills Investment Plan, it should be part of a pipeline of progressive support which starts with awareness raising and accredited training but includes advice, mentoring and funding. As this is a fast-changing area of work we need to ensure that the latest research outcomes and identified best practice also produce skills outputs which can be upscaled and adapted for different organisations and localities.

While all the areas identified above were considered. The following areas had the most consensus:

Carbon accounting- while provision to support carbon accounting exists there was still a lack of clarity about where to start and how to do it.

Circular economy-provision is needed to help support a change of culture in the sector particularly around circular business models and how they can be implemented. Skills development in this area was felt to be vital for all job roles and volunteers, but reskilling contractors was identified as particularly important.

Traditional building skills which support the repair and maintenance of traditional buildings was identified as an area of increasing need to help build resilience against accelerating decay due to the impacts of climate change. These skills are important as part of a fabric first approach to retrofit. More conservation accredited building surveyors, architects and planners with conservation awareness and a heritage approach were needed to deal with the increasing physical impacts of climate change on heritage assets.

Retrofit-There is a lack of skills and knowledge of appropriate retrofit solutions and a lack of understanding of real energy performance of buildings. Architects, planners, engineers, surveyors need to be trained to understand the cultural significance of traditional buildings and appropriate retrofit interventions.

Core audiences for skills development were identified as contractors, communities and all staff and volunteers. It was felt that every member of the workforce should have access to climate literacy and circular economy training.

Training provision

Roundtable participants identified a range of provision including informal networks and formal provision particularly around climate literacy, climate resilience, specialist CPD modules around building conservation and energy efficiency delivered by a range of organisations from professional and development bodies, public sector agencies and third sector organisations. Activity such as [Eco-schools](#) and [Climate Action Schools](#) develop skills to address climate change in young people but there are few examples of pathways into the workforce. *Our Past, our Future*, Scotland's national strategy for the historic environment has identified developing green pathways as one of the key actions.

There are issues around the scale of some provision particularly around retrofit and energy efficiency. It is important to make training and qualifications understood, accessible and attractive to our target audiences. There is a need to build an ecosystem supported by

collaboration and alignment of resources, that can grow awareness and provision. Mapping of key organisation and networks, support, resources and skills were identified as actions which would be vital in underpinning such an ecosystem.

Net zero skills priorities

Roundtable participants and analysis of the roundtable data identified the following priorities:

- Improve the accessibility and availability of net zero and carbon literacy training for organisations
- Explore the role of Quality Assurance in supporting sector development
- Mapping and maximising the uptake of existing resources
- Model and test initiatives to support organisational mentoring
- Support smaller organisations in their Carbon Literacy / Net Zero journey