



Held in Trust:

Transforming Cultural Heritage Conservation
for a More Resilient Future

June 2023



foundation
for advancement
in conservation

50 Years of Protecting
Cultural Heritage



a more perfect
UNION

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This report is the result of a cooperative agreement between the Foundation for Advancement in Conservation (FAIC) and the National Endowment for the Humanities (NEH).

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Foreword

Shelly C. Lowe (Navajo)
Chair, National Endowment for the Humanities

June 21, 2023

Dear Friends,

As Chair of the National Endowment for the Humanities, and on behalf of my colleagues at the Endowment, I am thrilled to share with you the final report summarizing the findings of the *Held in Trust* initiative. This report represents the culmination of a three-year cooperative agreement between NEH and the Foundation for Advancement in Conservation (FAIC) that began with a deceptively simple question, “what would it take to move the field of conservation from surviving to thriving?”

In the years since we first posed this question, our world has changed. Systemic inequality, climate disruption, and threats to democracy threaten the wellbeing of individuals and communities—as well as our shared tangible and intangible cultural heritage. As the leading funder of humanities work in the United States, NEH understands the importance of taking a leadership role through opportunities such as *Held in Trust* that encourage every individual to meet the moment and prioritize innovative solutions.

This project is supported through NEH’s ongoing initiative, *A More Perfect Union*, which seeks to demonstrate and enhance the critical role the humanities play in our nation, while also supporting projects that will help Americans commemorate the 250th anniversary of the Declaration of Independence in 2026. In addition, I am pleased to award supplemental NEH funding for *Held in Trust* to support the development of climate resilience resources for cultural organizations—including an innovative mapping tool, learning modules, and communities of practice—through my new *American Tapestry* initiative, which leverages the humanities to strengthen our democracy, advance equity for all, and address our changing climate.

I would like to express my sincere gratitude to the *Held in Trust* Steering Committee, Advisory Board, and everyone involved in the working groups that brought this report to fruition. The dedicated team at the Foundation for Advancement in Conservation also deserves special recognition, as well as the NEH program and Chair’s Office staff who have tirelessly contributed to this project. Their expertise, passion, and commitment have shaped this report into a comprehensive and insightful resource that can serve as a shared vision for the future of cultural heritage.

I want to conclude with a reminder that while this report represents the end of the *Held in Trust* team’s study of the field, it is not—in any way—a place to rest. Rather, this report is a call to action for all of us and the start of a new vision for the future of conservation. It is a call to listen and make room for multiple voices. Ours is a shared future. And it starts with us.

With gratitude and beauty,

A handwritten signature in black ink, appearing to read 'Shelly C. Lowe', with a stylized, flowing script.

Shelly C. Lowe (Navajo), NEH Chair

Executive Summary

Pamela Hatchfield
Project Coordinator, *Held in Trust*

A vibrant and resilient future for conservation and preservation depends upon the development of new, highly collaborative paradigms and structures grounded in social justice, equity, and environmental action.

Held in Trust (HIT) is a four-year collaboration between the National Endowment for Humanities (NEH) and the Foundation for Advancement in Conservation (FAIC) to consider how cultural heritage conservation and preservation must evolve to confront pressing issues the United States faces today.

The project focuses on the intersection of conservation and preservation with critical areas of study, including environmental resilience; science and technology; inclusivity, equity, and collaboration in professional practice; education; and philosophy and ethics. At the center of this vision is the knowledge that cultural preservation has a fundamental role to play in fostering a society where all of humanity is valued and thrives. Indeed, this collaboration with NEH acknowledges the centering of conservation and preservation within the humanities and highlights the humanness of what we do. Our cultural heritage embodies the histories, memories, and perspectives of the people who created it, used it, and cherished it. In preserving the enduring power of these places and things, we ensure that their full stories will be told, giving us the opportunity to create a more inclusive and vibrant future not just for the field, but for families, communities, and collections across the U.S.

The Held in Trust findings are a beginning, a call to action, rather than an end in and of themselves. The detailed reports presented here illustrate key issues, primary goals, and specific strategies. We have also created short-form summaries (Appendix F) to highlight areas of critical focus. The strategies attached to the goals are presented as suggestions for short-term, medium-term, and long-term action. They are intended to be engaged with and taken up by practitioners, communities, collection stewards, and institutions, at any level appropriate for a given reader, guided by their own experience and needs. The wealth of suggestions presented here may seem overwhelming when taken as a whole. However, we provide practical examples of how this work might be accomplished, through case studies in the reports.

Contributors to Held in Trust presented findings of this project to colleagues, constituents, collaborators, knowledge-keepers, practitioners, funders, and decision-makers at a National Convening at the Library of Congress on April 28, 2023. The talented and forward-thinking individuals who shared their transformative work at the National Convening demonstrate what the future of conservation and preservation might look like. They exemplify the principles and possibilities outlined in the HIT reports and model what is possible as we build a vibrant and successful future. We strongly encourage you to explore the [recording of the National Convening](#).

We hope you will reference the HIT reports freely as you make the case for funding and support, create and lead change within your practice or organization, or undertake any of the initiatives designated as priorities within.

HISTORY OF *HELD IN TRUST*

“The mission and programs of NEH are rooted in the importance of historic and cultural artifacts and documentation as the basis for scholarly and artistic achievement in the United States...to clearly articulate the role of cultural heritage in deepening understanding of community and shared values.”

—FAIC Held in Trust: A National Convening on Conservation and Preservation grant application

In 2017, NEH Chairman Jon Parish Peede proposed a national convening to consider the current state of conservation, including education, professional development, funding needs, and current challenges. This foundational question of what a “thriving” conservation profession might look like when all needs were met was posed to the field through a public call for proposals in 2019. FAIC responded to this call with an expansive proposal to “evaluate current national infrastructure in conservation and make recommendations to strengthen preservation of cultural heritage for present and future generations.” It asked to establish a forward-looking vision of the future for the field, and to ensure that cultural heritage would be available for the future.

After review by an outside panel of experts and the National Council on the Humanities, in 2020 NEH awarded the cooperative agreement to FAIC under NEH’s *A More Perfect Union* initiative, which intends to advance civic education and commemorate the nation’s 250th anniversary. Through 2020, under the leadership of Eryl Wentworth and Eric Pourchot, FAIC and NEH worked together to finalize the agreement, including establishing the structure of the steering committee, advisory board, and working groups, and culminating in the selection of Pamela Hatchfield as program coordinator in September 2020.

Held in Trust is a true collaboration. Working closely with our partners at NEH, a Steering Committee guided the work, and an Advisory Council provided advice and consultation.¹ More than 150 people from a wide range of backgrounds and expertise came together to develop this project.² We asked thought leaders in the fields of preservation and conservation to participate as members of the Steering Committee, as well as individuals outside the field, who could offer a variety of perspectives and expertise.

¹ Appendix A.

² Ibid.

The Steering Committee determined and refined the scope of the key aspects of the field to study and issues that should be examined in depth. Two co-chairs for each area of study identified three primary issues for exploration and formed working groups focusing on these areas. In some cases, the subject area leads conducted interviews or developed focus groups as the best methods for gathering information.

The Advisory Council comprised representatives of approximately 27 organizations involved in conservation and preservation of cultural heritage. The Advisory Council provided guidance on the development of this project, read draft reports, and agreed to disseminate the reports and other products emanating from this work. Committees and Networks of the American Institute for Conservation (AIC) provided comment, as did AIC members, through the online member community and social media platforms. Presentations held at events such as the 2022 AIC Annual Meeting and a focus group held in July 2022 provided opportunities for dialogue and input.

GUIDING PRINCIPLES OF HELD IN TRUST

The Steering Committee developed HIT's guiding principles in close collaboration with NEH colleagues.

- Encourage a deep connection to our past and global cultural heritage, championing a society where humanity is valued and thrives.
- Foster and incorporate diverse perspectives and practices. Consider a multiplicity of cultural heritage settings and values.
- Support communities as they care for their cultural heritage and values.
- Strive for equity in knowledge creation, learning, and practice, cultivating respect for multiple voices, incorporating traditional, Indigenous, and community-based knowledge.
- Raise public awareness for the value of cultural heritage and the critical importance of its conservation and preservation.
- Embrace creativity and innovation.
- Establish collaboration as the standard model for the practice of conservation and preservation.
- Center sustainability thinking in the practice of conservation and preservation.
- Promote multidisciplinary initiatives and educational opportunities connecting the arts, humanities, and social and natural sciences with preservation and conservation.

All partners in Held in Trust are also committed to centering DEIA practices in conservation and preservation. This requires that we transform our ideas about power, culture, ideology, and methodology throughout the field. The HIT findings were greatly enriched through a deep equity review by social justice and anti-racism consultant Michele Kumi Baer of Kumi Cultural, who read our findings “as a call for a tidal shift in worldviews and philosophical approaches that pervade the cultural heritage preservation field, from more Western, Eurocentric approaches to more indigenous approaches from people of the global majority.”³

We must hold collaboration among constituent communities as the guiding force in the conservation and preservation of cultural heritage. Equally, we must enhance collaboration, communication, community engagement, knowledge sharing, and advocacy in order to sustain the field. Michele worked with us throughout the project to ensure that our thinking and language aligned with these principles. A summary of her report is included as an appendix.⁴

Members of the American Institute for Conservation Health and Safety Network and the American Industrial Hygiene Association (AIHA) Museum and Cultural Heritage Industry Working Group also provided a thoughtful review of each subject area, highlighting needs, existing resources, and priorities for each one. These observations and recommendations touch on topics ranging from emergency services in natural disaster situations, to best practices in private practice. The report includes robust bibliographic references and web resources on the topic.⁵

DEVELOPMENT OF KEY FINDINGS AND REPORT

Led by the Steering Committee, cultural heritage professionals from a wide range of backgrounds formed Working Groups⁶ to examine nine Areas of Study that encompassed existing infrastructure, challenges, and opportunities in the preservation and conservation of cultural heritage in the U.S. They focused on the intersection of conservation and preservation with critical areas of study, including environmental resilience; science and technology; inclusivity, equity, and collaboration in professional practice; education; and philosophy and ethics. During this process, the Working Groups identified clear needs, priorities, and directions through careful examination of the following subject areas:

³ Baer, Michele Kumi. 2022. “Review of *Held in Trust*’s Working Group Recommendations.” p.1. Appendix C.

⁴ Appendix C.

⁵ Appendix B.

⁶ Appendix A.

AREAS OF STUDY

- Climate Crisis and Environmental Impact
- Collection Care and Preventive Conservation
- Digital Technology: Research and Practice
- Diversity, Equity, Inclusion, and Accessibility
- Education, Professional Development, and Leadership
- Engagement, Communication, and Storytelling
- Field investment, Infrastructure, and Sector Health
- Philosophy and Ethics in Conservation
- Science and Materials

Diversity, Equity, Inclusion and Accessibility (DEIA) concerns permeate all of the areas of study in fundamental ways, requiring our attention as a stand-alone subject in our work. Equally fundamental to sustaining the field are issues related to communication, community engagement, knowledge sharing, and advocacy. At the outset, however, we recognized the existential threat of the climate crisis, which has profound effects on all of our findings and future actions. Through supplemental funding from the NEH, we have launched ***Climate Resilience Resources for Cultural Heritage: An initiative of Held in Trust***. This work is the first actionable outcome of Held in Trust and is described in more detail below and in the HIT report “Climate Crisis and Environmental Impact.”



KEY FINDINGS

While each of the reports on the nine areas of study identify areas of focus, goals, and strategies, in looking across the findings of Held in Trust initiative as a whole, the following key findings stand out due to their urgency and their impact across multiple areas of study.

The existential threat posed by the climate crisis requires immediate action by all sectors of society, including professionals at cultural heritage institutions, collections, and sites.

Across all areas of study, the devastating effects of extreme climate-related disasters poses an existential and immediate threat to cultural heritage and its preservation. Developing awareness and understanding of the impacts of climate change on cultural heritage and its preservation are key. Tools for developing sustainability and minimizing carbon footprints within cultural heritage entities are also urgently needed. The climate crisis disproportionately impacts disadvantaged and minoritized communities and all of their resources, including cultural heritage. Practical approaches and project-based actions are needed. Without the ability to evaluate the level and type of risks faced by cultural heritage sites, the other findings and recommendations of Held in Trust would be muted at best. The urgency of these needs prompted immediate action by the working group, resulting in an NEH-funded supplement to Held in Trust, Climate Resilience Resources for Cultural Heritage.⁷ The project encompasses the development of an interactive mapping tool, web-based learning modules, and communities of practice that will pilot use of the resources. This work is already underway.

The activation of DEIA practices requires the shifting of power, culture, ideology, and methodology throughout the field of conservation and preservation.

Historically, the conservation and preservation field has excluded non-dominant perspectives and identities. The demographics of the field (predominantly white, female, and upper-middle-class) serves to illustrate some of the challenges in entering the field: limited regional access and daunting prerequisites for graduate degree programs, lack of recognition of alternate training and education pathways, and a reliance on free labor through internships or through employment opportunities that do not reflect cost of living. These are based within a matrix of colonialist approaches to collecting, ownership, and the primacy of object or material-centered knowledge and authority, rather than people and community-centered approaches. These power structures reinforce those approaches and assist in the perpetuation of misogyny, racism, homophobia, and ableism. Innovative initiatives are beginning to make an impact in

⁷ Appendix E.

providing more equitable routes to enter the field; however, significant challenges still impact retention of diverse practitioners, and leadership and essential competency initiatives need further development. The fundamental methodologies of preservation are being transformed by new ways of collaborating with source communities and cultural stewards. Although much can be accomplished by practitioners in the field, this work takes place within the larger context of institutions and power networks, requiring the development of conduits for communication and the development of new power structures.

One of the most important functions that culture and heritage can play is to humanize the conversation and make it people-centered. Culture and heritage are about people, things that are important to people, and so when you make it a culture conversation, you're making it a people conversation.

—Robin Wall Kimmerer, *Braiding Sweetgrass*

Collaboration must guide conservation and preservation.

New paradigms for approaches, working methodologies, and practice are needed, which redistribute power and authority between leaders, communities, stewards, artists, and practitioners. Values-based conservation relies on close collaboration with the makers, source communities, and caretakers of cultural heritage. Practitioners and decision makers require training to develop this approach, which must be rooted in a larger equity-based transformation of the worlds in which we work.

Public and private sectors must commit resources for cultural heritage preservation to support agency, attention, and access for communities.

These new models of preservation and conservation require support and new ways of thinking from funders and decision-makers who are often outside the field. To move beyond project-based funding that historically focuses primarily on the preservation and conservation of tangible cultural heritage, funding models need to also evolve to empower the promising work ahead that will transform the field. Such an investment, in tandem with advocacy and communication about the importance of conservation and preservation and its relevance to the well-being of all sectors of the public, will increase awareness of the value imparted by this work and spur others to support this work.

Sustaining the field requires enhancement of communication, community engagement, sharing of knowledge and resources, and advocacy.

Public outreach and community engagement are fundamental to ensuring the relevance of conservation and preservation. As we center the human aspects of the work we do, partnerships with humanities organizations are a natural fit, as are the development of school programming and partnerships with scientific entities to demonstrate the relevance and rich connections between science, preservation, and art. This will

necessitate building skills and supporting engagement from all sectors of the preservation and conservation field, especially private practice practitioners, to build a fuller understanding of the scope of the field and the role preservation can play on a personal and societal level.

CONCLUSION

The challenges facing preservation and conservation of cultural heritage today reflect those facing our families, communities, nation, and the world. This report characterizes trends, identifies challenges, and articulates a vision for the future, in which conservation and preservation have everything they need to thrive. Its scope does not intend to solve these problems outright, but it does articulate the profound changes our world and our profession face. Within the findings presented here, you will see actionable steps that can be taken by cultural institutions, communities, practitioners, funders, and supporting organizations. We offer these, and the forward-thinking narratives which frame them, as a source of inspiration as we work to preserve our nation's rich cultural legacy for the benefit of communities now and in the future. It is a future where conservation and preservation operate within communities.

This project was generated because we observed a clear and pressing need for action. The projects outlined in the Held in Trust reports lend themselves to this kind of development, designed by YOU, with your specific needs in mind. Our hope is that the reports inspire you to action, whether you are acting as an individual, private practitioner, family, community, collecting institution, cultural heritage site, advocate, or funder. We hope you will use this as a workbook to address the challenges you and the field face in the preservation of cultural heritage.

–Pamela Hatchfield, Project Coordinator

Reports

Climate Crisis and Environmental Impact
Collection Care and Preventive Conservation
Digital Technology: Research and Practice
Diversity, Equity, Inclusion, Accessibility
Education, Professional Development, Leadership
Engagement, Communication, Storytelling
Field Investment, Infrastructure, and Sector Health
Philosophy and Ethics in Conservation
Science and Materials

Climate Crisis and Environmental Impact

Committee Co-Chairs: Sarah Sutton and Héctor J. Berdecía-Hernández

INTRODUCTION

On August 9, 2021, the United Nations/World Meteorological Organization Intergovernmental Panel on Climate Change (IPCC) issued a [report](#) on the accelerating rate of catastrophic effects of climate change. The IPCC's Working Group I on the physical science aspects of climate change reported that the damage already done to our planet's climate is creating significant challenges to the long-term preservation of cultural heritage and related resources around the world (museums, libraries, archives, and their collections; historic structures, monuments, sites, and historic landscapes).



On March 20, 2023, the IPCC issued a Synthesis Report for the Sixth Assessment ([AR6](#)) calling for countries to eliminate their greenhouse gas emissions by 2040, not by 2050. To do so it stated that “Government actions at sub-national, national, and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (very high confidence). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity, and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors, and timeframes (very high confidence).”

Surface flooding during rain events and infill flooding during extreme high tides. Photo courtesy of Strawberry Banke Museum.

The cultural heritage sector is an integral part of civil society. Difficulty in reducing the impacts that contribute to climate change cannot limit the profession's commitment to stewardship. When climate events are so substantial as to cause communities to lose parts of their heritage, the vibrancy of the values inherent in and connected to that heritage is diminished. The present and future living communities lose the social significance, symbolism, historical or aesthetic values, and the science embedded in cultural heritage. Stewards of cultural heritage have a responsibility to address and overcome these challenges.

While awareness and understanding of human's impact on the climate is growing and more efforts to reduce that impact are emerging, unprecedented damage to cultural heritage resources has already occurred, and data portends worse to come. There is an added urgency to address the disproportionate impacts that the climate crisis has on marginalized communities. The response of the cultural heritage preservation community must be commensurate with this scale and vulnerability; yet it lags behind other non-governmental sectors such as higher education, healthcare, and business. Cultural heritage "is both an asset to be protected and a resource to strengthen the ability of communities...to resist, absorb, and recover from" shocks (ICOMOS, p. 3). To fulfill its responsibilities to cultural heritage resources and the cultures that value and learn from them, the sector must broaden and accelerate its climate work. By doing so the cultural heritage profession will reduce its contributions to climate change, continuously improve preservation practice, and ensure that these resources continue to support communities' well-being, learning, and service.

Considering the urgency of the climate crisis, this report embraces a practical approach focused on project-based actions that address the immediate needs of the conservation field and support individuals and cultural institutions tackling the damaging effects of climate change. The report recommends tools for leadership and positive examples of responsible action for institutions at the local, state, and federal level, while providing frameworks for individuals and groups to take needed climate action. Simply put, the goal of this report is action.

Held in Trust's (HIT) Climate Crisis and Environmental Impact Working Group identified three, strategic areas of focus for framing their recommendations: 1) awareness and understanding of the impacts of climate change on cultural heritage; 2) education for action; and 3) policies necessary to guide and drive climate action. These areas of focus are described in greater detail below and inspire the formulation of four goals for progress towards climate action within the field of cultural heritage preservation.

CRITICAL AREAS OF FOCUS

FOCUS AREA #1: Awareness and understanding of the impacts of climate change on cultural heritage

There is widespread use within governmental agencies of climate impact mapping, yet few of these digital resources are applied in the cultural heritage sector, and fewer cultural heritage professionals are aware of the capabilities of these maps. The field has not pursued the development of a digital climate impact mapping resource. Such a resource would identify climate change impacts across various regions, illustrate the timescale of impacts and the urgency for response. They would provide critical information for professionals and institutions committed to developing action plans and partnerships for resilience. Recognizing the urgency and utility of such resources, the HIT Working Group has already begun work in this area. See “Strategic Goals” below for further detail.

Challenges

→ **Fragmented cultural heritage site and climate-risk mapping**

The mapping of cultural heritage sites and resources is fragmentary in the United States and its Territories, and not coordinated with climate-risk mapping. The profound effects of climate change on cultural heritage collections and sites are distressingly clear in the after-effects of hurricanes, flooding, drought, and fire. Few institutions or sites however have a clearly articulated understanding of their level of risk.

→ **Communities in need of environmental justice responses often contain cultural heritage materials and sites in need of care and protection**

Awareness of existing cultural resources in communities in need of environmental justice is often limited and access to funding and technical expertise related to preservation and conservation is frequently overlooked or non-existent, and addressed only after other critical issues, if at all.

Opportunities

→ **Designing a user-friendly, interactive climate risk map**

The lack of climate risk maps specifically for cultural heritage sites presents an opportunity to create one using current technologies that facilitate easy, equitable access and updating as risk changes.

→ **Interdisciplinary collaborations**

The creation of climate risk maps presents opportunities for cultural heritage professionals to engage and collaborate with professionals and organizations in other disciplines, such as climate scientists and disaster response professionals. Through integrative thinking and problem-solving, the field can identify less researched or unexplored areas of knowledge within climate change and cultural heritage that might lead to new projects for research and implementation

in partnership with funding opportunities. These same relationships have the potential to leverage existing mapping resources and talent to avoid duplication while adding value to existing investments. Innovations in the cultural heritage preservation sector may also prove to be new solutions in other areas of climate risk mitigation.

FOCUS AREA #2: Education for action

In addition to needing clear and usable information about their level of risk, cultural heritage entities need to better understand how to plan for the preservation of their resources. The field can help cultural heritage institutions and preservation professionals develop climate actions plans, which outline science-based strategies to reduce greenhouse gas emissions, address ways that the climate is already changing and develop greater resilience of cultural institutions and the communities they serve. Plans should include activities for mitigating contributions to climate change and its effects on cultural heritage; adapting to climate change in responsible ways; and becoming resilient, physically, socially, and financially, in the face of a changing climate. Climate action plans are as urgently needed for an institution as are financial and strategic plans.

A Climate Action Plan often includes:

- A climate statement that describes how climate change affects the institution and community and commits to reducing the institution's impacts on climate and building resilience.
- Assessment of current impacts created by the institution's activities (water, energy, waste, transportation, and materials consumption to the best available information).
- Description of current priority concerns in the community on climate impacts and resilience (based on community assessments, local emergency plans, etc.).
- Description of climate action to date (public programs, research, assessments, steps toward change, related plans).
- Description of opportunities for improvement (e.g., reducing energy and materials use, managing waste, increasing public communication and engagement, shifting purchasing and contracting policies, and planning for building operations and management, including collections care), including how they were identified (audits, surveys, assessments, pilot testing, previous experience).
- Sequential plan to address priority responses with measurable, time-limited goals that are achievable, and identification of the resources needed to achieve those goals.
- Appendices of the detailed supporting data (information on buildings and landscapes, collections, energy and water use, waste, materials, driving patterns, etc.).

Given the accelerated effects of climate change, we must also make sites resilient—strong in the face of climate change, prepared for its impact, and ready with plans for recovery. A Climate Action Plan and Emergency Action Plan (EAP) is recommended for the preparation of an Institutional Resilience Plan. An Institutional Resilience Plan provides a framework for preparedness, response, and recovery from climate stress, extreme events, and disasters. It also includes guidelines for returning to normal operations as soon as possible and better prepared for the next event.

Challenge

→ **Lack of data on conservation practices' impact on the climate crisis**

One of the Working Group's earliest findings identified abundant resources for allied fields such as archaeology, collections care, and built heritage, but few technical resources and research on the impacts of cultural heritage conservation practices, such as treatments, on the climate crisis. Key field documents (both released in 2021), the [*Future of Our Pasts: Engaging Cultural Heritage in Climate Action*](#) (International Council on Monuments and Sites 2019), and [*Stemming the Tide: Global Strategies for Sustaining Cultural Heritage through Climate Change*](#) (Rushfield 2021), do not consider materials conservation or conservation science as an area for exploration.

Opportunities

→ **Special focus funding in alignment with federal and state climate goals**

Thirty-three [states](#) and the United States federal government have climate action plans. All depend upon multi-sector implementation to meet climate goals. Many have commitments to supporting underserved communities, including those that may have vulnerable heritage sites. Aligning this work of the cultural profession with those goals is valuable for accessing climate action funding and building awareness of the value of cultural heritage. The AIC Conservation Assessment Program could broaden its project support to include climate impact assessments. The American Alliance of Museums' Museum (AAM) Assessment Program could add an Environmental Sustainability and Climate Action module.

→ **Creation of climate action statements and climate action and resilience plans**

The field can help educate cultural heritage professionals and institutions on how to create climate action statements and plans through the development of resources and trainings.

FOCUS AREA #3: Policy

A critical area of focus for the field is an exploration of the policies and considerations that would encourage the cultural heritage profession to take more steps for adaptation and climate action in their work. These policies can address risk management and planning policies for impending climate change events. They will set goals for the field and advance the development of supportive procedures for reducing risk exposure and

impacts that drive climate change, collecting and collection management, and collections care and access.

Challenge

→ Lack of data on cultural heritage preservation field's climate impact

The sector does not have enough data on how and to what extent it contributes to the climate crisis. It needs tools, practices, and policies that make it routine to monitor and measure energy usage (sources, efficiencies, and generation) and full carbon impacts (materials and energy) in exhibits, programs, and standard operations. There is also a lack of data on exposure of collections and heritage sites to climate change impacts, in particular limited recognition of the need for support for smaller institutions and for collections items (rather than historic sites).

Opportunity

→ Expand the understanding and awareness of traditional and local knowledge to inform policies for caring for collections and sites, making them more resilient to the effects of climate change

Traditional and local practices for the protection, care, and conservation of cultural heritage can be more sustainable than approaches codified by Western institutions. These practices are usually often overlooked or ignored both in educational institutions and professional practice. By acknowledging and understanding these practices, we can incorporate these practices into the development of specific policies for the care and preservation of heritage collections and sites threatened by the effects of climate change.

STRATEGIC GOALS

The HIT Working Group identified four strategic goals that focus on helping cultural heritage professionals and institutions anticipate climate impacts and develop climate action plans, on identifying sector-wide policies that encourage resilience and adaptability, and on raising awareness of and commitment to climate change response across the cultural heritage sector in the United States.

To incentivize museums to prioritize this work, the HIT Working Group recommends tying American Alliance of Museums (AAM) accreditation to the existence of climate action plans and continuing education credits to trainings related to climate crisis awareness and education to incentivize organizations and individuals. The goals below are connected to one or more of the primary areas of focus identified above.

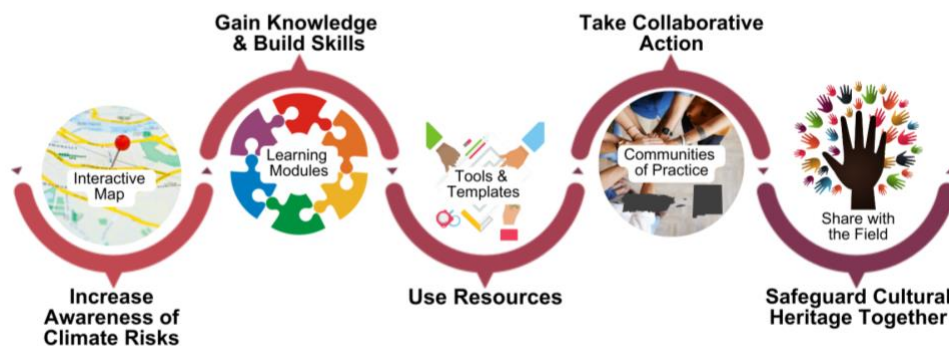
Held in Trust's First Outcome for Change

Given the urgency presented by the effects of the climate crisis on cultural heritage sites and collections and the lack of existing resources for the sector's use in responding to climate related impacts, NEH awarded FAIC funding to create Climate Resilience Resources for cultural heritage as the first action item resulting from Held in Trust.

The initiative is tailored for cultural heritage stewards, communities, sites, and organizations of all sizes and locations, in the U.S. and its territories. Cultural heritage stewards can use the interactive mapping tool to increase their awareness of climate hazards (e.g., extreme heat and drought, wildfire, storm events, and sea level rise) based on their geographic location and can work through comprehensive learning modules to build the knowledge and skills needed to take confident steps to climate resilience.

Additional resources will support collaborative learning groups and guide community action. Two communities of practice in Puerto Rico and New Mexico are supporting development of the resources and working together to build their resilience strategies. The project began in October 2022, and resources will begin to be available in fall 2023. This work addresses Goal #1 described below, three years ahead of the schedule laid out below.

Climate Resilience Resources for Cultural Heritage: A Project of Held in Trust



GOAL #1: Help cultural heritage professionals and institutions to visualize and anticipate climate impacts

FOCUS AREA #1: Awareness and understanding of the impacts of climate change on cultural heritage

Helping cultural heritage organizations, sites, and professionals visualize and anticipate climate impacts to cultural heritage is critical and impacts nearly every aspect of preservation and conservation. Climate risk maps are effective tools and can be designed in a manner that drives immediate action. To begin, professionals should investigate the feasibility of overlaying climate vulnerability data on existing models for mapping cultural heritage in the United States and its Territories. A centralized climate risk map should be publicly and freely accessible, easily updated, and digital.

Outlined below are key outcomes with a short-, mid-, and long-term timeframe to create, launch, and maintain a national climate risk map for cultural heritage sites and organizations.

Timeframe	Outcomes
Short term 2023-2024	• Convene a working group to meet in early 2023 to deliver a workplan for how to create a nationwide climate risk map (completed, see above). • Identify existing relevant mapping initiatives and prospective collaborators, especially in emergency management. • Secure funding for digital climate risk mapping planning, development, and assessment (completed, see above).
Mid-term 2024-2027	• Execute recommendations determined in prior convening for creating digital climate risk map. • Engage Harvard University's Center for Geographic Analysis to create and house a digital map and accompanying database. • Work with federal, state, and local partners to source information.
Long term 2027 onward	• Complete the digital Climate Risk Map for the entirety of the U.S. and its territories. Cultural Institutions are being completed by regions. • Assess usage to ensure digital map and database are actively used by individuals, cultural institutions of all sizes, and preservation professionals. • Continuous adaptation as needed.

GOAL #2: Support cultural heritage institutions and sites in developing a framework for their climate action plans.

FOCUS AREA #2: Education for action

With funding, the HIT Working Group for Climate Crisis and Environmental Impact will convene a group to prepare a framework with support tools that any institution or community can use to build its climate action statement and climate action plan for their cultural heritage. The Working Group will ensure there are group members with equity expertise to ensure the integration of equity concepts into the framework from the outset. Ultimately, having a current climate action plan will be considered best practice within the field. Progress towards the framework will occur through the outcomes detailed below.

Timeframe	Outcomes
Short term 2023-2024	• Create and publish a HIT Climate Action Plan Framework
Mid-term 2024-2027	• AIC will develop a pilot workshop training program to guide cultural heritage professionals and/or communities through application of the framework. Attention will be given to ensuring marginalized communities are included and their needs addressed. • Create a centralized listing of resources available to support private practitioners' awareness of available resources to support taking climate action (e.g., steps to protect resources from risks, prepare to recover from climate-driven disasters, and reduce impacts on the environment that drive climate change). • A completed Climate Action Plan is a requirement for AAM accreditation of museums and is considered best practice for all cultural institutions. • Secure funding to support workshop development and pilot launch. • AIC broadens the Conservation Assessment Program • AAM creates an MAPVI: Environmental and Climate Action
Long term 2027 onward	• The HIT Climate Action Plan Framework is established as the standard document format for the field. • AIC offers a robust program of accessible workshops and trainings to complete and review regarding these frameworks as part of required continuing education. • There is secure ongoing funding to support equitable access to training and workshops.

GOAL #3: Identify field-wide policies and considerations that encourage resilience and adaptation

FOCUS AREA #3: Policy development

Identifying and describing specific policies and considerations related to climate action would support cultural heritage institutions and preservation professionals in developing steps for adaptation that could complement or be incorporated into climate action and resilience plans. Climate crisis is a fluid situation that requires continued diligence, flexibility, and resilience; having a reference list of policies and considerations will be integral to quick, data-backed, thoughtful decision-making. Progress towards this goal will occur through the outcomes detailed below.

Timeframe	Outcomes
Short term 2023-2024	• AIC has researched existing policies and regulations related to climate change and cultural heritage and prepares an overview with recommendations for prioritizing the next steps in policy development. • AIC has identified examples of and barriers to responsible policies and positive actions for climate action within the areas of collections development and care, conservation treatments, environmental standards, environmental hazards, purchasing, exhibition planning, loans, courier requirements, emergency preparedness and response, carbon emissions reporting and reduction, and building operations. • Secure funding for the research project through FAIC.
Mid-term 2024-2027	• AIC's Sustainability Committee develops and manages a climate adaptation and resilience resource webpage.
Long term 2027 onward	• Cultural heritage institutions pursue right-sizing collections to reduce collections care costs and impacts. • The field understands and carries out prioritization of collections care and acquisition in ways that guide the allocation of resources in times of disaster and, high risk, and/or constrained resources, as well as in times of abundant resources and low risk. • AIC conducts and publishes surveys of the field's climate-related policies at regular multi-year intervals using either a standing or ad-hoc committee.

GOAL #4: Raise awareness of and commitment to climate change response across the cultural heritage sector in America
FOCUS AREA #2: Education in action

To accomplish the above three goals, it is imperative to significantly raise awareness of and commitment to climate change response across the cultural heritage sector in America on par with the level of awareness of international organizations such as the International Institute for Conservation of Historic and Artistic Works (IIC); International Council of Museums (ICOM); International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM); and International Council on Monuments and Sites (ICOMOS), particularly along the lines of the recent [IIC, ICOM, ICCROM declaration](#). The cultural heritage sector's professional associations have an opportunity to lead such recognition and actively support and prioritize climate change-related research in conservation practice and training for conservation and preservation professionals. Progress towards this goal will occur through the outcomes detailed below.

Timeframe	Outcomes
Short term 2023-2024	- Professional associations and cultural institutions in the U.S. acknowledge climate change as the most significant threat to the cultural heritage field. - This is reflected in the strategic plans and curricula of professional associations and training programs. - AIC requires one or more continuing professional training credits to address sustainability or climate change.
Mid-term 2024-2027	AIC has leveraged the high profile of climate change issues in the sector and the prioritization of the issue by professional associations and professionals to secure, significant and sustainable private and public funding that is commonly available for training, mitigation, adaptation, and resilience efforts in individual projects and through regional and national level programs. Other associations also actively pursue funding for priority actions.
Long term 2027 onward	- AIC has prioritized support for climate action awareness and implementation, and now the field is able to respond with professional policies that prioritize lasting support for climate action through the incorporation of climate awareness and action into all cultural heritage organization and site planning and operations. - AIC conducts and publishes a survey of cultural heritage institutions and professionals to confirm they are prepared for

	unavoidable impacts of climate change in ways that help the institutions recover faster (resilience) and for protecting identified priority heritage materials.
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CONCLUSION

The climate crisis is one of the most urgent issues impacting the world today. It is increasingly driving decision-making across business, government, and society. It is past time for the cultural heritage preservation sector to establish the frameworks, tools, and policies that will guide actions for mitigation, adaptation, and resilience. Such work presents opportunities for new partnerships with allied disciplines, community engagement, and sustained investment. While the climate crisis poses an existential threat to cultural heritage worldwide, positive change is achievable if we are willing to act with urgency and bold action.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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APPENDIX II: RESEARCH AND METHODOLOGY

The Held in Trust Climate Crisis and Environmental Impact Working Group initially explored three specific sub-areas for committee meetings: Policy, Education, and Funding. However, after our first group meeting and individual conversations, it was clear we were up against two kinds of fatigue: meeting fatigue and fatigue of all the other parts of the sector's climate change impact efforts to date. They felt that much work had already been done and that rather than meet, we needed to use existing materials and take action. The Working Group has taken their advice, focusing first on action, then filling in the gaps identified, such as the lack of conservation-specific information in existing work.

As a result, the Working Group co-chairs shifted to a more practical approach of framing project-based recommended actions to tackle the needs of the conservation field and support individuals and cultural institutions in addressing the effects of climate change. The co-chairs met regularly with subcommittee member Jerry Podany to outline action steps. As a result, the Working Group has helped FAIC attract funding via a supplemental National Endowment for the Humanities award to pursue a cultural heritage risk and resilience project developing tools and resources for leadership, and positive examples of responsible action for institutions at the local, state, and federal level, while providing and creating frameworks for individuals and groups to protect cultural heritage from climate impacts.

APPENDIX III: DEFINITIONS

Understanding that the following terms may have alternate definitions, summarized below are the HIT Climate Crisis and Environmental Impact Working Group's definitions for select terms used in this report.

Adaptation—Steps to change buildings and their mechanical and physical systems, methods of operations, and practices to cope with conditions created by climate changes.

Climate action plan—A science-based strategy to reduce greenhouse gas emissions and address ways the climate is already changing. This includes setting goals and supportive strategies for reducing energy and materials use, managing waste, increasing public communication and engagement, shifting purchasing and contracting policies, and planning for building operations and management, including collections care.

Climate impacts—Damage from or conditions created by a changing climate that may affect heritage preservation actions or require defense and recovery.

Emissions—Production of greenhouse gasses that contribute to climate change: carbon dioxide, methane, nitrous oxide, ozone, and water vapor.

Greenhouse gasses (GHGs)—Atmospheric gasses that contribute to climate change: carbon dioxide, methane, nitrous oxide, ozone, and water vapor.

Mitigation—Steps to reduce an individual or institution's actions that contribute to climate change. These usually include greenhouse gas production through energy use and materials consumption.

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Collections Care and Preventive Conservation

Committee Co-chairs: Mariana Di Giacomo and Laura Hartz Stanton

INTRODUCTION

The foundations of conservation and collections management practice are collections care and preventive conservation. The American Institute for Conservation's (AIC) [Code of Ethics](#) describes these core responsibilities as "...endeavoring to limit damage or deterioration to cultural property, providing guidelines for continuing use and care, recommending appropriate environmental conditions for storage and exhibition, and encouraging proper procedures for handling, packing, and transport."

Depending on a cultural heritage organization's size and scope, the activities that encompass this work may be carried out by conservators, registrars, collections managers, librarians, archivists, or individual community stewards. In assessing the current state of collections care and preventive conservation of cultural heritage in the United States and globally, it became clear that additional cross-disciplinary training, new partnerships, and an emphasis on resilience are essential to ensuring the field can meet the challenges facing the preservation of our diverse cultural heritage.

CRITICAL AREAS OF FOCUS

To understand collections care and preventive conservation across the field today and guide goals for the future, the Held in Trust (HIT) Collections Care and Preventive Conservation Working Group identified three areas of critical focus:

FOCUS AREA #1: Centering the value and meaning of cultural heritage

When considering preservation of cultural heritage, we must first ask ourselves who we are preserving it for and why. Advocacy becomes a key factor in ensuring we are clear about the importance of our work and those it will impact. By centering the conversation around the meaning and value of cultural heritage, we change how we view the care and preventive conservation of collections from a reactive model to a proactive one that engages with communities through conversations based on trust. Establishing and prioritizing these relationships were also key points in other HIT reports, such as "Engagement, Communication, and Storytelling" and "Diversity, Equity, Inclusion, and Accessibility."

Challenges

→ Addressing trauma resulting from unethical collection practices

Many collecting institutions have objects in their collections as a result of unethical collecting practices and acquisitions that result in trauma for the source communities. These practices and the resulting trauma must be addressed to

ensure sustainable collection care practices. Repatriation, decolonization, and provenance research are becoming a big part of the work of many institutions, but resources remain limited to conduct the work in a sensitive way that honors cultures. In addition, while these objects are well-cared for according to Western approaches, the preventive conservation methods employed may not honor the source communities.

→ **Health and safety**

Hazardous materials and collections impact storage facilities and may impact the health of staff. These issues often stem from collecting practices dissociated from institutional missions. Pesticides and preservatives have been used on collections that may now be repatriated. Often, sacred items are worn during religious ceremonies, and these past treatments may then impact the health of community members. In addition, varied education, capital, and resources across institutions can have an adverse impact in the workforce health and safety.

→ **Exclusive discussions around collections care and preventative conservation**

The language used to communicate preservation concepts frequently relies on terms learned in formal programs and jargon that alienate communities who might otherwise feel empowered to care for their heritage. This terminology is also often charged with gendered, classist perceptions.

Opportunities

→ **Preventive conservation as a conduit for access**

Learning how to care for cultural heritage can be a two-way street, in which museum professionals learn from communities and vice versa. Preventive conservation is an excellent way to create connections between museums, local history organizations and libraries, community centers and any other stakeholders with an interest in collection care. This allows the many communities that have meaningful cultural objects in collections to access their heritage in these institutions, opening the doors for more collaborations and partnerships. This builds a community of care that impacts the field by creating a network of knowledge and expertise.

→ **Contribute to the advancement of social justice**

By implementing collections care methods that address the trauma caused by unethical collecting practices, the profession can contribute to repairing the damage done in the past. Organizations should also provide counseling and training to workforces with tasks involving trauma-triggering objects and/or traumatic events (e.g., Holocaust, 911 collections, human remains). Caring for people becomes an important pillar in the field.

→ **Active Advocates**

Cultural heritage professionals have a captivating point of view to share in advocating for the value of our rich cultural heritage, the importance of their work, and the need for equitable funding across the sector. With additional training,

they can become some of the most effective advocates for the importance of their work.

FOCUS AREA #2: Training and engagement

The best approaches for collections care and preventive conservation are centered on the audiences for whom we do the work. Given the remarkable range of cultural heritage in the U.S. and globally, care and preservation can have many forms and require training beyond traditional educational pathways. Cultural competency is an essential part of preservation and should be reflected in the training of those who will perform preservation tasks. Communities who care for their own cultural materials must be engaged as partners in identifying and addressing strategies to increase their power and agency in caring for their cultural heritage.

Challenges

→ Insufficient training and professional support

The field generally does not offer enough training for collections care and management positions, particularly in community engagement and addressing trauma that can come up during repatriation. The training that is available, may not be culturally sensitive or inclusive for communities caring for their cultural heritage within their indigenous knowledge system. Collections care is also an area that is often chronically understaffed and underfunded. These factors can lead to burnout in the field and high turnover.

→ Education barriers

The current formal education expectations of collections care and preservation professionals center on graduate-level training. While this education provides critical skills and knowledge to continue to advance the field, this requirement has created numerous barriers to entry, ranging from unwelcoming environments to financial barriers and relocation needs (see also HiT reports “Diversity, Equity, Inclusion, and Accessibility” and “Education, Professional Development, and Leadership”). It also excludes other areas of needed expertise. These obstacles directly contribute to the profession not reflecting current demographics broadly and to communities being excluded from caring for their cultural heritage.

→ Insufficient infrastructure

Aging infrastructure or communities with a lack of basic infrastructure are not well-positioned to care for their cultural heritage.

Opportunities

→ New and expanded educational pathways

The cultural heritage conservation and preservation field is creative and progressive, which is a strong foundation for thinking of new and expanded educational pathways. These new opportunities will have the fundamentals of collection care as a guide, alongside a commitment to inclusivity. Providing access to reliable information without jargon can help increase the accessibility of

conservation resources to communities. Several educational resources and opportunities are already available to centralize and build on.

FOCUS AREA #3: Resilience in collections stewardship

Collections care and preventive conservation must evolve to meet the challenges faced by the cultural heritage sector and the world in which we live. Among other seismic shifts, these include vast climate changes that have not been experienced in modern history and the adoption and effects of new technologies. Resilience is key in collections stewardship to care for both cultural heritage and the people who do the caring.

Challenges

→ Climate crisis

The climate crisis will set the priorities of sites and collections to protect. Some of the unknowns related to climate change are how our buildings and the environments in them will respond and the already changing ecological ranges of pests. There will be an increase in disasters and emergencies that will result in mold growth in buildings and on cultural heritage, which will negatively impact staff health if not properly managed. The field needs to determine whether collection environmental conditions can be allowed to slightly drift seasonally or must adhere to rigid setpoints that are increasingly harder to maintain without excessive energy usage and a higher carbon footprint. Perhaps most significantly, climate change will determine which sites and collections will be lost. Communities often plan for preservation, not loss, and therefore, may be under-equipped to face this problem. The HIT report “Climate Crisis” discusses these issues in greater detail.

→ Societal change

Many policies and procedures in collection care are in place in part because they have been the historical standard. Societal change is challenging those notions and exposing deeply rooted biases in the field that must be addressed.

→ Technological change

Entities that undertake collections care and preventive conservation are not equally resourced, leaving technological gaps in collections stewardship. There is a need for a flexible support framework to ensure adequate investment in essential technologies. This framework should consider the needs and resources of communities that care for their cultural heritage outside traditional collection institutions.

→ Resilience in collections stewardship

Evaluation and remediation of personal risks for those who perform collection care is changing as alliances with health and safety professionals are forged and new information is developed; these changes will impact how collection care professionals act and perform their duties (see also HIT Appendix B on Health and Safety).

→ **Impact of care and stewardship**

Collecting institutions continue to struggle to achieve a balance between acquisitions and care. Acquisitions do not always follow the mission of said institutions, making it harder for staff to maintain the growing collections in a responsible and sustainable way, and to provide access.



Vertebrae Zoology collection storage at the Yale Peabody Museum of Natural History.

Opportunities

→ **Collaborations in collections care**

The global and local changes we are undergoing can be seen as an opportunity to move in the right direction as a field that does not work in a vacuum but lives among rich and caring communities. The dichotomy of maintaining strict environmental standards versus allowing collections to live in broader environmental ranges is a perfect example of how creating new ways to manage buildings and storage spaces can empower all communities and institutions to provide the care their cultural heritage needs in an economically and environmentally sustainable way. Forging relationships with allied professionals provide opportunities to bridge critical gaps in our knowledge base, such as health and safety considerations and our ability to hear voices from additional stakeholders.

STRATEGIC GOALS

The following strategic goals will further the development of collections care and preventive conservation, expanding notions of what this entails and who is empowered to undertake the work. The goals are aligned with the areas of focus outlined above.

GOAL #1: Building advocacy**FOCUS AREA #1: Centering the value and meaning of cultural heritage**

Preventive conservation and collections care are critical to the operations of cultural heritage sites and institutions. Professionals in the field can work together and with community caretakers to advocate that preventive conservation and collection care are given equal weight and proportional funding to other activities such as exhibitions, acquisitions, research, and treatment. In advocacy work, the field should center the conversation about cultural heritage preservation on the audiences and cultures we serve, including diverse voices and experiences to secure the broadest possible support. As part of this work, professionals and institutions need to consider the ethical dimensions of collections care, including managing and ameliorating a legacy of illegal, unethical, and traumatic acquisition practices. Additional resources need to be allocated to repatriation, decolonization, and provenance research as part of preservation and preventive conservation practice.

GOAL #2: Create more expansive and inclusive training for collection care and preventive conservation**FOCUS AREA #2: Training and engagement**

The field needs to provide a collections care framework in which training, policy, and practices are centered on the people/object interaction and framed within social and environmental challenges. Training will emphasize resilience, adaptability, and creative decision-making, as well as address critical areas for the health and safety of practitioners, climate change, and risk and disaster preparedness and response. To reach communities and allied professions, the field should include flexible training that can take place outside of institutional centers and encourage dialogue and shared learning. Communities who care for their cultural materials must be engaged as partners in identifying and addressing what training and other programs are needed to help them meet their goals. The field will also benefit from recognizing and legitimizing the expertise of allied professionals in collective preservation conservation efforts.

GOAL #3: Building resilience and adaptability in collections stewardship**FOCUS AREA #3: Resilience in collections stewardship**

The field can work together and with allied professionals and communities to prioritize adaptable concepts of preventive conservation and collections care that can scale for different sizes and types of institutions while meeting the changing needs of our world. Fostering creativity and non-standard approaches will be essential. Resilience is built by creating connections with a broader community of care, as well as identifying the cost of ownership of collections, to be better equipped to care for cultural heritage in an accessible and sustainable way.

An Adaptable Model of Care

The RE-ORG Method is an initiative by ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) and UNESCO which aims to help collections organize their storage locations in a safe and creative way. This method, which considers management of collections and their conservation, is a successful example of a toolkit that can be applied to diverse collections regardless of their size and caretakers' levels of expertise. With free access to resources in many languages, this model of care empowers professionals and communities to care for cultural heritage.

For each of the above goals, the field needs to prioritize expanding and diversifying training, encouraging broader participation in and support of collections care and preventive conservation, and launching or centralizing inclusive resources that empower care. To achieve these goals, the HIT Working Group recommends the following outcomes in the short-, mid- and long-term strategy described below.

Timeframe	Outcomes
Short term 2023-2024	• Identify gaps and issues with existing training programs, workshops, and other educational opportunities. • Propose training frameworks that focus on resilience and adaptability, as well as those that provide individuals outside the cultural heritage preservation field, such as community caretakers, with tools to make informed decisions, amidst climate, societal, and technological changes. • Identify and recognize alternative pathways to working in the field of collections care and preventive conservation, as well as avenues to recognition. • Develop an inclusive glossary for discussing collection care/preventive conservation across cultural heritage. • Determine what data is necessary to make the case for creating an advocacy plan.
Mid term 2024-2027	• Create a toolkit for organizations that addresses how best practice environmental standards are adaptable to resources, geography, and sustainability. This toolkit will include a communications strategy. • Develop a toolkit for solutions-focused training and problem solving for preservation and collection care. Toolkit may incorporate existing resources.

	• Gather data needed for advocacy plan and implement an advocacy and outreach campaign to funders and government agencies to establish pathways for financial support for collection care and preventive conservation. • Develop a communications strategy for collections care workers and members of the community that positions the field as a creative profession, articulating the decision-making and intellectual part of collection care, preservation, and collection management. • Collect data around the total cost of care of collections (staffing, space, other resources), including collection impact statements. • Provide conservators and allied professionals with data and information that assists in advocating for resources within an institutional setting, including around health and safety in the workplace. • Create a RE-ORG-type system (see https://www.iccrom.org/programmes/re-org) that also contemplates preventive conservation and sustainability. • Secure funding to support toolkit development, data collection, and advocacy campaign.
Long term 2027 onward	• Provide a toolkit for policy- and standard-producing organizations to serve as a basis for those considering a restructure around concepts of preventive conservation and collection care to become adaptable to the changing needs of the field. • Evaluate how toolkits and recommendations for training are reshaping the sector (via surveys, assessment of published works, and identification of new policies designed by museums, collections, and allied professionals. • Update the toolkits based on the above evaluation and other recommendations, reflecting the adaptability and flexibility of the field. • Secure funding to support the toolkit evaluation.

CONCLUSION

Collections care and preventive conservation are an opportunity to contribute to the reorienting of cultural heritage preservation towards a people-centered endeavor. Through more inclusive training, language, and practices, the field can empower communities and allied professions as partners or sole stewards. By sharing knowledge

and ideas, we can build resilience and energize the field to meet the challenges to preserving our nation and the world's cultural heritage.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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Digital Technology: Research and Practice

Committee Co-chairs: Paul Messier and Linda Tadic

INTRODUCTION

Digital tools and platforms provide a global medium of cultural exchange and creation. The mission of libraries, museums, and archives to collect, preserve, and provide access increasingly encompasses and relies on technology. The field of conservation is also evermore reliant on digital methods for the documentation and analysis of objects. From content creation to preservation, the digital present and future introduces new preservation challenges, as well as exciting opportunities for deepening knowledge of art and artifacts.

The field of cultural heritage preservation must adapt to the preservation needs of technology-driven works of art, artifacts, images, and experiences. Relative to traditional media, digital-based culture needs earlier intervention and requires new forms of management and storage. Meeting these challenges requires reassessment of priorities within collecting institutions that are often geared towards investment in the specific challenges of individual objects and/or media classifications.

Digital preservation solutions are often beyond the means of even the most well-resourced collecting institution and inconceivable at the grassroots level of community-based archives. Cooperative, non-proprietary, trusted digital repositories are needed for collections of every scale and origin. Such ventures should be designed to ensure equitable access across communities and to be environmentally sustainable, with transparent reporting of human and environmental costs.

As collections are redefined, emergent tools and methodologies have the potential to spark new meaning from traditional collections, based on wide-scale data collection, access, and analysis. Linking materials-based data from collections has the potential to reveal new patterns that can build knowledge, showing societies are connected and intertwined. Inherently interdisciplinary, this work has the potential to demonstrate the meaning and value of collections to broader ranges of audiences and scholarly communities.

CRITICAL AREAS OF FOCUS

Unlike most physical objects, generally better able to withstand periods of benign neglect, digital objects and research data are intrinsically unstable, presenting new forms of deterioration that include physical and chemical breakdown as well as tenuous hardware, and software dependencies. To conserve and preserve anything “digital,” the content and data must endure two types of migrations: storage and format. “Bit health” must be verified over time by performing scheduled integrity checks and hardware/software obsolescence cycles actively monitored.

These actions require policies, planning, training, and infrastructure to store and maintain the digital content. This extends to new tools harnessed by conservators and scientists used to research materials and techniques within and across collections. Outlined below are three main areas of focus for the cultural heritage field's digital research and practice, including current challenges and opportunities they present for greater understanding for cultural heritage, communities, scholars, and collecting institutions.

FOCUS AREA #1: Preservation of technology-based cultural heritage

For much of the 20th century, audiovisual media was the primary-source record of America's history and culture in literally moving ways. These resources hold content such as time-based media artworks, documentation of local and national events, music and dance performances, oral histories, and more.

Physical magnetic media (video and audiotape) was never intended as a preservation medium given its chemical instability and short life expectancy (10-45 years). For the content to endure, the media must be digitized. The resulting digital video and audio files can be large and complex, requiring more maintenance and data storage than most organizations or individuals can support. As a result, an alarming amount of analog audio and video, as well as born digital, content is being lost.

Today, all new audiovisual content created and deposited with cultural heritage organizations is already in digital formats. Organizations are struggling to manage and preserve this born-digital content, which is exponentially increasing given visual culture's reliance on digital content. Born-digital content requires a deep understanding of sometimes proprietary formats and the required playback software and hardware. Organizations often do not have the training or funds to maintain and preserve the proliferation of commercial formats. Museums receive Time-Based Media Art (TBMA), which encompasses video, audio, and code-based artworks. While they often focus on storing the bits, they may struggle to preserve the full integrity of complex works that can contain interdependent, closed file formats and customized code in obsolete frameworks.

Challenges

→ Appraisal and selection of deteriorating analog audiovisual content to be digitized

Digitizing analog material, which can require specialized equipment, expertise, and large data storage capacity can be overwhelming. Digitization then creates new "born-digital" assets that must be managed and preserved. The [CLIR-administered "Recordings at Risk" program](#), the National Endowment for the Humanities' (NEH) occasional special focus on audiovisual preservation in its Preservation and Access grants, and the [American Archive for Public Broadcasting](#) have helped organizations preserve their analog audio and video recordings, but there is much more at risk.

→ **Insufficient data storage and migration**

Organizations often have too much data to store and manage properly, especially organizations with digital video and audio in their collections. While an organization's image and document files could use 5 TB of storage, their audio and video files can reach 100 TB and more, even though the number of time-based files are fewer than the static files. Digital objects may be stored on detachable media (e.g., external hard drives and LTO data tape) or on-premises servers. These storage media must be refreshed to newer media over time, requiring careful data management during the migration to ensure all files are migrated without bit loss. Storing the data in a cloud service negates the need to migrate storage media on-premises but has cost and management issues. In addition, storing and maintaining digital content has a direct impact on the environment through server energy use; e-waste resulting from refreshing storage media; and the depletion of rare earth materials in the manufacture of digital storage media.

→ **Digital preservation limitations**

Digital objects' formats, video codecs, and underlying frameworks and code can become obsolete over time. Many organizations lack staff and/or infrastructure to perform basic digital preservation actions (e.g., bit health checks, format identification and obsolescence checks, format migrations). Digital preservation software to help manage these actions can be expensive or difficult to use and support internally. Museums that acquire digital art objects face unique preservation challenges, as even if the supporting software and operating systems required to use the digital artworks are retained, they can present a cybersecurity risk if connected to the internet while being displayed or used. If the formats or frameworks are migrated to currently supported formats, the artwork can be destroyed if the file interdependencies are broken. Finally, digital assets in collections need both content and technical descriptions, a rare practice today. More work should be done to consolidate digital asset and content management systems in cataloging systems.

Opportunities

→ **Consolidate digital preservation knowledge in a national online resource and enhanced [National Digital Stewardship Alliance \(NDSA\) Levels of Preservation framework](#)**

The key guidelines for preserving analog audiovisual media and digital objects are well-established yet distributed across various sources. Consolidating and disseminating this established knowledge and workflow as a permanent, national online resource that could reap significant benefits for cultural heritage. It should consider the varying infrastructure, skillsets, and funding levels found at cultural heritage institutions. It could be linked throughout to the Levels of Preservation framework established by NDSA, which includes an [assessment tool](#) and [digital curation guide](#).

→ **Increase digital preservation training focused on practical applications [Preserving digital Objects With Restricted Resources \(POWRR\)](#), with funding**

from the IMLS and NEH, provides digital preservation training to under-funded organizations. Yet, it is overwhelmed with applications to their Peer Assessment program and POWRR Institute. In addition, not all organizations are eligible or have staff able to commit the necessary time. The field should implement additional and diverse training opportunities that target recognizing and preserving complex digital objects.

→ **Establish cooperative data storage and e-waste recycling**

Establishing an affordable cooperative data storage/digital preservation program for institutions of all sizes would leverage economies of scale. Some programs such as Stanford University's [LOCKSS Program](#) exist, but do not scale to the hundreds of terabytes. [DuraCloud](#) offers cloud-based data storage and the basic digital preservation function of performing fixity (bit health) checks, but it can be expensive for storing large, time-based files. Any cooperative data storage/digital preservation program cannot be expensive, nor limited to academic research institutions, or it is [doomed to fail](#). A cooperative program for recycling e-waste should at minimum include guidance on what constitutes e-waste and how it can be responsibly recycled. Regional centers for recycling e-waste (including re-use, not just disposal) should be developed.

→ **Improve cataloging systems and standards for digital objects**

Create standards for describing digital objects that focus on technical metadata and format characteristics, not storage media that changes. Cataloging standards can use the [PREMIS Data Dictionary for Preservation Metadata](#) for inspiration. The field should work with library, archives, and museum collection management system vendors to incorporate item-level digital object description into their physical collection-based systems.

The Perfect Storm

[Appalshop](#) is an arts and cultural center located in the rural community of Whitesburg, Kentucky. Originally founded to train young people in film and television production, the organization produced a series of short documentaries in the early 1970's about Appalachia from residents' viewpoints, which were unlike the stereotypes projected by mainstream media. Film productions documented a range of people—union coal miners, moonshiners, seamstresses, Eastern Band Cherokee leaders, primitive Baptist church congregants—and social, economic, and environmental issues, such as youth unemployment, strip mining, and access to education. Over the next two decades, Appalshop grew into a multi-faceted arts center that included a music recording label, literary magazine, theater ensemble, community radio station, and youth media program.

Maintaining its close connections with communities represented in its collections, Appalshop holds the country's largest body of audiovisual documentation of central Appalachia and is a valuable resource to folklorists, anthropologists, labor historians, and other educators and scholars.

While some of Appalshop's obsolete media items have been preserved over the years, with source material and digital surrogates stored elsewhere, many more had not yet been transferred to contemporary, accessible formats when the waters of a [1,000-year flood breached Appalshop's](#) warehouse and climate-controlled archival vault in July 2022.

In the first several weeks following the disaster, an outpouring of volunteer support enabled staff to carry out a complex recovery effort to empty the contents from the storage areas and sort materials according to their needs. The film, video, and audio materials are now in various states of contamination and mold. Volunteers helped to clean some materials. The organization sent other materials to specialized film and video restoration facilities for cleaning as funding allows. Current estimates to clean and digitize all damaged materials are estimated at \$6 million, far above Appalshop's means. There will also be new costs associated with data storage, digital preservation, and storage of the physical archive.



Conservators Laura Pate, Tara Kennedy, and Mary Jablonski clean flood-damaged paper at Appalshop. Flood-damaged video cassettes removed from their cases to accelerate drying. Photos by Caroline Rubens.

FOCUS AREA #2: Sustainability of community-based archives

Community-based archives document the lives, histories, and cultures of a community, reflecting how that community defines itself. These independent collections contribute to the larger fabric of American cultural heritage, filling in gaps that traditional institutions do not cover. The archives can exist regionally and in an online environment, and often hold physical objects; digital representations of the physical objects (e.g., scans of photos, manuscripts, and images of physical items in a collection); and born-digital objects (e.g., images, oral histories, documentation of events).

Archival conferences are increasingly featuring dedicated streams or sessions on community archives, and traditional academic institutions' libraries are partnering on preservation and online access projects. Such recognition encourages more support through projects such as [POWRR](#) for digital preservation training and funding initiatives.

Challenges

While community archives face the same issues in digital preservation as their institutional colleagues, they also face the following challenges that further threaten communities' carefully documented histories and require particular focus:

→ Financial sustainability

Community-based archives tend to be supported by volunteers, individual donors, and sometimes local foundations and small or municipal granting agencies. It is difficult for these archives to secure and steward traditional government and large foundation grants to support their operations due to complex proposal requirements or some funders' reticence to award grants to entities who lack grants management infrastructures. In addition, many existing funding opportunities focus on restricted funds for project-based proposals, which makes it difficult for community archives to sustain essential, interrelated operations.

→ Inadequate data storage

Many community-based archives do not have an IT infrastructure for proper data management and storage. Files are stored on external hard drives, sometimes with a second copy for redundancy, and oftentimes dangerously old.

→ Online presence vs. preservation

As many community-based archives do not have staffing or infrastructure to perform digital preservation actions, they often rely on online platforms such as Facebook or Instagram as a cloud-based preservation substitute. Conversely, some archives resist the external push to place content online, respecting community desires to hold some information private and local.

Opportunities

Community-based archives would benefit greatly from the realization of opportunities detailed above in relation to general conservation and preservation of digital heritage. In

addition, the below opportunities specific to these unique collections would further safeguard their future.

→ **Increase and diversify funding for community-based archives**

The Institute of Museum and Library Services (IMLS) and the Andrew W. Mellon Foundation have provided substantial support for community-based archives through direct funding or partnerships with libraries and information studies departments at universities. The [NEH Preservation Assistance Grants for Smaller Institutions](#) is a long-standing program that helps smaller organizations hire a consultant to provide a preservation roadmap. It would be helpful to expand this funding to include a level of general operating support and to complete recommended work.

→ **Create a multi-funder regranting initiative**

As some foundations find it administratively more onerous to award small grants to small organizations than large grants to established organizations, a regranting agency could be developed to receive and award funds, as well as manage the grants' lifecycles. The regranting body should include representation from community archives.

→ **Develop a national online resource/network of community-based archives**

Developing an online resource where users can search for archives in a region or find collections on a particular subject, would raise the visibility and utility of these archives. Increased awareness and use will demonstrate value to potential funders. The [Community Archives Collaborative](#) project, funded by the National Historic Publications and Records Commission (NHPRC), has begun compiling a list of community archives. While it is not publicly available at the time of this writing, the list could be a starting point for a registry.

→ **Support an open-source content management system**

The NEH, IMLS, Mellon Foundation, and the National Science Foundation (NSF) have funded [Mukurtu](#), an open-source content management system focused on tribal collections. Some community archives have also adopted the system; however, it requires an IT professional to install and maintain the system, which many archives cannot afford. It would be beneficial to explore a cooperative, software-as-a-service (SaaS) instance of Mukurtu or other platform designed for community-based archives.

Focus Area #3: Expanding collections-based knowledge creation

Conservation research has begun to embrace emerging tools and methods that allow for the investigation of entire collections, within and across institutions. This type of research can unveil patterns relating to artist/maker techniques and regional practices rather than focusing solely on in-depth analysis of singular objects. Such information has the potential to put substance to the premise that world cultures are interwoven and interconnected, today and over the course of history. Existing digital humanities projects already show the potential for turning collection-based data into new scholarly assets,

including [PhotoGrammar](#), [Closer to Van Eyck](#), and [Tipped-In Photographic Prints from Early Photography Manuals](#). Building on this promise will require the adaption of methodologies derived from emerging fields including data science and artificial intelligence.

Major projects undertaken in the past decade represent the need for reliable platforms to aggregate, preserve, and access collections-based data. Two significant projects include [ResearchSpace](#), initiated by the Mellon Foundation and the London National Museums, and The Getty Conservation Institute's [DISCO \(Data Integration for Conservation Science\)](#). To ensure that repeatable and interoperable techniques are widely available across the cultural heritage field, a data pipeline—from an object's first measurement to the assembly of large-scale datasets, storage, visualization, and engagement—needs to be established.

Challenges

→ Inadequate data collection and retention

Traditionally, materials-based characterization is focused on singularly important objects, largely driven by popular or curatorial interest. This bias influences data generation and retention strategies, favoring deep inquiry on a smaller number of objects instead of the development of data systems that make entire collections legible and comparable with each other. An additional challenge for collections-based knowledge creation is that new methods for characterizing materials, including multi- and hyperspectral imaging, elemental scanning, and texture mapping, create vast datasets that stress existing asset management strategies.

→ Expensive, proprietary instrumentation

The instrumentation used to characterize culture heritage collections often inhibit meaningful exchanges and large-scale data analytics. Instruments are proprietary, expensive, difficult to learn, and produce data that are not FAIR (Findable, Accessible, Interoperable, Reusable).

→ Field capacity and misaligned professional incentives

Data-driven projects deriving from collections are intrinsically multi-disciplinary and thus challenge existing professional reward structures for humanities-based researchers. In addition, the realm of conservation science holds few entry points for professionals without a background in chemistry. Engineers and data scientists are needed, but incentives and positions are lacking. The result is an acute shortage in technical expertise across a variety of domains, including data engineering, statistics, machine learning, software engineering, data visualization, and user interface design. Much of the analytical value of cultural collections data is currently inaccessible to the field.

→ Database limitations

Cataloguing practices and existing collection catalogue databases are geared toward discovery of single objects and not for the patterns that link objects. These systems, largely designed by profit-driven private enterprises, inhibit sharing of data at scale. A notable exception is the Art Institute of Chicago's data hub and open access API initiative.

Opportunities

→ **Maximize existing opportunities for collection-scale inquiry**

Organizations can reconceptualize everyday encounters with objects to increase data collection for large-scale inquiry. For example, when photographed under conditions according to prevailing standards, collection-scale imaging can be used to assess condition and other material attributes.

→ **Collaborate in creation of new instruments**

Work with partners to create new instruments for data collection and analysis that offer simpler functionality and lower price and operability thresholds. Ensure, to the extent possible, that resulting data outputs are open source and FAIR.

→ **Prioritize accessibility**

To encourage inclusive data sets and opportunities for knowledge creation, efforts around instrumentation, research platforms, and databases should prioritize accessibility. This includes a focus on mobile instrumentation; remote learning instruction; crowd sourcing for amassing data in under-resourced institutions; and centralized, community-driven, research platforms for shared data storage, analysis, and visualization that adhere to open science principles.

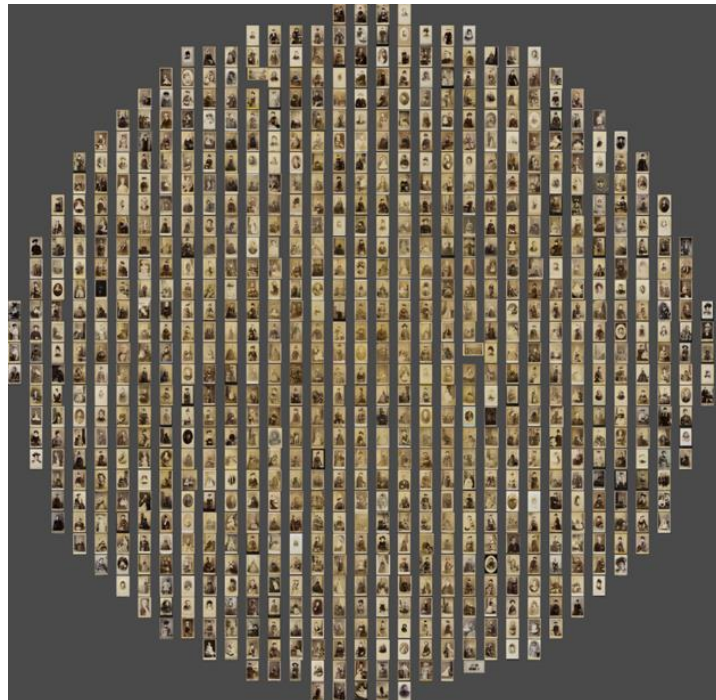
→ **Improve field capacity**

Advocate for the fair attribution of credit for collaborative work that spans disciplines to encourage ongoing knowledge creation with these new tools and methods. Partnerships and programs can be built to create entry points in the cultural heritage sector for a broader base of scientists, including engineers; data scientists; and imaging specialists, that can help build next-generation tools and architect novel data pipelines. Forging strong connections between materials-based research and questions emerging in the humanities will increase understanding of the significance of these new tools.

Seeing at Scale

The [Lens Media Lab](#) at Yale University is developing methodologies to study materiality within and across large collections. Reliant on computer vision and data visualization, this work can reveal broad patterns as well as material differences that can be difficult to detect by the eye alone, such as variations in surface texture or color. This work can infuse an artwork's disembodied digital image with an objective rendering of its materiality, enabling image- and object-based comparisons across geographically separated collections.

For example, the Lab has developed a computational method for classifying 19th-century photographs by condition, using color-calibrated images. The method is modelled after conservator expertise for recognizing indications of deterioration, such as staining and loss of contrast. As shown in the illustration, the automated tool produces plausible results that can be produced in a matter of seconds.



One thousand 19th-century cartes de visite photographs automatically sorted by condition, with better condition toward the edge and objects in poorer condition toward the center. Automating certain collection-scale task, such as condition assessment, can make preservation planning more incisive by identifying and quantifying certain types of preservation problems. Photo credit: Lens Media Lab, Yale University

Reproducible and replicable, such methods can help conservators, curators, and collection managers understand the relative condition of their collections and assist institutions at every level, including under-resourced collections, in identifying preservation strengths, weaknesses, and priorities.

Harnessing the potential of machine learning, data science, and artificial intelligence will greatly enhance insight into collections by allowing work at previously unimagined scales; however, it will not serve as a substitute for subject matter expertise.

GOALS

A wide body of knowledge exists that explores the three areas of focus described above (see also Appendix II: Bibliography). What is desperately needed now is action, which requires expanded funding and coordinated efforts. Outlined below are four strategic goals that align with the primary focus areas and the actions the field can take in the short, medium, and long term to advance the state of digital preservation and research for cultural heritage.

GOAL #1: Define and communicate frameworks, standards, and benchmarks to guide the preservation of technology-based cultural heritage

FOCUS AREA #1: Preservation of technology-based cultural heritage

While there is a growing body of research, action, and advocacy around the preservation of technology-based cultural heritage, many organizations are working through the related challenges and opportunities in silos. The establishment of clear frameworks, standards, and benchmarks for the preservation of analog and digital content that are accessible to collections regardless of size, location, and available resources will streamline this work and encourage collaboration across the field. These frameworks would include an expansive definition of “collection” reaching across museums, libraries, archives, and community-based organizations. They would aggregate and build on existing partnerships and resources.

Guidance should range from realistic guidelines on what materials can and should be saved to methods and benchmarks for the assessment of various cloud storage strategies, including environmental impact. To facilitate access and widespread adoption, this knowledge should be hosted as a free, centralized, online resource.

Timeframe	Outcomes
Short term 2023-2024	• Identify host for centralized online resources for digital preservation. To maximize visibility, this would ideally be a high-profile federal agency, such as the Library of Congress. • Initiate development of a consolidated resource for digital preservation knowledge that encompasses the diversity of disciplines, collections, and internal capacities. • Secure multi-year grant funding for the development of centralized resources and advocate for agencies to increase funding for analog audiovisual preservation.
Mid term 2024-2027	• Funding for audiovisual preservation has been increased and continues. • A stable and affordable cooperative data storage and digital preservation program is established.

Long term 2027 onward	The cooperative data storage and digital preservation program is stable and operating smoothly.
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GOAL #2: Innovate and foster new modes of collections-based knowledge
FOCUS AREA #3: Expanding collections-based knowledge creation

To realize the full potential of collections-based knowledge and cooperative preservation methodologies, the field needs to enlarge the concept of conservation research to encompass large-scale, collection-level research within and across institutions. It needs to create data pipelines that support this work, including new analytical equipment; methods for structuring, analyzing, and visualizing results; and open source/ open science tools that ensure FAIR cultural heritage data. Inherently interdisciplinary, this work has the potential to demonstrate the meaning and value of collections to broader ranges of disciplines and communities.

Timeframe	Outcomes
Short term 2023-2024	- Begin conversations with appropriate vendors on incorporating descriptions of digital objects into their collection management systems. - Convene a working group to understand and communicate “lessons learned” and suggest paths forward from previous initiatives to develop cross-collection data sharing. - Convene a working group to better understand motivations, reward structures, and barriers for working across disciplines, and to create recommendations for assigning equitable credit and authorship. - Design and pilot projects around the theme of “collections as datasets,” led by diverse partners that cross disciplines and collections. - Design and pilot projects that examine data outputs of typically used instruments (i.e., handheld, XRF, microfade testers) and suggest accessible alternative formats that are both human and machine readable. - Secure multi-year funding for working group honoraria and to support collections-based knowledge pilot programs.
Mid term 2024-2027	- Assess collections-based knowledge pilot programs and build on successes and opportunities. - Advocate for the establishment and funding of new staff positions and fellowships within collecting institutions that are focused on material-collections data, both in terms of integration and new

	research initiatives. These positions would encourage the participation of fields not normally in-house at cultural heritage organizations, such as computer scientists, engineers, data scientists.
Long term 2027 onward	• Collections- and materials-based data streams are widely available, adhering to open source and open science principles. • Multi-disciplinary, collections-based research positions and fellowships are increasingly conventional, modeling new ways for collections to demonstrate how material and natural histories connect cultures and societies.

GOAL #3: Build partnerships to lower costs and environmental impacts

FOCUS AREA #1: Preservation of technology-based cultural heritage

Building partnerships across the cultural heritage field, as well as with allied fields and for-profit ventures, would help lower costs and environmental impacts related to digital research and practice. Cooperative, non-proprietary, trusted digital repositories are needed for collections of every scale and origin. Such ventures should be designed to ensure equitable access across communities and to be environmentally sustainable, with transparent reporting of human and environmental costs.

Timeframe	Outcomes
Short term 2023-2024	• Identify task force and leadership for establishing key partnerships. • Meet with potential vendors for regional e-waste facilities and recycle-by-use exchanges. • Develop guidelines on e-waste disposal for cultural heritage organizations, large and small. • Secure multi-year funding for the assessment, development, and piloting of key partnerships.
Mid term 2024-2027	• Pilot affordable, accessible cooperative data storage and asset management options, with a lower environmental impact. • Establish stable, secure, and affordable cooperative data storage and asset management options.
Long term 2027 onward	• Establish national network of regional e-waste facilities and recycle-by-use exchanges. Locations and requirements included in centralized resource described in Goal #1. • Cooperative data storage program is stable and operating smoothly with a broad and diverse constituency.

GOAL #4: Advocate for and build sustainability of community-based archives
FOCUS AREA #2: Sustainability of community-based archives

While community-based archives will benefit from progress towards the other three goals outlined above, there are specific actions the field can take to increase their sustainability and the preservation of their technology-based cultural heritage.

Timeframe	Outcomes
Short term 2023-2024	• Encourage potential funders to establish programs for general support of community-based archives. • Advocate for the creation of a significant regranteeing program to streamline funding of community-based archives. • Create accessible, centralized directory of community-based archives. • Raise awareness of the cultural value of local, regional, and online community archives.
Mid term 2024-2027	• Ensure community-based archives are aware of and encouraged to use newly established, centralized online resources for digital preservation (see Goal #1). • Launch a SaaS-based content management platform for community-based archives.
Long term 2027 onward	• Funding for community and non-traditional archives is mainstream. • Broader public awareness of the value of community-based archives achieved.

CONCLUSION

Digital research and practice within the cultural heritage preservation field is at a pivotal moment. The field must adapt to the preservation needs of technology-driven works of art, artifacts, and experiences. Meeting these challenges and securing these opportunities will require the reassessment of priorities within collecting institutions, focused and strategic investment from granting agencies and foundations, and increased collaboration across disciplines and through public-private partnerships. With coordinated, targeted effort, we will gain deeper knowledge of our shared cultural heritage and its preservation for future generations.

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The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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Diversity, Equity, Inclusion, Accessibility

Committee Co-chairs: Isra El-Beshir and Sarah Scaturro

INTRODUCTION

Our vast cultural treasures—tangible and intangible—can help foster a society where all of humanity is valued and thrives. Yet, today, multiple groups remain poorly represented within the conservation and preservation professions and within cultural heritage institution’s collections. Their stories are inadequately shared, while members of these cultures themselves remain underserved. Increasing diversity, equity, inclusion, and accessibility (DEIA) within cultural heritage preservation is a necessity for the field. We must increase focus on ensuring equity and justice for those who are doing the work, in the kind of work that is being done, and for the intended beneficiaries of the work.

The concept of *representation* runs throughout this entire report. As we refer to it, “representation” connotes diverse perspectives and identities *which are present and empowered* in the production, care, sharing, and engagement of all aspects of cultural heritage.

Advancing and sustaining DEIA within cultural heritage preservation and its engagement with stakeholders will affect every other pillar identified as critical to the field by the Held in Trust (HiT) initiative, from climate crises to communication and digital research and conservation. It demands our urgent and sustained action and offers some of the greatest rewards.

CRITICAL AREAS OF FOCUS

To understand the current state of DEIA across the field today and guide goals for the future, there are three primary areas of critical focus:

FOCUS AREA #1: Conservation stewardship in collaboration with creator communities

Conservators working with Indigenous and contemporary art in the 1980s began advocating for ways to involve diverse voices and local communities in the care and interpretation of collections. Following months of protests around racial inequity and social injustice sparked by the murder of George Floyd in May 2020, more cultural heritage institutions and professionals began to reexamine their relationship with the communities they serve, and how they interpret, care for, and share the stories of objects within collections.

Some museums, such as the [Museum of Anthropology at the University of British Columbia](#), the [National Museum of the American Indian](#), and the [Kluge-Ruhe Aboriginal Art Collection of the University of Virginia](#), have done this by inviting Indigenous curators

to take the lead in designing exhibits, rather than relying on their occasional input. [The Museum of Us](#) has done pioneering work by decolonizing its institution, recognizing the trauma of its colonial legacy and a need to rewrite its policies.

These institutions highlight the benefits and opportunities of engaging in work to establish collaboration as the standard model for the practice of conservation and preservation. Outlined below are the current challenges to this type of work for the field, as well as the opportunities that it can bring:

Challenges

→ **Prioritization of physical attributes of collections**

Overall, the conservation profession continues to prioritize the preservation of cultural property, specifically the physical attributes of an object rather than the intangible aspects (see Appendix II: Definitions) that may be associated with it.

→ **Transactional relationships in collaborative conservation work**

While consultation or collaboration with Indigenous communities by museums is now often considered standard practice as a part of conservation work, the collaborations can be one-off encounters with the sole goal of learning about materials and methods of construction for the treatments at hand or for eliciting suggestions of treatment. There is a growing realization that relationships need to be long-term, non-transactional, and built on trust and empathy.

Opportunities

→ **Encourage a more people-centered approach to cultural heritage conservation**

[AIC's Code of Ethics](#) calls on conservation professionals to be “governed by an informed respect for the cultural property, its unique character and significance, and the people or person who created it” and to “promote an awareness and understanding of conservation through open communication with allied professionals and the public.” A revised code should more explicitly reflect a profession that centers people, not things.

→ **Develop and advocate for new models of collaboration with creator communities**

Conservators working with contemporary art have long understood the importance of working with and learning from living artists to develop preservation strategies. The field can build on this work and other resources, such as those developed by Voices in Contemporary Art (VoCA), to develop new models of collaboration with creator communities (see also HiT report “Engagement, Communication, and Storytelling”). Institutions such as the National Museum of the American Indian (NMAI) and School for Advanced Research and conservators such as Miriam Clavir, Nancy Odegaard, and Ellen Pearlstein have paved the way in streamlining and codifying poly-vocal approaches and practices in conservation. Sharing such case studies will highlight that these relationships should be equally bilateral. Emphasis needs to be placed on prioritizing the wishes of stakeholders on the fate of collection

pieces, even if they do not align with preservation training. Regular engagement with Indigenous communities in forums such as The Association of Tribal Archives, Libraries, & Museums provide accessible opportunities to initiate and strengthen relationships among museum professionals.

FOCUS AREA #2: Inclusive engagement with diverse communities

In addition to ensuring the voices of creator communities are prominent in cultural heritage preservation work, preservation professionals and organizations have work to do to ensure they are engaging the diverse communities around them to share the importance of the cultural heritage being displayed and preserved (see also HIT's report "Engagement, Communication, and Storytelling").

Historically, the majority of in-person conservation outreach and interpretation activities utilized by organizations have not been inclusive. These include:

- Lab tours—Behind-the-scenes lab tours are frequently utilized as cultivation tools for prospective and current donors (The Heritage Health Index Report on American Art Collections 2006, Chapter 9).
- Exhibitions—Conservation-based interpretive materials have been included in some exhibitions. While successful at engaging wider audiences, they are infrequent. Exhibits may also require an admission fee or take place in environments that feel unwelcoming to marginalized groups.
- Visible conservation labs—Custom-built labs allow visitors to watch conservators work (e.g., the Smithsonian Lunder Conservation Center, conservation windows at the Museum of Fine Arts Boston etc.). Such spaces are only available to well-resourced organizations. Participation hinges on attendance that may require a fee and transportation. In-situ outreach strategies (e.g., in gallery conservation work at museums) are also dependent on adequate resources for staff, portable equipment, and viable workspaces.
- Conservation clinics—Visitors bring objects in for a conservation assessment with a professional. These opportunities are often limited to a small number of privileged participants and have not been widely adopted.

By working across internal and institutional silos and collaboratively with other cultural heritage professionals, organizations, and allied fields, there is significant opportunity to increase engagement with diverse local and stakeholder communities. Summarized below are the challenges to this work and the opportunities such engagement can bring.

Challenges

→ Inconsistent inclusive community engagement activities by cultural heritage preservation professionals

Some institutions have recognized and are confronting their problematic histories of collecting and exclusionary interpretive practices; however, institutions often work as isolated units and further research is needed to better understand the effects of these initiatives.

→ **DEAI efforts rely on volunteer efforts**

The reliance on volunteer efforts puts an additional burden on marginalized groups who must expend extra time and energy to improve their working conditions. This usually occurs without appropriate compensation.

→ **Inadequate training in community engagement**

Preservation professionals often lack sufficient training in community engagement, as well as experience for intercultural competence.

Opportunities

→ **Encourage collaborations between conservators and curators on exhibitions of cultural heritage**

Given the collaborative nature of exhibition work and the intimate relationships between conservators and collections, joint initiative exhibitions with conservators serving as liaisons to both creator and surrounding community members offer unique opportunities for the prioritization of diverse voices and perspectives in the interpretation of objects.

→ **Identify successful engagement strategies for diverse communities**

While we know that certain outreach and interpretation strategies listed above are inherently exclusive, there are other opportunities such as conservation and curatorial exhibition collaborations that have a broader potential. Recent digital outreach initiatives (e.g., blogs, podcasts, videos, etc.) have become one of the most popular mediums for conveying conservation interpretive content to the public and directly interacting with local communities. With targeted research, the field can identify more clearly the audiences engaged by these platforms and the efficacy of the strategies.

→ **Collect and share successful case studies**

AIC has been sharing successful case studies and helping to connect institutions with individuals working on improving caretaking and interpretation. A larger group of institutions working together can expand this work and include actionable measures in a free, central repository.

Community, Conservation, and Connection

The [Anacostia Community Museum](#) (ACM) is the Smithsonian's direct link to Greater Washington D.C. The Museum shares the untold, and often overlooked, stories of people furthest from opportunity in the region. A recent project involving conservation and community collaboration is the preservation of ACM's photographically illustrated quilts. ACM's conservators have been in ongoing consultation with the Daughters of Dorcas & Sons, a Washington, D.C.-based African American quilting guild, to learn more about the techniques and materials used in this unique collection. ACM staff have visited the guild during their "quilting bee" sessions, and guild members have visited ACM to spend time with the quilt collection and share their experiences through oral history. The partners are planning a broader community engagement day that will focus on the creation and preservation of the quilts.

FOCUS AREA #3: Recruitment and retention within the cultural heritage preservation field

The cultural heritage preservation field is currently predominantly white, female, and upper-middle-class, with entry into the field largely influenced by one's networks (<https://mellon.org/programs/arts-and-culture/art-museum-staff-demographic-survey/>).

There is a general lack of understanding or consideration of one's *intersectionality*, a factor that significantly impacts how one enters and experiences the field.

Intersectionality is "the complex, cumulative way in which the effects of multiple forms of discrimination (such as racism, sexism, and classism) combine, overlap, or intersect especially in the experiences of marginalized individuals or groups"

(https://www.cjr.org/language_corner/intersectionality.php).

AIC conservators are approximately 85% white, 77% female, 71% able-bodied, and 75% university educated (<https://www.culturalheritage.org/publications/online-publications/survey-reports>). This is compared to the U.S. demographics from the 2020 Census of 72% white, 51% female, 74% without a disability, and 37% college graduates. These gaps in representation between the cultural heritage field as compared to U.S. demographics represent opportunities for more intentional recruitment and retention.

The cultural heritage preservation field needs to look closely at its pathways to entry, as well as assess whether it is accessible and welcoming to people from a wide variety of backgrounds and circumstances interested in pursuing and advancing a career in the field. In doing so, it can address recruitment and retention barriers, systemic racism within collecting institutions, and expand the definition of the field to emphasize cultural preservation and collections care as much as it does conservation treatment (see Focus Area #1 above). The field of cultural heritage preservation should aim to have its constitutive make-up match the demographics of the nation, with the concepts of intersectionality and empowerment centering efforts.

Challenges

→ Lack of effective recruitment and retainment efforts for students and professionals from diverse backgrounds

The field currently lacks broad or consistent efforts to recruit students or retain professionals from diverse communities. It also has not established widely the qualitative and quantitative metrics to determine the effectiveness of recruiting and retainment efforts.

→ Job instability and insufficient compensation

Many cultural heritage preservation positions are short-term or contract positions, creating job instability and inadequate benefits. These positions create further stress as professionals need to relocate repeatedly for jobs and internships. For permanent positions at cultural heritage organizations, many non-profits do not have the resources to compensate preservation professionals sufficiently to support a household.

→ **Unwelcoming work culture**

An unwelcoming work culture manifests both in the expectation of staff from under-represented groups to assimilate into a culture influenced by white supremacy and in unrealistic work/life balance expectations, where the anticipated standard is that work is prioritized over other areas of life.

→ **Inaccessible entry points and professional development**

Many positions require a graduate degree, which also frequently require relocation and unpaid internships. Both requirements are exclusionary to those without sufficient resources, among other barriers. Many conferences remain out of reach financially and geographically to preservation professionals, which can be particularly detrimental to emerging professionals working to advance their careers and secure higher paying, more stable positions.



Beth Edelstein, Head of Objects Conservation at the Cleveland Museum of Art, demonstrates to Cleveland-area high-school students how ultra-violet light can reveal information about an object's past life.

Opportunities

→ **Expand opportunities to learn about careers in cultural heritage preservation before entering the field**

There are a variety of partners that could be engaged in this work, from high schools, colleges, community colleges, and universities to youth organizations, job-training programs, and cultural heritage nonprofits. These partnerships could also have additional benefits around community engagement and advocacy long term.

→ **Implement admission requirements that encourage diverse applicants to college, graduate, or non-degree granting programs in cultural heritage preservation**

Some programs have already begun to make changes to their admissions requirements. Working with those programs to see what has been effective and could be built upon and shared broadly would make a significant impact in working towards a cultural heritage preservation workforce that more closely mirrors the U.S. adult demographics overall.

→ **Increase and diversify funding of internships and positions**

With better data about the obstacles to pursuing or maintaining a career in cultural heritage preservation, organizations and field-wide associations can better advocate for increased financial support from a broader range of funders to help address some of the identified obstacles.

→ **Improve job satisfaction and stability**

Increase the number of permanent jobs with comprehensive benefits (e.g., health care, retirement, sick leave, family leave, etc.) that allows a person to support a household without relocating frequently. Roles should prioritize balance between work and personal life.

→ **Leverage digital platforms to increase professional development opportunities**

The increased use of online and virtual experiences since the onset of the Covid pandemic in 2020 has led to more widespread use of digital platforms for conferences and other professional development opportunities and meetings. Whether all digital or hybrid, the field should continue to encourage these alternate access points that have lower barriers to entry, as well as ensure they are employing best practices for successful and welcoming digital programs.

→ **Encourage and train conservators for leadership positions**

Conservators that take on leadership roles outside of their specific field or area of expertise will give those in the field a voice to influence high-level decision-making that directly affects jobs, culture, interpretation, and caretaking.

STRATEGIC GOALS

The field lacks substantive, current data across the three primary focus areas for diversity, equity, inclusion, and accessibility within the cultural heritage field. Improving analytical intelligence will help drive action, advocacy, resource allocation, and funding. This deep investigation will help the field today and set the foundation for its future growth and resilience. Additionally, the field would benefit from an in-depth root cause analysis that identifies all of the contributing factors to the inequities outlined in this and the other HiT reports. Outlined below are three specific goals for the field to pursue that align with the above primary focus areas and the actions the field can take in the short, medium, and long term to advance DEIA and shift power in the field.

GOAL #1: Reconnect communities with their objects and incorporate community-based knowledge

FOCUS AREA #1: Conservation stewardship in collaboration with creator communities

Many institutions and individual practitioners in the field are making a concerted effort at prioritizing inclusivity and modifying their practices; however, the work is often done in isolation as opposed to endemic to the field. To achieve this goal, the field needs to invest in training and resources to support and require poly-vocal practices in conservation. These resources should be developed in consultation with members of the related communities.

Timeframe	Outcomes
Short term 2023-2024	• Design and make freely available a toolkit as a reference for cultural heritage preservation professionals, organizations, and community stakeholders to collaboratively care for cultural heritage in all communities. • Identify and address health and safety/hazards associated with museum collections, such as past pesticide use. • Identify and centralize resources to help organizations of all sizes assess their interpretive strategies around objects with problematic histories. • Revise AIC Code of Ethics to underscore a people-centered approach to conservation and preservation.
Mid term 2024-2027	• Revisit and revise the toolkit on an ongoing and reflective basis.
Long term 2027 onward	• Secure funding for programs that put the money for the care of collections in the hands of the communities that hold the heritage.

GOAL #2: Engage local and stakeholder communities with cultural heritage and preservation in inclusive ways

FOCUS AREA #2: Inclusive engagement with diverse communities

Historically, the preservation or conservation of cultural heritage was not something expressly highlighted for visitors. The field has recognized the limitations of this approach and has engaged various strategies to help raise awareness of the critical importance of its work. To date these efforts have often been exclusionary or sporadic. By engaging more diverse communities with our work, we encourage a deeper connection to our cultural heritage and encourage communities' participation in its preservation.

Timeframe	Outcomes
Short term 2023-2024	• Conduct surveys in various regions of the U.S. and with a range of cultural heritage organizations to understand the interpretive resources and methods being used to engage stakeholder communities and their efficacy. • Use survey findings to report successful case studies and to highlight the importance of these actions to larger institutions/funding bodies. • Create opportunities for community feedback, which could take the form of open-listening sessions and inclusion or consultation in board meetings. • Create non-judgmental opportunities for discussion amongst conservators, stakeholders, collaborators from other fields, and institutions around complex and sensitive topics, including diversity, ethics, and collections care sensitivities. • Secure grant funding for research firms to conduct the surveys.
Mid term 2024-2027	• Advocate for resources, including funding and staff, dedicated to community engagement and relationship building with stakeholders and local communities. • Provide more training opportunities for conservators, including private practitioners and students, on how best to engage with local and stakeholder communities.
Long term 2027 onward	• Establish partnerships to increase DEIA recruitment.

GOAL #3: Cultivate more equitable, diverse, and inclusive recruitment, advancement, and work environments

FOCUS AREA #3: Recruitment and retention within the cultural heritage preservation field

Before new strategies in recruitment and retainment can be implemented, the field needs to gain a data-based, nuanced understanding of current strategies, successes, and obstacles. By gathering data in a systematic way, the field will have the analytical intelligence needed to design effective practices and to advocate with funders and partners for resources and change. See also HIT report “Education, Professional Development, and Leadership.”

Timeframe	Outcomes
Short term 2023-2024	• Conduct several surveys via a third-party research firm: • Understand how many organizations employ recruitment strategies to increase DEIA when hiring conservators, what are the strategies employed, and their effectiveness. • Understand what pre-career recruitment strategies are being used at public and private university programs and their effectiveness. • Gather data from current conservation program applicants and students to better understand their background and feedback on application process. • Gather data on current conservators' path into and during their career to help identify points of exclusion/obstacles. • Survey current conservators and preservation professionals to understand their perception of their work environment (e.g., work/life balance, compensation, organizational structures, workplace culture, etc.). • Secure funding for research firm to conduct the surveys.
Mid term 2024-2027	• Publish findings from surveys on free and accessible platforms and present findings at appropriate events/conferences. • Identify actionable areas and initiatives to improve recruitment and retainment towards a more diverse, equitable, inclusive, and accessible workplace and establish partnerships when productive. • Advocate for better job stability and work/life balance. • Design and host opportunities for students from diverse backgrounds to learn about careers in cultural heritage preservation. • Build connections between funders, universities, colleges, community colleges, and cultural heritage organizations to implement these strategies.
Long term 2027 onward	• Establish new training pathways more broadly that allow for apprentice training, distance learning, and conservation certificates for trades that currently work in historic preservation. • Determine which of the above surveys should be repeated and on what cycle to ensure improvements to DEIA recruitment and retention are effective.

CONCLUSION

Committing to the goals and outcomes outlined above is imperative to preserving and sharing the remarkable diversity of human cultural achievement. It extends across and connects the communities, collections, professionals, and institutions engaged in and impacted by this work. The field has excellent examples on which to build, but will require leadership, training, and resources to truly enact change and foster deep connections with our local and global cultural heritage.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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APPENDIX II: DEFINITIONS FOR DIVERSITY, EQUITY, INCLUSION, ACCESS

These definitions derive from the [AIC Equity and Inclusion Committee Definitions](#), which in turn were taken from the Final report of the American Library Association Task Force on Equity, Diversity, and Inclusion (American Institute for Conservation, n.d.).

Accessibility—everyone can access (i.e., use, obtain, examine, engage, or retrieve) services, products, and events, with or without a disability. The emphasis is placed on proactive designs rather than reactive “fixes.”

Diversity—the sum of how people are both alike and different. Visible diversity is generally those attributes or characteristics that are external. However, diversity goes beyond the external to internal traits that we define as ‘invisible’ diversity. Invisible diversity includes those characteristics and attributes that are not readily seen. When we recognize, value, and embrace diversity, we are recognizing, valuing, and embracing the uniqueness of each individual.

Equity—is not the same as formal equality. Formal equality implies sameness. On the other hand, equity assumes difference and takes difference into account to ensure a fair process and, ultimately, a fair (or equitable) outcome. Equity recognizes that some groups were (and are) disadvantaged in accessing educational and employment opportunities and are, therefore, underrepresented or marginalized in many organizations and institutions. The effects of that exclusion often linger systemically within organizational policies, practices, and procedures. Equity, therefore, means increasing diversity by ameliorating the conditions of disadvantaged groups.

Inclusion—an environment in which all individuals are treated fairly and respectfully; are valued for their distinctive skills, experiences, and perspectives; have equal access to resources and opportunities and contribute fully to the organization’s success.

The following derives from the United Nations Educational, Scientific, and Cultural Organization (UNESCO).

Intangible—traditions or living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge, and practices concerning nature and the universe, or the knowledge and skills to produce traditional crafts
(<https://www.unesco.org/archives/multimedia/subject/13/intangible+heritage>, accessed 9 January 2023).

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Education, Professional Development, and Leadership

Committee Co-chairs: Valinda Carroll and Ellen Pearlstein

INTRODUCTION

The current state of education, professional development, and leadership within cultural heritage preservation influences every aspect of the field, beginning as early as exposure to and engagement with cultural heritage preservation for K-12 students through to mid-career development and the assumption of leadership roles for professionals. Given the range of needs these audiences encompass, the Education, Professional Development, and Leadership Working Group of the Held in Trust (HIT) initiative worked as three separate subcommittees with each focusing on one of these areas.

All three subcommittees found that while many different groups participate in cultural heritage conservation and preservation, they often experience varying levels of access to education, professional development, and leadership opportunities. In parallel, many of these groups are not aware of or have access to affordable or freely available offerings in these areas and lack resources to attend more costly offerings.

It is crucial that the field is attracting, welcoming, and educating diverse candidates for careers; that existing professionals have the training and tools they need to work in and advocate for cultural heritage in a changing world; and that community caretakers and allied professionals are empowered to collaborate in cultural heritage preservation in order to have a deep and long-lasting effect on the country's and the world's remarkably diverse cultural heritage. This report outlines the current state of education, professional development, and leadership, identifying areas of attention and goals for the field to pursue to ensure a robust and empowered workforce.

EDUCATION: CRITICAL AREAS OF FOCUS

The Education subcommittee defined its purview as early career development of future and emerging cultural heritage preservation workers, including K-12 learning; undergraduate and graduate courses, programs, and internships; and non-degree, pre-professional training programs. Non-degree training programs were also considered by the Professional Development subcommittee, but through the lens of offerings for individuals already working in the field.

Outlined below are three areas of focus concerning cultural heritage preservation education, including their related challenges and opportunities. It is important to emphasize that each of these areas suffers from inadequate or unstable financial resources, which constrain participation, growth, and impact.

FOCUS AREA #1: Early education around cultural heritage preservation

Raising awareness of the importance of cultural heritage preservation early and consistently in young people's education is critical both for advocacy efforts and for establishing a diverse population of students interested in pursuing a career in the field. This can be achieved through a variety of partnerships and curricula that begin in primary school and continue through undergraduate programs, with a focus on equitable access. Outlined below are the challenges the field faces in this area and key opportunities to pursue.

Challenge

→ Limited awareness of the value of cultural heritage and its preservation

Across the educational spectrum in the U.S., there is limited awareness of the value of cultural heritage and its preservation. Despite its capacity to reach across disciplines and into communities, cultural heritage preservation is not regularly incorporated in U.S. educational curricula from elementary school on to higher education.

Opportunity

→ Foster creative and inclusive learning ecosystems

Everyone has a connection to cultural heritage, and in the U.S., all youth are connected to K-12 schools. Working across the educational spectrum, the field can engage students at young ages with cultural heritage and the need to conserve and preserve it. This more intentional approach to education (e.g., building on Common Core synergies) would generate greater shared understanding for the value of cultural heritage and thus contribute toward building a public knowledge of conservation and preservation. In addition, by introducing all students to the field early in their education, there may develop a larger and more diverse pool of individuals interested in pursuing a career in cultural heritage preservation and a community designed to support them. This is an important step towards a field that is more accessible, inclusive, and equitable.

FOCUS AREA #2: Diversity, equity, inclusion, and accessibility

Diversity, equity, inclusion, and accessibility is a critical area of development for education in cultural heritage preservation. Currently, the field primarily recognizes formal graduate programs as primary pathways into the field (see also HIT report "Diversity, Equity, Inclusion, and Accessibility"). These educational systems and admissions processes have been traditionally exclusive in racist and ablest ways. By emphasizing legitimization through exclusionary degree programs with limited regional access, numerous potential professionals are shut out from pursuing a career in cultural heritage preservation. In addition, curricula at degree programs have struggled to foster

cultures of belonging as the majority have been slow to integrate training in intercultural competencies or to include a meaningful number of non-Western scholarship and resources. The field needs to expand its recognition of education and training pathways to include appropriate pre-graduate and non-degree offerings, including apprenticeships. It would also benefit from a root cause analysis to identify the systems of oppression leading to the lack of infrastructure, diversity, and public awareness of the cultural heritage field and profession.

Challenges

→ **Restricted access and entry into the preservation and conservation professions**

Many of the positions in the cultural heritage preservation field require a graduate degree. In some cases, these programs are expensive. They always require a major time commitment and often require relocation. These restrictions have adversely affected diversity within the field. Recent efforts to revise core competencies that can be used for hiring and professional advancement are applauded, yet they have not been applied equally to the hiring of those without the traditionally prioritized academic degrees.

→ **Inequitable access to graduate programs**

While graduate education remains the privileged pathway to the sector, applicant pools for graduate schools are not representative of U.S. demographics. Graduate and advanced training programs should further consider how exclusive admissions frameworks and practices ultimately limit the applicant pool regarding race, ethnicity, gender, socio-economic backgrounds, regional origin, etc. In addition, participation in pre-program opportunities is often looked upon favorably. Yet, funded pre-program opportunities are few (but increasing) and not regionally accessible. Current graduate program leaders are aware of these challenges and are striving to improve, but they are constrained by many key factors, not least of which is funding.

→ **Insufficient time and resources to revise curricula to include more non-Western scholarship and resources**

Many professors teaching in conservation and preservation graduate programs indicate that while they believe it is important to incorporate non-Western case studies and approaches equally, they do not have time to revise curricula amidst full teaching and research schedules. This can result in challenges for students drawn from cultures outside of Europe or the West.

Opportunities

→ **Develop robust introductory programs in every region**

Develop pipeline programs regionally throughout the U.S. to familiarize more high school and college students with conservation. These programs should include ongoing mentorship to assist students in work broadly in the arts and culture sector.

Broadening Awareness, Access, and Education

The Mellon Opportunity for Diversity in Conservation is a successful example of a pipeline program whose goals are not only to introduce unfamiliar and marginalized students to conservation of cultural heritage, but to do so no matter which career pathway they choose. Since 2018, the program has offered five cost-free summer workshops, after which participants are eligible to apply for a fully funded, ten-week pre-program internship. Workshops average 16 students annually, and every year, half of them are awarded fully funded internships. While five students have gone on to graduate school in conservation, others have entered graduate programs in Art History, Geology, Information Science, Museum Studies, and more. Still others have pursued conservation apprenticeships, collections management, and registrar work. All 80 students know about the ethical, technical, and scientific aspects of the field of conservation, a key success metric for the program.



*Mellon Opportunity for Diversity in Conservation at UCLA/Getty 2022 cohort.
Front left to right: Kisara Kizaki, Olivia Thanadabout, Zoey Nguyen, Fernanda MC Lorenzini, Maya Hernandez, Victoria Dimas
Back left to right: Imani Badillo, Christopher Martinez, Adriana Munoz, Jennifer Lee, Arianna Martinez, Andy Chen, Kaya Alim, Anna Fruman, Wunmi Akinlemibola, Keanna Flores, Natalie Mendez*

→ Develop a set of nationally recognized core competencies

While some disciplines, such as architecture and archives, have a certification process wherein core competencies are clearly defined, the conservation field does not. In fact, AIC members have consistently voted down such a process. Developing a nationally recognized set of core competencies would help advance greater access, diversity, and inclusion in the field. It would decrease reliance on a limited number of graduate-level education opportunities.

Evaluation of the recently updated conservation competencies by AIC can help to inform the establishment of such standards in the U.S.

→ **Implement a consortium to exchange resources supporting curricula on non-Western cultural heritage**

The existing exchange among the Association of North American Graduate Programs in Conservation (ANAGPIC) programs is a model and can be expanded to facilitate shared resources such as non-Western scholarship and voices.

FOCUS AREA #3: Coordination among conservation and allied professions

The heritage sector in the U.S. lacks a uniting agency or infrastructure supporting field advancement, mentoring, funding, cross-disciplinary and collaborative research, and international exchange. This has been recognized across all of the Working Group on Education, Professional Development, and Leadership's subcommittees, who found that education within museums, libraries, archives, built heritage, landscape, etc. thrives through interdisciplinarity and connections between allied professionals and communities. Outlined below are key challenges to this work and opportunities on which to build.

Challenge

→ **Lack of ownership in creating and maintaining a centralized and updated database of education opportunities**

A challenge is the identification of resources to create an agency or infrastructure that would oversee the creation and maintenance of a living database for preservation and conservation education opportunities, inclusive of students, emerging, and established professionals.

Opportunities

→ **Develop and maintain a database of education programs at all levels**

Use the AIC wiki to create and maintain an inclusive and living database for education and professional development opportunities across the preservation and conservation sectors. It should also include information on allied professional development opportunities available to those in the cultural heritage preservation field.

→ **Strengthen mentorship opportunities**

Mentoring promotes access, advancement, leadership, and professional community. Much can be gained by strengthening peer networks for mentoring students in conservation programs and as emerging professionals. Simultaneously, training opportunities for internship and fellowship supervisors need to be expanded so mentors feel prepared to serve.

PROFESSIONAL DEVELOPMENT: CRITICAL AREAS OF FOCUS

The Professional Development subcommittee defined its purview as education, training, and resources that can be utilized by anyone working in cultural heritage preservation who has already completed their entry-level education or experience. Those charged with the day-to-day care of collections or sites will likely benefit from a different pool of knowledge from those working on materials research or upper-level management. All will benefit from access to additional professional development and many of the sources or topics will overlap. This is confirmed in various other HIT reports, the majority of which list additional, free, or low-cost training as necessary for progress towards strategic goals.

Summarized below are three primary areas of focus for professional development in the field, including their related challenges and opportunities.

FOCUS AREA #1: Core competencies in preservation for continuing education and career development

The importance of rigorously implementing and recognizing core competencies was also noted by the Education sub-committee (as was AIC memberships' voting down their creation and implementation). If formed, this set of competencies should consider and extend to professional development. A set of recognized professional training requirements and free or low-cost programs to meet them would promote professionalization across all areas of cultural heritage preservation. Such a mandate for ongoing training tied to core competencies would encourage greater investment in professional development from institutions and funders.

Challenge

→ **Lack of nationally recognized standards to maintain certification**

In conservation, some practitioners have elected to follow the standards of the Canadian Association of Professional Conservators or the Institute of Conservation (ICON) to maintain certification as a conservator in Canada or the U.K.; however, there is no specific continuing education requirement for conservators in the U.S. Without transparent competency standards, it is difficult to ensure equitable compensation and employment opportunities. Graduate degrees serve as a proxy credential. Conservation technicians, student workers, and volunteers are often trained in a narrow range of skills that pertain to a specific project. Once the project is over, their employment mobility and professional advancement is hampered by the absence of standardized training/credentials.

Opportunities

→ **Implement annual review and certification of AIC's Essential Competencies**

AIC updated its Essential Competencies in 2021. AIC could implement an annual submission by members of a checklist of these Essential Competencies that they have enhanced through free or low-cost professional development opportunities

that year. This is proposed as a voluntary first step, as AIC membership has repeatedly voted down certification as noted. By year three this could become required within professional AIC membership categories, promoting national recognition.

→ **Core competencies for conservation technicians**

AIC should also revisit the core competencies for conservation technicians. This would help promote equitable compensation and a path for career advancement for experienced technicians, based upon standardized criteria.

FOCUS AREA #2: Access to professional development opportunities

Institutional context and professional roles impact a worker's ability to obtain funding or leave to pursue professional development opportunities. For example, conservators in private practice, hourly wage employees, and volunteer caretakers often lack access to paid research time or subsidized training programs.

Challenges

→ **Limited and fragmented data on professional development needs**

Without a central database or clearinghouse for information, it is difficult to assess the success of various professional development programs for cultural heritage preservation workers. Demographic information for professional development programs is lacking yet is presumed to mirror demographic trends in higher education regarding diversity, equity, access, and inclusion. Skilled trades in preservation have less exclusive barriers to entry, yet research is needed to determine whether workers in these fields have sufficient opportunities for career advancement as instructors, managers, and leaders.

→ **Lack of research on effects of gateways to accessing professional development**

There is currently limited or no research that assesses the ways in which registration costs, application processes, and geographic distribution affect access to professional development opportunities. For example, requiring letters of recommendation might perpetuate existing interpersonal networks among professionals, while excluding less well-connected practitioners. Travel costs associated with workshops may be prohibitive.

→ **Restrictive professional development funding**

Currently, professional development funding is primarily restricted to narrow categories of workers. For example, the National Endowment for the Humanities (NEH)-sponsored Foundation for Advancement in Conservation (FAIC) courses constitute the sole conservation-specific professional development fund that is not limited to a particular specialty or participant category. The Carolyn Rose Fund for Innovative Research is the only FAIC support for individual professional development that is completely unrestricted. There must be a path for professional development funding for all preservation workers, regardless of their specialization or employment category.

Opportunities

→ **Develop a centralized directory for professional development opportunities and related funding**

Creating a centralized resource list of professional development opportunities and funding options would also highlight areas of omission, providing essential data for advocating for program development and further funding. Such a list needs to be a living document.

→ **Support research travel and leave for those without institutional support**

It is essential to develop a range of funding opportunities to support research travel and leave for cultural heritage workers who do not have institutional support, such as conservators in private practice and conservation technicians. New funding programs with rolling deadlines will provide greater schedule flexibility and access for participants.

FOCUS AREA #3: Collaboration across all professional levels and related disciplines

Related to Focus Area #3 under Education, professional development is also constrained by a lack of collaboration. Preservation work is inherently interdisciplinary, yet professional silos often restrict access to continuing education opportunities. There is room for more interdisciplinary spaces where workers can train on issues related to conservation and preservation. Those serving different functions within the structure of historic and cultural resource care can benefit from learning in other disciplines targeted to their responsibilities. It is important to define skills and roles for specific deliverables independent of varying job titles.

Challenge

→ **Lack of centralized infrastructure for existing professional development documents**

The educational pathways and professional development opportunities in the cultural heritage sector divide specialists and practitioners. These workers often need to work together, speak a common language, and support each other's work. The lack of a centralized infrastructure for maintaining and providing access to legacy documents, created for example by the National Institute for Conservation and Heritage Preservation, creates a professional development gap and squanders exceptional past efforts.

Opportunities

→ **Build and maintain central, digital resource library for professional development documents**

AIC should commit to digitizing legacy documents, for example on technician and art handler training, and to making them readily and freely available.

→ **Establish sustainable funding for allied and interdisciplinary professional development**

Competitive funding should be made available for specialty group officers in AIC to apply for annually to provide interdisciplinary and affordable programming, for example architectural conservators and building trades; book conservators and book artists; carpenters and furniture conservators, etc. Further, annual professional development reporting suggested above should include a competency category obtained through interdisciplinary training. Funding should be provided to sustain proven interdisciplinary programs and projects, such as Alliance for Response and the Safety in Cultural Heritage Summit. Competitive funding should be made available to support conservation and preservation sessions and workshops at conferences and symposia of allied professional organizations. FAIC and regional conservation centers should support preservation programming for networks of community heritage caretakers from volunteer organizations. Additional skill-based professional development eligible for funding could include writing skills, grant writing, and advanced research skills (e.g., paleography).

Learning Together

The [Safety in Cultural Heritage Summit](#) is a successful interdisciplinary collaboration between the Washington Conservation Guild; the American Industrial Hygiene Association Potomac Section; the Smithsonian Institution's Lunder Conservation Center; National Collections Program; and Office of Safety, Health and Environmental Management. This annual program brings together professionals from the safety and industrial hygiene sectors with collection care professionals, including conservators, collection managers, curators, librarians, and archivists to explore areas of health and safety within the cultural heritage sector. This model could be replicated in other regions.

LEADERSHIP: CRITICAL AREAS OF FOCUS

The Leadership subcommittee focused on identifying what leadership means across different aspects of the heritage preservation sector and on examining the resources that are available or needed to promote leadership. Preservationists and conservators have specialized skills and knowledge that make unique contributions to important conversations in the sector, yet their leadership contributions are often not perceived as such or rewarded. Acknowledged leadership will help ensure those voices are heard and the needs of their profession are articulated. Outlined below are three critical areas of focus regarding leadership in the field, including current challenges and opportunities.

FOCUS AREA #1: Research and data collection

The cultural heritage sector largely lacks comprehensive data quantifying or qualifying the characteristics of its current leadership. With a clear, thoughtful assessment of

leadership in hand, actions can be taken to advance leadership for the field and for conservation professionals in their work.

Challenge

→ **Small and non-representative data sets on leadership**

AIC surveys capture some information from self-selected survey participants regarding the demographics of a portion of the membership who work in management positions. Based on the data that is available, it appears that there are very few conservators in leadership positions across the field and within the institutions where conservators work.

Opportunity

→ **Creating an inclusive definition of leadership in conservation**

The field can work together and with its partners to forge a definition of leadership that goes beyond traditional conservation management positions in large institutions or academic organizations. What should future leadership of the cultural heritage preservation field look like, as well as what should future leadership *within* the conservation field look like? A description should address the important issues affecting cultural heritage and its preservation, including sustainability, social and racial justice, diversity and equity, climate change, and innovation.

FOCUS AREA #2: Infrastructure

Museums, libraries, archives, other collecting institutions, architectural preservation, academia, small community cultural institutions, and other cultural heritage organizations work independently to advance leadership with varying success. Greater collaboration would expand leadership networks and underscore the possibilities and necessities of working across silos in general.

Challenge

→ **Lack of existing national infrastructure for leadership development for conservators**

The field currently lacks a robust national infrastructure to advance leadership for the cultural heritage sector broadly. As a result, there is little concrete data available regarding attainment, need, or development of leadership within conservation and preservation.

Opportunity

→ **Develop advisory to guide data collection**

A leadership advisory of current conservation and preservation leaders could be developed to advise about data collection in support of advancing cultural heritage leadership.

FOCUS AREA #3: Access, equitability, and perception in leadership development

There is an overall lack of access to and equitability in many leadership development opportunities, alongside a lack of understanding or acknowledgement of leadership already being displayed by preservation professionals. Barriers to participation include a lack of paid or unpaid time off to participate, little or no financial support for the costs of training, and minimal internal supervisory support for leadership training within organizations and businesses. Lack of acknowledgement also means that those exhibiting leadership are not incentivized.

Challenges

→ **Lack of leadership development programs designed by the field**

Most leadership development programs are provided by organizations that are not primarily engaged in preservation or conservation. For example, the Center for Curatorial Leadership focuses exclusively on leadership training for curators; the Museum Leadership Institute at Claremont Graduate University accepts conservators, but few participate. Institutional administrators do not accurately perceive what conservation leadership looks like when considering professional development opportunities to offer.

→ **Insufficient and inequitable funding for participation in leadership development opportunities**

Few resources are available for cultural heritage preservation workers to pay for time off, registration costs, or travel for leadership training.

Opportunities

→ **Develop leadership institute designed for conservation and preservation**

The development of a leadership institute for conservation and preservation, funded as a three-year pilot, could lead to the creation of train-the-trainers, self-help, and graduate education teaching that would strengthen leadership.

→ **Launch leadership mentorship program**

The development of a mentorship program where established conservation leaders mentor emerging leaders would also expand networks and potential partnerships.

→ **Create informational webinar for cultural heritage administrators on conservation leadership**

Create a 30-minute webinar for museum, library, archive, university, architectural administrators illustrating examples of leadership in our sector.

STRATEGIC GOALS

All three subcommittees reported on the challenges of an interdisciplinary field with broadly distributed participants whose educational and practical preparation, professional development, and leadership definitions and opportunities differ

significantly. Greater collaboration within and outside the field is necessary and desired. There is an overall concern that current education and professional pathways are not inclusive, preventing the participation of all those interested in pursuing and succeeding in a career in cultural heritage preservation. Given the interconnected nature of education, professional development, and leadership, the groups identified three overall strategic goals to focus the field's efforts on ensuring the current and next generations of cultural heritage preservation professionals are welcomed and empowered.

GOAL #1: Establish core competencies and benchmarks

Education Focus # 2: Diversity, equity, inclusion, and accessibility

Professional Development Focus #1: Core competencies in preservation for career development and continuing education

Leadership Focus #1: Research and data collection

A national consortium of cultural heritage organizations representing the varied constituencies who contribute to conservation and preservation is a crucial and missing component. AIC membership does not cover all professions within the broader cultural heritage preservation field. This body would be responsible for setting the core competencies (not formal educational pathways) related to entering the profession, as well as maintaining certification.

GOAL #2: Increase collaboration amongst preservation professionals and disciplines

Education Focus #3: Coordination among organizations within and beyond conservation

Professional Development Focus #3: Collaboration across all professional levels and related disciplines

Leadership Focus # 2: Infrastructure

All workers in cultural heritage preservation and allied disciplines must harmonize their efforts to develop and implement best practices in protection, treatment, and long-term care of the objects, collections, buildings, and sites that embody our historic and cultural memory. The cross-disciplinary nature of the field is one of its great strengths. It is also one of its greatest challenges, as the specific knowledge that is required by any individual working in one aspect of this pool may vary greatly from that required by others. By finding new ways to share skills and knowledge and activate community and teamwork, the field will be in a better position to address the current and new challenges facing cultural heritage preservation. National and regional consortia can promote collaborative projects and programs.

GOAL #3: Expanding access to education, professional development, and leadership opportunities

Education Focus #1: Early education around cultural heritage preservation

Education Focus 3: Diversity, equity, inclusion, and access

Professional Development Focus #2: Access to professional development information

Leadership Focus #3: Access and equitability in leadership development

While more research is needed to gain a detailed picture of which groups, regions, and specialties lack sufficient access to education, professional development, and leadership, existing data confirms overall, entrenched inequities that must be addressed for the growth and sustainability of the field.

Summarized below are recommended outcomes the field can pursue in the short-, mid-, and long-term to achieve these goals.

Timeframe	Outcomes
Short term 2023-2024	● Compile data and research on the following to create a detailed picture of the current state of education, professional development, and leadership in the field and to guide future development: ▪ Education and training achieved and desired by current practitioners in conservation and preservation ▪ Current professional development opportunities, including costs, regions, and recent participant demographics ▪ Regional clusters of preservation and conservation education and training in the U.S ▪ Existing preservation and conservation outreach, education, and training from K-12 to undergraduate and graduate programs ▪ Areas where U.S. Common Core and state academic standards can link to cultural heritage preservation ▪ Current participant demographics and career readiness of recent graduates of graduate degree and non-degree programs in conservation and preservation studies ● Digitize legacy documents about training and education produced by NiC and HP. ● Establish salary benchmarks for pre-paraprofessional and professional positions from new and existing surveys (AIC and American Alliance of Museums). ● Distribute via AIC a living, online resource list of pre-program, early career, professional development, and leadership opportunities gathered during above research. ● Collaborate with ANAGPIC to assess content of formal education programs and how best to help faculty broaden curricula to add non-Western case studies and address

	contemporary issues such as sustainability, diversity, and community engagement. • Convene a diverse group of cultural heritage professionals working in a variety of institutions to develop a definition of what leadership for cultural heritage preservation encompasses. • Expand existing leadership development programs to include conservators intentionally, as well as encourage cultural institutions to support their conservators' participation. • Strengthen AIC's leadership mentorship program that pairs established conservators with leadership experience with emerging professionals displaying leadership qualities. • Secure funding for above research, surveys, resources, and programming.
Mid term 2024-2027	• Collaborate with the NEH and Department of Education to create a national profile for cultural heritage education and offer professional development workshops for educators on cultural heritage preservation. • Identify partnerships for new education opportunities in regions the above research showed had few pre-program or early career opportunities in cultural heritage preservation. • Advocate with funders for long-term investment in the areas of need identified through the above research on education and professional and leadership development. • Collaborate with federal and state agencies to expand access to professional development opportunities for cultural heritage (e.g., support for internet capabilities and transit to access workshops, etc.). • AIC and regional conservation organizations partner with allied professional organizations to develop more interdisciplinary connection opportunities. • Create a communication strategy to share the ways in which the interdisciplinary conservation field can lead to innovative and sustainable solutions/suggestions to complex challenges, raising the profile of preservation workers as leaders.
Long term 2027 onward	• Develop a national infrastructure—agency and resources—to operationalize on opportunities needed in all three areas. • Cultivate networks for emerging conservators within other areas of cultural heritage (via AAM, American Library Association, historic preservation groups, etc.) and with international students to broaden collaborations.

	• Continue to advocate for, identify, and develop funding sources and long-term strategies to ensure the financial stability of education, professional development, and leadership opportunities within the field. • Survey field to see if demographics within education, professional development, and leadership have become more diverse and previously underserved regions have more training opportunities and participation. • Partner with educational institutions and professional organizations to increase professional development opportunities for allied professionals, tradespeople, and conservation technicians.
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CONCLUSION

While the preservation of the nation’s diverse cultural heritage requires dedication and a wide range of specialized skills, over time the recognized education and development pathways and even a widespread understanding of what these foundational skills and knowledge are has shifted. The cultural heritage conservation and preservation field is creative and progressive, which is a strong foundation for thinking of new and expanded pathways that can open the field to new perspectives, backgrounds, and knowledge. Education, professional development, and leadership affect nearly every other pillar of cultural heritage preservation, and thus, deserves the field and its supporters’ investment and focus.

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APPENDIX I: WORKING GROUP MEMBERS

Working Group Co-Chairs

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Ellen Pearlstein, UCLA/Getty Conservation Program, UCLA

Education Subcommittee

Miriam Centeno, Ohio State University Libraries

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Stephanie Lussier, Hirshhorn Museum and Sculpture Garden

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Mark Rabinowitz, EverGreene Architectural Arts

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Sonia Wong, Motion Picture Academy Museum

Leadership Subcommittee

Tiarna Doherty, University of Delaware

Beatriz Haspo, Library of Congress

Julie Reilly, ICA

Amparo Rueda, APOYOnline

APPENDIX II: EDUCATION FOCUS GROUPS

The Education Subcommittee conducted focus groups with the following participants:

Jessica Betz Abel, Project Conservator, University of Pennsylvania Museum of Archaeology and Anthropology

Jeffrey Altepeter, North Bennet Street School, Boston

Stephenie Schwartz Bailey, Education Program Manager & Preservation Consultant, Conservation Center for Art & Historic Artifacts

Sarah Barack, Head of Conservation and Senior Objects Conservator, Cooper-Hewitt, Smithsonian Design Museum

Dawn Benski, Arts Content Support Lead, Massachusetts Department of Elementary and Secondary Education

Jeanne Drewes, Consultant for Cultural Heritage; formerly Chief of Binding and Collections Care in the Preservation Directorate at the Library of Congress

Tiffani Emig, Program Coordinator, Collections Assessment for Preservation

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Emily Frank, Conservator, Cooper Hewitt Museum

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Naomi Kroll Hassebroek, Senior Conservator at National Park Service

Amber Kerr, Chief of Conservation, Smithsonian American Art Museum / Lunder Conservation Center

Michele Marincola, Sherman Fairchild Distinguished Professor of Conservation and Chair of the Conservation Center; New York University

Catherine Matsen, Scientist, Affiliated Associate Professor, University of Delaware
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Anne Marie Miller, Northeast Document Conservation Center

Lucia Muccigrosso, recent graduate, North Bennet Street School and fellow, Boston Athenaeum

Debbie Hess Norris, Chair of the Art Conservation Department at the University of Delaware, and Professor of Photograph Conservation

Kimberly Peach, Lead Archivist & Preservation Specialist, Winthrop Group

Ellen Pearlstein, Professor, Department of Information Studies, University of California, Los Angeles; Getty Program in the Conservation of Cultural Heritage

Dawn Rogala, Conservator/Program Manager, Museum Conservation Institute, Smithsonian Institution

Patricia Smithen, Assistant Professor (Paintings Conservation), Queen's University, Kingston, Ontario

Pravali Vangeti, Associate Project Officer, World Heritage Education Programme, UNESCO

Emily Williams, Associate Professor, Department of Archaeology, Durham University, UK

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Engagement, Communication, and Storytelling

Committee Co-chairs: Lauren Dugas Glover and Laura Hartz Stanton

INTRODUCTION

The modern discipline of conservation grew out of museum-based collecting, research, and preservation activities that were overtly colonial and racist (see Quirke 2010; Stevenson 2019). The situation is similar in conservation's allied disciplines of archaeology, anthropology, art history, museology, and library and information science. As in conservation, many of these fields did not begin to seriously consider their relationships to local and source communities until the latter decades of the twentieth century.

Today, a century after the first conservation laboratories were founded at U.S. institutions like Harvard University and The Metropolitan Museum of Art, the field recognizes its harmful, even violent roots. Yet, it struggles to employ reflective practices; to reach communities that were and are harmed; and to engage with them in intentional, honest, and reparative ways (Atalay 2010; Battle-Baptiste 2010; Hingley 2014).

Conservators and other preservation professionals can also have difficulties communicating effectively about the field with government agencies, funders, allied professionals, and the public. This lack of effective communication can reinforce existing distrust between preservation professionals and communities and erode public support for preserving cultural heritage.

Over the past twenty years, scholars have studied the relationships between collecting institutions and source communities, exploring how to address the entrenched problems and foster better, reparative relationships. There is also much the field can draw from work in social justice and civic engagement. A solid foundation of information and practice exists (Atalay 2012; Balen and Vandesande 2015; Brown and Peers 2003; Davis 2011; Demas 2002; Ireland and Schofield 2015; Kersel and Roosevelt 2008; Schmidt and Pikirayi 2016). However, progress in conservation has relied primarily on the work of individual institutions and practitioners.

Improving conservation practitioners' community engagement, communication, and storytelling skills across the field is critical for securing sufficient resources and building intentional, reparative relationships between collecting institutions and local and source communities (see also HIT report "Diversity, Equity Inclusion, and Accessibility").

CRITICAL AREAS OF FOCUS

Community members, conservators, and other preservation professionals have a deep interest in and commitment to cultural heritage and its preservation. Without the

contributions of knowledge and lived experiences from community members, true understanding of objects and sites is impossible. Yet, the field lacks sufficient training, data, and resources (human and financial) to advance engagement with and storytelling of its work.

Outlined below are three primary areas of focus for the field around communications and community engagement, including their related, current challenges and the opportunities they present for greater understanding of and advocacy for cultural heritage and its preservation.

FOCUS AREA #1: Engagement and audiences

Engagement must come from a place of authenticity and transparency, centering communities, cultures, and people in preservation work. Yet, traditional norms of preservation and conservation may exclude culturally based ways of working. For the field to be impactful and resonant, we need a broad and inclusive way of engaging in a variety of settings and to understand that successful strategies range widely depending on the culture and community.

Challenges

→ Inadequate training in civic and community engagement

Conservators and other preservation professionals often lack sufficient training in civic and community engagement for intercultural competence. This includes how to enter and exit communities within which they are working, as well as how to engage with community members transparently and authentically.

→ Lack of trust

Trust may be lacking between communities and preservation organizations/professionals. Research is needed at the outset of projects to determine target audiences, goals for engagement, and expressed community need for preservation and conservation resources.

Opportunities

→ Expand audience for existing training opportunities

Several major universities have community and civic engagement centers that offer a variety of training opportunities in creating and sustaining equitable community partnerships. The preservation field should advocate for some of these trainings to be open to practitioners in the field and involved community members.

→ Identify relevant case studies in other disciplines

Other disciplines and types of projects have made significant strides around community engagement and storytelling, such as curatorial work and community science projects. Research can be conducted to identify and gather relevant case studies that offer useful models for the preservation field.

→ Conduct market research on audiences and key communities

Marketing and research firms could provide data on different groups and their preferred methods of accessing information that could be shared in a centralized resource. The field would then have a better understanding of how to reach different audiences and communities.

FOCUS AREA #2: Inclusive storytelling around artifacts and cultural heritage

Artifacts and cultural heritage mean different things to different people and communities. Preservation and conservation professionals need to gain an understanding of the meanings and resonance of objects, artworks, archives, and sites from a multitude of perspectives and be as inclusive as possible in gathering those perspectives. This will help align preservation work and related communication strategies around the needs, goals, and interests of the communities and stakeholders whom the field and collecting institutions serve.

Challenges

→ Incomplete information on objects and sites

Many communities lack historic and technical information about their objects and sites. They may need various types of assistance to feel they can engage as full partners.

→ Exclusive decision-making

Financial and project-design decisions tend to be centered with trained preservation and conservation professionals. Truly collaborative work, where power and decision-making are shared, is rare in conservation, even for community-focused projects. These structures are difficult to change.

Opportunities

→ Design storytelling initiatives that are inclusive of communities from the project inception

Community engagement is most effective when initiated at the inception of project and programmatic design. When community knowledge and history is used to establish the foundation for conservation and preservation work, truly inclusive engagement and storytelling strategies can be developed. Conservation and preservation professionals need to utilize inclusive methodologies for building relationships and information gathering and ensure that community input is given equal or greater weight with conservation knowledge.

→ Develop inclusive platforms and methodologies for gathering information and research on cultural heritage objects and sites

The basis of meaningful community engagement and storytelling is the willingness of community stakeholders to share their knowledge, opinions, and feelings. In developing inclusive storytelling strategies, platforms and methodologies for engagement must be unique to the communities in which the work is being done.

Guidelines for Collaboration

In response to a growing need in the fields of conservation and collections work, the Indian Arts Research Center (IARC) at the School for Advanced Research (SAR) supported a multi-year project to create a theoretical and practical resource for those engaging in or planning to engage in collaborative work. To write and edit the *Guidelines for Collaboration*, an experienced core group of nine individuals worked with over 60 Native and non-Native museum professionals, scholars, artists, and cultural leaders. The resulting resource is not intended as a static document but one that will evolve over time.

The *Guidelines for Collaboration* can be accessed at guidelinesforcollaboration.info. A slightly abridged version is available in booklet form.



Collaborative review of Ancestral Pueblo pottery at the Museum of Indian Arts and Culture.

FOCUS AREA #3: Communication strategies and processes

The kinds of stories told, by whom, when, where, and how must be considered with careful intention and authenticity. Understanding the diversity and concerns of the audience(s) the cultural heritage conservation field would like to reach and engage is essential to forming successful storytelling strategies.

Challenges

→ **Insufficient training in communication strategies and skills**

Conservators and community members need access to information about successful communication strategies, storytelling, and advocacy for preservation, objects, and sites. Conservators may also require training in communication skills such as active listening, public speaking, and methods for communicating complex ideas in clear, accessible prose. Conservation has yet to engage substantively with the language justice movement, which has much to offer in this arena.

→ **Unfamiliarity with effective use of technology for storytelling**

Today's technology makes it possible to reach large, global audiences with rich and accessible content. However, many preservation practitioners do not have the training or experience to identify and effectively use audio and video suitable for online delivery or emerging interactive technologies like augmented reality or virtual reality.

Opportunities

→ **Encourage innovative storytelling that utilizes various technology platforms**

Storytelling about objects, sites, conservation, and preservation currently exists primarily in the form of museum public education and exhibitions programs. Conservation and preservation practitioners can leverage more creative, individualistic, community-based opportunities such as podcasts and events.

→ **Build case study resource**

There are successful examples of technology-based storytelling around preservation projects. These could be gathered into an accessible, centralized resource to offer guidance on what kinds of stories and storytelling methods have been most successful and how those project teams worked to create resonant and impactful stories.

STRATEGIC GOALS

Our strategic goals focus on empowering preservation professionals, institutions, and communities to create strong partnerships built on trust, to work meaningfully with each other and the cultural “artifacts” embedded in communities, and to tell resonant stories about those objects and sites and their preservation. Each of the goals below directly addresses one of the three focus areas above.

GOAL #1: Foster equitable and meaningful community engagement

FOCUS AREA #1: Engagement and audiences

The cultural heritage field should prioritize equitable and meaningful community engagement in their communication. This can be accomplished through partnerships with community organizations that have interest and strength in engaging stakeholders

in conversations around cultural heritage, civic engagement, and social justice initiatives. The cultural heritage field must also understand that connecting to multiple and varied audiences is essential and fundamental to this work. For these strategies to be effective, preservation professionals must be committed to active listening and learning from the community-focused engagements and reflecting critically on these experiences.

GOAL #2: Build connections with communities around and in support of artifacts and cultural heritage

FOCUS AREA #2: Inclusive storytelling around artifacts and cultural heritage

Ongoing and meaningful relationships and partnerships are the foundation for community connections. The field needs to think carefully about resources and staffing needed to sustain regular and meaningful connections with the individuals, communities, and organizations that are invested in cultural heritage preservation and conservation. The field will support efforts to connect preservation professionals and community stakeholders for inclusive storytelling around artifacts and cultural heritage with the acknowledgment of the different areas of expertise brought to the conversations.

GOAL #3: Develop resources and trainings based on successful storytelling strategies

FOCUS AREA #3: Communication strategies and processes

Many conservators and communities will be taking on communications around cultural heritage preservation amidst many other responsibilities. It is critical that they have straightforward and accessible training, tools, and strategies to tell engaging stories in cultural- and community-centered ways (as opposed to colonized/er ways). The resource(s) can also identify ideal venues and technology platforms.

For each of the above goals, the field needs to identify existing education and resources and what is needed. Outlined below are objectives and recommended resources to be rolled out over the short, medium, and long term. This will allow for a progression that takes into consideration the time needed for relationship and trust-building with communities in a robust, non-transactional, and respectful way.

Timeframe	Outcomes
Short term 2023-2024	• Review existing resources for education and training in community engagement and communications. • Identify areas that require more customized education, looking to museum educators, community organizers, and culture bearers for guidance. • Survey the HIT committees, as well as others in the field, about their knowledge of community engagement and communication

	strategies; perceived obstacles to this work; and successful case studies. • Use the survey results to make recommendations to funding agencies for future funding priorities and criteria to include when soliciting proposals. • Begin creation of a consolidated list of useful, accessible communication and community-engagement resources. • Hire a firm that specializes in demographic research and marketing strategies to identify the best methodologies for effective and authentic storytelling to reach intended audiences. • Secure funding to support the survey and hiring of market research firm.
Mid-term 2024-2027	• Complete survey analysis and report • Begin building resources previously identified as needed. Formats likely to include toolkits, checklists, and in-person and online training modules. • Develop assessment metrics for resources to gauge effectiveness. • Fund and develop an advocacy campaign for AIC in support of conservation. The campaign should be developed in partnership with allied organizations and communities with the intention of reaching the public and other identified key audiences. • Develop a campaign to advocate with funders for financial support of preservation and conservation stakeholders' efforts to implement new, inclusive engagement and communications strategies.
Long term 2027 onward	• Determine an organization or an ongoing structure for assessing the effectiveness of deployed resources and for continued refinement as the field and technology evolves. • Continue to advocate with funders for support of preservation and conservation storytelling with community engagement.

CONCLUSION

When communities are empowered through intentional and reparative relationships, they can be more engaged in preservation efforts in their communities or with their cultural heritage. When funders, government agencies, and allied professionals are inspired by conservation storytelling, more work gets funded. Effective storytelling and engagement around preservation efforts will increase visibility, advocate for policy change, and increase public appreciation, thus propagating a more sustainable conservation and preservation enterprise.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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APPENDIX I: WORKING GROUP MEMBERS

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APPENDIX III: COMMUNITY ENGAGEMENT RESOURCES

Below are resources that the Working Group referenced during the writing of this report or felt might be useful in future phases of Held in Trust.

Description	Where to find it	Access	Best audience
Online toolkit for community partnerships. Define shared expectations at the start of projects and evaluate success at the end.	https://ginsberg.umich.edu/article/partnership-toolkit	Open access	Communities and community partners in shared projects
Online course "Community Engagement: Collaborating for Change." 4-6 weeks long, self-paced. Learn principles and strategies for engaging with U.S.-based and global communities through partnerships, research, service, and learning.	https://www.edx.org/course/community-engagement-collaborating-for-change?utm_source=website&utm_medium=partner-marketing&utm_campaign=michiganx&utm_term=Community+Engagement%3A+Collaborating+for+Change&utm_content=michigan-online	Online through edX: free to audit or \$49 for credit or certificate	Conservators or other professionals seeking to partner with communities

APPENDIX IV: STORYTELLING RESOURCES

Below are resources that the Working Group referenced during the writing of this report or felt might be useful in future phases of Held in Trust.

Storyteller	Description	Where to find it	Audiences
Conservators; conservation scientists	Book aimed at scientists who want to communicate in clear, compelling prose with a well-structured story arc (221 pg.).	Schimmel, Joshua. 2012. <i>Writing Science: How to Write Papers That Get Cited and Proposals That Get Funded</i> . New York: Oxford University Press.	Funding agencies, professional journals
Everyone	Webpage with tips for telling short, personal stories at public events.	https://themoth.org/share-your-story/storytelling-tips-tricks	Any audience, but especially public audiences
Everyone	Webpage with ideas for interview questions and how to structure those questions.	https://storycorps.org/participate/tips-for-a-great-conversation/	Any audience, but especially public audiences
Nonprofits who want to communicate better and reach larger audiences	Company offering a variety of in-person and online workshops and training courses in communication & storytelling. \$250-\$500 for online workshops	https://www.thegoodmancenter.com/about/	Various. Some focus on communication in professional settings, others focus on communicating with funders and the public

Field Sustainability, Infrastructure, and Sector Health

Committee Co-chairs: Annabelle Camp, Alison Gilchrest, and Debra Hess Norris

INTRODUCTION

The early/mid-1970's saw the last concerted wave of investment in conservation as a profession in the U.S. Spurred on by the aftermath of the devastating flood of the Arno River in Florence, Italy in 1966 and on the eve of the 1976 U.S. Bicentennial, the conservation field expanded rapidly. This decade saw the founding of graduate programs, regional centers, preservation field services, and museum and research laboratories, as well as unprecedented funding from the National Endowment for the Humanities (NEH); the National Endowment for the Arts (NEA); and the Andrew W. Mellon, Samuel H. Kress, and J. Paul Getty foundations (among others) to build and sustain these structures.

As the U.S. approaches its Semiquincentennial in 2026, the cultural heritage preservation field is at an inflection point. All nine pillars of the Held in Trust (HIT) initiative identify a need for greater financial investment in the field as the state of the nation's heritage grows deeper, more complex, and more relevant with each passing year. Culture and heritage endure in ways that do not always align with episodic and short-term philanthropy. We must frame a vision for a persistent and robust national support infrastructure for the next 50 years and arrive at compelling case-making and new systemic approaches that will appeal to new and existing donors.

The Field Sustainability Working Group for HIT explored current challenges and potential solutions associated with the economic infrastructure and sustainability of the preservation and conservation sector. The group has embraced a “meta” charge of considering the existential nature of conservation and preservation as a field; a profession; a collection of communities; and as a set of activities, outcomes, and practices. We must consider what transformative structures will raise the conservation enterprise to a new, sustainable, impactful, and deeply resonant level among U.S. citizenry. We must consider how significant reliance on philanthropy and government funding has excluded particular stakeholders and how we can engage wider audiences—a step necessary to long-term sustainability.

As we seek financial *sustainability*, expanded *visibility* is essential. The conservation field in the U.S. can be highly collaborative, strategic, creative, and action-oriented when appropriately incentivized. Practitioners are passionate; their excitement is engaging and contagious. In periods of emergency or crisis, conservators rise to the occasion and show, rather than tell, why the expertise to save and preserve cultural heritage is critical. But culture is not a project, nor is it episodic: it endures. Our work must spark action-oriented programs and practices that will excite and appeal to donors, resource allocators, and cultural amplifiers, while strengthening opportunities for

engagement and growth across the conservation and preservation landscape. In exploring how this can be accomplished, we have outlined three critical areas of focus with attendant goals to better position the field for long-term sustainability.

CRITICAL AREAS OF FOCUS

The following key areas of focus that can drive increased field sustainability encompass public awareness of the value of cultural heritage preservation, entrepreneurial business models, the pursuit and expansion of philanthropic opportunities, and an evaluation of the role of collecting institutions in the preservation/conservation profession. These are discussed in greater detail below, followed by a discussion of the current challenges and opportunities present to some degree in all areas.

FOCUS AREA #1: Strengthening public awareness and connections to new philanthropic opportunities

Philanthropic practices among the major foundations that have been stalwart supporters of conservation practices in the U.S. are rapidly shifting to include previously marginalized communities and voices, coincident with a profound reckoning within the conservation profession about what and whose culture is preserved and why. As the cultural heritage preservation field works to secure sustainable, external funding, it must demonstrate its relevance to and impact on society. Members of the profession must clearly communicate why and how the preservation of cultural memory and heritage is important for society; our material and documentary past are critical components in addressing broad societal issues, such as climate change; public health; cultural understanding; and social, gender, and racial injustice. Corporate, federal, foundation, and private investors will support initiatives and actions that address these intersectional issues. Multi-tiered influencer, communication, and marketing strategies will raise the visibility, trust level, and urgency of conservation in the public conscience (see also HIT report “Engagement, Communications, and Storytelling”).

FOCUS AREA #2: Financial sustainability, influence, and capacity of private practice conservators

Cultural heritage preservation professionals who work full- or part-time in private practice are the largest percentage of the preservation workforce (AIC/FAIC 2015, 5). A thriving profession must include engagement with and cultivation of the vast amount of expertise and opportunity in the private sector. Calling on opportunities for professional growth, training models, and innovative business and funding models are all facets that can increase the accessibility and impact of this sector for more individuals. A range of opportunities related to the sharing economy and digital infrastructure could nourish community, simplify and lower costs and barriers to entry, and facilitate more equitable project distribution and completion. These possibilities are ripe for research, development, and support.



Bianca Garcia, Associate Paintings Conservator and Program Manager at Balboa Art Conservation Center, teaches students about condition reporting, as part of the Center's workforce development initiative.

FOCUS AREA #3: Collections Sustainability

The policies and practices in museums, libraries, archives, and other collecting institutions affect the persistence and development of the conservation profession. This group questions assumptions about the role of conservation expertise in institutional leadership; decision-making; policy-setting regarding collection-based activity, such as pace and scale of collection growth; (de-)accessioning; risk assessment; provenance research; authentication; couriering; community engagement; and professional development.

Challenges

→ Lack of awareness of and data on cultural heritage preservation's value

The financial and intrinsic value of cultural heritage preservation is generally unknown or invisible to civil society, outside of isolated instances such as during natural disasters. This is frequently due to a lack of clear, compelling messaging and advocacy, as well as available data. The field lacks sustained, longitudinal, rigorous data collection about itself, including institutional and private sector practice, its impact, and opportunities. This same data is necessary for effective priority setting, public relations, lobbying, and appeals for support.

→ Inconsistent and sparse marketing and media communications

Currently, the field lacks unified, clear messaging for media communications and marketing. Storytelling connected to our work across all platforms is limited, and many professionals shy away from high-impact advertising and public relations due to an historic professional code that advised against such. Institutional conservation remains largely hidden as a back-of-house function rather than a mission-centric and core public engagement activity. Without a dynamic, enticing marketing effort, the value of cultural heritage and its preservation will remain largely taken for granted as only of elitist and academic interest.

→ **Lack of diversity**

The profession's numbers are relatively small and lack diversity. A 2018 survey conducted by the Mellon Foundation and ITHAKA S+R found that 89% of art museum conservators are white. As a field that values the high degree of specialization and technical proficiency that result from extensive education and training, but offers few permanent positions with benefits, and often at below cost-of-living wages, it is not surprisingly characterized as exclusionary. The number of stable, adequately paid positions is not commensurate with the magnitude of collections held in the nation's public trust—not to speak of the complexity of materials and cultural concerns of the source communities associated with these items. These factors inhibit stability for both independent practitioners and those working within formal organizations. This challenge is discussed at length in the HIT report on Diversity, Equity, Inclusion, and Accessibility.

→ **Limited fundraising**

The field has grown overly dependent on a limited group of funders whose long-term investment in the field is not guaranteed. This reliance has played a part in the lack of awareness amongst other significant philanthropists and donors of the opportunities for investment and influence centered on the interpretation, celebration, and preservation of cultural heritage. Representatives from the field are also not as engaged as they should be in discussions that identify priorities for federal or state investment. The national professional organization has never had the resources to hire a lobbyist to champion its needs with policymakers.

→ **High costs of conservation**

Conservation is fundamentally expensive. For collecting institutions, it is associated with fixed costs and overhead with no earned income potential. The time and costs to educate and train conservators, to establish and maintain equipped spaces, to justly compensate conservator employees, to sustain collections care regimes, to purchase private conservation services, and to maintain safety compliance are all costly but necessary components. Collecting institutions are mission-bound to adequately cover the expenses of responsibly stewarding their assets, though this leaves little funding for investment in the field broadly and contributes to the perception of elitism. This perception does damage to the field as a whole, including those in private practice. For conservators in private practice, who are primarily self-employed, their hourly rate must cover the cost of service, materials, and overhead, such as insurance and capital expenses including equipment and space. The majority of private practice individuals are located in large metropolitan regions where they have access to collectors and institutions, but where the cost of living is especially high.

→ **Undercapitalized professional support organizations**

Professional support organizations for the cultural heritage preservation field in the U.S. are chronically undercapitalized and overly dependent on volunteer labor, which further de-values conservation expertise and excludes many voices beyond those with secure salaries from contributing. When seeking philanthropic

support, the organizations are then competing with peers and practitioners for the limited pool of available support. This dramatically decreases the field's ability to achieve progress at scale through sustained field-wide initiatives, united marketing and media communications campaigns, and advocacy for greater resource investment. These organizations must support and advocate for conservation professionals working in the public and private sectors to ensure a more secure and equitable future.

→ **Lack of meaningful representation and unresolved tension within and beyond the private sector**

Private practice conservators and regional centers are frequently cited at the intersection of for-and non-profit enterprise, a cusp that creates special demands and opportunities. While up to a quarter of all conservation professionals work in these contexts, and about half of that cohort as sole proprietors, this component of the labor workforce has not been fully recognized for or maximized in its contributions. Many working in the private sector feel poorly represented, integrated, or heard within their professional membership organizations. Strategies for sustainable growth of the field should support graduate employment in the private sector, by incubating new models of training and practice that are more inclusive of specialized skillsets required for working outside of collecting institutions.

→ **Lack of agency within collection institutions**

The profession represents a critical component of mission success in collecting institutions yet often lacks agency, decision-making representation, or clear development and promotion pathways to positions of higher authority (see also "Education, Professional Development, and Leadership" HIT report).

Opportunities

→ **Deeper understanding of the range of private practice conservators**

To better understand how to leverage and support the private sector of the preservation workforce, the field needs to know more about who makes up the field and what business models define their work. Powerful models for data collection exist and are ripe to build upon. Examples include a body of museum-focused work by Ithaka S&R, including the Mellon Museum Demographic Surveys; the American Institute for Conservation (AIC) Covid-19 surveys (Camp and Teeter 2021; Reidell 2021); LaPlaca Cohen's CultureTrack; American Alliance of Museum's (AAM) "Museums as Economic Engines" report (American Alliance of Museums, et al. 2017); and Association of College and Research Libraries' (ACRL) environmental scans and trend reports.

→ **Highlighting valuable connections to significant personal and national narratives**

The 2026 American Semiquincentennial will spotlight American history and heritage, creating great demand for high quality and high-volume content. The preservation of cultural heritage is connected deeply to family treasures, identity, and personal stories, many unknown or undiscovered, ripe to resonate on a personal level. Media communication and marketing campaigns to raise

awareness of the value of cultural heritage preservation can leverage these national and personal narratives for deeper engagement. Conservation and preservation work is conducive to the digital storytelling and image-centered formats found in traditional and social media, further bolstering the potential of such campaigns.

→ **Increasing material knowledge in cultural heritage display and interpretation**

Cultural institution documentation systems are increasingly inclusive of conservation data, seamlessly enabling material knowledge to become more visible and central to how cultural heritage is displayed and interpreted. This opportunity is also discussed from additional angles in the HiT reports “Digital Research and Practice;” “Diversity, Equity, Inclusion, and Accessibility;” and “Engagement, Communication, and Storytelling.”

→ **Advocacy led by professional associations, membership organizations, and leadership institutes**

Organizations and professional associations with appropriate capacity and skill can contribute to and proactively steer executive decision-making on future trends and support forecasting. Examples include OCLC’s *University Futures, Library Futures* (Malpas et al 2018); *Academic Libraries’ Stance toward the Future* (Cox et al 2019); and the UK’s cultural futurism think tank Heritage Futures. In doing so, we must ensure that the private sector is well represented.

→ **Embedding conservation principles in museum workforce development**

To reduce the segmentation of expertise about collection sustainability and to address the historical subordination of conservation expertise to that of curatorial within museum management hierarchies, the nation’s academic programs that serve as career on-ramps into cultural heritage professions can embed coursework and cross-disciplinary learning opportunities to further the goal of producing a fully engaged and collaborative sector. One recent example is the series of grants the Mellon Foundation made between 2011-2019 to introduce object-based methodologies and conservation collaborations into numerous US graduate art history programs.

→ **Capitalizing on current institutional trends**

Conservation and preservation policies in library and archival institutions are evolving to meet trends towards collaboration, long-term cost forecasting, energy usage and environmental set points, digital stewardship, shared collecting, and post-custodial models of community engagement that decentralize conservation control and knowledge (Case et al 2021). Conservators in these settings can leverage their positions and access for increased visibility.

STRATEGIC GOALS

An overarching goal regarding field sustainability is to establish cultural heritage preservation as a human right deserving of resources, attention, and credibility in the private and public sectors. As we work toward common goals to elevate an entire field

of practice, many of these recommendations will require shifts in our shared ideology and the pursuit of innovative paths to economic sustainability. This is our opportunity to think outside of the box and influence the norms of those who hold power in the cultural sector as we reflect on the field's past and envision a more sustainable future. With this in mind, the HIT Working Group identified the following goals, related to the above focus areas, to better leverage the numerous opportunities present for the field's long-term sustainability.

A Healthy Sector

Between 2014 and 2019, the Andrew W. Mellon Foundation supported the Comprehensive Organizational Health Initiative (COHI): a systemic and modular program designed to improve the structural and financial health of important but vulnerable arts and culture organizations.

One participating cohort included nine nonprofits with conservation missions, including many of the US regional conservation centers that form a critical service backbone of treatment, outreach, and educational programming for small to mid-sized museums, libraries, historical societies, and community groups. In partnership with the Nonprofit Finance Fund, staff and boards received multiple years of customized business and succession planning, in-depth financial analysis, and stabilizing support in the form of modest grants and no-interest loans.

At the completion of the program, participants were eligible to apply for a transformational grant to invest in sustainable growth, including establishing first-ever cash reserves or new income-generating programs and services. All nine organizations remained open during the pandemic and have since attracted new funding, inspired leaders, and/or meaningful new partnerships. The COHI initiative illustrates how philanthropy can make a long-term impact on strengthening the conservation sector.

GOAL #1: Capitalize a professional, national communication and fundraising strategy

As we require financial sustainability through larger and more diversified funding streams, expanded visibility is essential. A campaign to raise the public consciousness about preservation and conservation of cultural heritage will promote shared human values, storytelling, and diverse perspectives (see also HiT report "Engagement, Communication, and Storytelling" and "Diversity, Equity, Inclusion, and Accessibility"). In parallel, this work will improve case-making, drive engagement, and ultimately funding, through positive associations and meaningful content.

Outlined below are recommended tactics for achieving greater financial sustainability and public awareness.

Timeframe	Outcomes
Short term 2023-2024	• Determine and prioritize areas of need in the field, and then for each: ○ Conduct feasibility studies/surveys for articulated needs and specific initiatives to determine the true funding need. ○ Develop cases for support and financials for the prioritized areas of need to serve as the underpinnings of funding campaigns. ○ Develop sophisticated, world-class social media and marketing strategies that capture the contemporary zeitgeist and promote conservation principles to multiple audiences/demographics. • Cultivate existing funding sources by: ○ Identifying, soliciting, and promoting existing regional, national, and global funders, such as the Bank of America Arts and Cultural Program and the TEFAF Museum Restoration Fund. ○ Meeting with funders currently invested in cultural heritage preservation to gain advice on new prospective funders and approaches, as well as innovative funding paths. ○ Working with field resources such as Candid (formerly the Foundation Center) to identify additional potential funders. ○ Supporting creators and community stakeholders with technical support and preservation recommendations. ○ Making more visible the role of conservators and the value of preservation expertise in high-profile cases of heritage destruction through natural or man-made disasters. • Develop clear and compelling language around the scholarship and discovery aspects of conservators' work that can be used in funding and media campaigns. • Begin training conservators and allies to become public ambassadors for a shared vision of the field. • Secure funding for development of a marketing campaign, fundraising cases for support, and related public relations training for conservators.
Mid-term 2024-2027	• Foster engagement with allied fields by funding educational and research prizes that feature conservation at undergraduate, graduate, post-grad, and professional levels. • Develop a targeted education effort focused on building knowledge of philanthropic trends and fundraising strategies, designed for those working in the private and public sectors and

	organized to empower participants and provide small grants or additional expertise to deploy strategies gained.
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GOAL #2: Increase professional data collection

There is a clear need for the field to engage lobbying professionals and commission data-driven research to align with other major service organizations such as Americans for the Arts and the American Library Association. The need for more detailed and accurate data is referenced in several other HIT reports, including but not limited to “Diversity, Equity, Inclusion, and Accessibility” and “Education, Professional Development, and Leadership.” We must, for example, gather, share, and promote data that will allow us to better understand our profession’s demographic, experiential, and financial profiles. Such systematic and longitudinal data collection will also allow us to create demographic and economic benchmarks.

Without timely, high-impact data and a strategy to mechanize it effectively, the field loses agency in the national conversation about heritage, its value, and preservation. The Foundation for Advancement in Conservation (FAIC) has an opportunity to embrace an even greater national leadership role to strengthen the impact and influence of the cultural heritage preservation profession through strong public/private partnerships and greater investment and visibility. Fostering greater connections with an established national think tank should be investigated.

Outlined below are recommended tactics for gathering the detailed data needed across the field, providing necessary information for greater lobbying and fundraising and to support other HIT goals.

Timeframe	Outcomes
Short term 2023-2024	• Review existing models of field-wide data collection that exist in allied professional bodies and could be applied to better understand the preservation field’s professional demographics and related data needs. • Engage partner to conduct initial longitudinal study to gather data. • Partner with a think tank to build the field’s capacity for lobbying. • Assess a re-orientation of AIC to take a greater leadership role in lobbying and what steps would be required. • Secure funding for longitudinal study.
Mid-term 2024-2027	• Review longitudinal study report and set benchmarks.

	• Set schedule for conducting follow up studies to track changes within the field.
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GOAL #3: Innovative Business Practice

A stronger and more secure future for the profession must include strategic consideration and development of the considerable private conservation sector—a talented and engaged workforce highly networked with allied professions and the public, unencumbered by the pace of procedures and embedded hierarchies of institutional practice. We need to leverage the complimentary and innovation-driven perspectives that the private sector offers to further the profession at large. Targeted support for conservation business owners (entry level, mid-career, and established) can focus on facilitating running a profitable business, while also participating fully in other professional endeavors even if that requires subsidy and public-private partnerships. An effort can be made to establish mechanisms to make it easier to match cultural heritage in need of conservation with appropriate practitioners and funding.

Timeframe	Outcomes
Short term 2023-2024	• Building on data collection and findings of the composition of the private sector and on developments in the co-op and creative industries communities, research and prototype innovative business models for collectives that could be relevant and used in conservation to lower costs and barriers to entry.
Mid-term 2024-2027	• Conduct feasibility studies and test and support new business models that employ current trends of crowd-sourcing and digital mediation for resource sharing and distribution, efficiency, and scaling up. • Conceive a new, responsive professional industry organization tailored to the needs of the private sector that will: ○ Collect histories and data through professional surveys and interviews. ○ Standardize vetting of individual preservation professionals. ○ Offer tailored startup support and small business resources. ○ Advocate for policy related to the private preservation sector on a national scale (including that related to health and safety). ○ Strengthen local professional network hubs. ○ Support/fund grant opportunities for private conservators to do research, publish, mentor, teach, train, and share expertise in conferences, etc. ○ Partner with entities such as business schools, think tanks, the NonProfit Finance Fund, etc. to explore new models.

Long term 2027 onward	• Secure funding to create or adapt an app or Request for Proposals (RFP) platform that helps match conservation needs with vetted and certified service providers. Clients (individual or institutional) would post projects and practitioners can submit proposals and open dialogue with clients, etc. • Include a parallel funding platform on the app where donations can be facilitated (i.e., Kickstarter). If federal funding could be linked into the app, streamlining the grant application process that is such a barrier for smaller institutions, and certification of practitioners was required to use it, this addition would be transformative in addressing a multitude of challenges
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CONCLUSION

As we examine opportunities for the future, our work must spark creative, action-oriented programs and practices that will excite and appeal to donors, resource allocators, and cultural amplifiers while strengthening opportunities for engagement, growth, and reflection across the conservation and preservation landscape.

How to Cite This Report

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Philosophy and Ethics in Conservation

Committee Co-chairs: Landis Smith and Glenn Wharton

INTRODUCTION

Among cultural heritage professionals and the public, there is a strong call for a more just and inclusive cultural heritage preservation and conservation practice that is open, diverse, sustainable, and ethically relevant. Long-held notions of authority, expertise, representation, and ownership are increasingly questioned. This philosophical shift in the way we think about cultural heritage conservation and preservation parallels social justice and climate change activism and reflects the evolving sensibilities of our time. There is a need for new structures that will enable an evolution of the entire preservation enterprise for the 21st century and beyond. The foundations of which include:

- a commitment to the continual education within and interrogation of the philosophical systems guiding the field within contemporary cultural and social developments;
- collaborative and trusting relationships between heritage professionals and diverse constituencies; and
- a reevaluation of the codes and guidelines of the field with an eye toward greater transparency and attention to environmental, social, and economic sustainability.

The Held in Trust (HIT) Philosophy and Ethics Working Group explored the current state, needs, and opportunities of these overarching guideposts that influence every aspect of the field. A survey of the American Institute for Conservation (AIC) membership by the Working Group found the majority of the 352 respondents confirmed the centrality of philosophy in their work: 95% reported that it influenced their activities, and 98% felt their work inevitably reflected certain philosophies of conservation.

Before presenting the Working Group's overall findings, it is important to clarify how it defined philosophy and ethics in cultural heritage conservation and preservation for their research. Philosophy is a broad umbrella term for a form of inquiry concerned with the fundamental principles or assumptions in a field of study. Philosophies of cultural heritage conservation are the result of meta-conservation investigations into the nature of conservation itself. It is the process of asking the "why" behind the "how" or "what."

Through the AIC membership survey and interviews with other experts, the Working Group assessed the current state and future directions of conservation philosophy; how this framing affects conservation theory, ethics, research, and practice; and how the science-based conservation philosophy dominates alternative or culturally grounded knowledge systems, including indigenous and other international preservation philosophies. More pragmatically, we investigated how conservation philosophy is taught in graduate education and mid-career training opportunities, as well as the extent that it is addressed in related literature.

Conservation ethics are the embodiment of the field's underlying philosophy and values. Their purpose is to guide decision-making and actions. For purposes of HIT research, the Working Group investigated professional ethics regarding current models of conservation practice in the context of national and global social movements, including social justice and climate action. This includes a consideration of how professional ethics are addressed in allied fields such as anthropology and parallel fields such as medicine and social sciences.

With thoughtful attention to and purposeful action around the field's evolution to a more just and inclusive practice, cultural heritage institutions and professionals have the potential to become trusted sites and agents of reconciliation, mediation, collaboration, inspiration, and learning. Many meaningful, emotional, and transformative discussions are being driven by emerging conservators. They are sharing new thoughts and practices effectively via new communications technologies and platforms. This generation's demands for change in environmental sustainability, inclusion, diversity, and equity, have grown more palpable and sophisticated, often times because they are the ones who are not included and not equally represented despite their life experiences, worldviews, and rigorous and arduous educations. Funders, policy makers, and professional associations would do well to listen to and encourage the views of the emerging conservators—our future leaders—for the relevancy and sustainability of the field of cultural heritage conservation.

CRITICAL AREAS OF FOCUS

Based on the Philosophy and Ethics Working Groups' interviews and survey results (see Appendix II for details), there has been growing interest in revising and broadening cultural heritage conservation philosophy and ethics in recent years. Literature, educational structures, and models for practice are developing; however, there is considerable work to be done to address inequities, traditional hierarchies, and sustainability in the field. Recent scholarship in conservation has challenged established methodologies based on ideals of objectivity and impartiality, instead exploring the subjective, interpretive, iterative, and epistemic nature of conservation practice.

Social, cultural and climate justice within cultural heritage preservation practice and theory is an urgent focus for the field. Historically, Western philosophies of preservation have focused on the tangible aspects of cultural heritage while often missing the deep expertise and knowledge residing in constituent communities and with artists. Intangible values and contextualizing collections in terms of their pre- and post-collection histories has increasingly become a focus in cultural heritage conservation, as can be seen in recent guidelines and conventions adopted by international heritage organizations.

Conservators and cultural heritage professionals are also increasingly affected by the changing climate that places communities and tangible and intangible cultural heritage at risk. Among these concerns, it is time for our profession to reevaluate the methods

and materials we use to stabilize works of cultural heritage with an awareness of the negative effects they can have on the planet's climate.

Outlined below are two primary areas of focus for the field around philosophy and ethics that integrate this need for greater attention to social, cultural, and climate justice, as well as the current challenges and opportunities for greater progress. An overarching challenge to this work that has also been noted in other HIT reports is a lack of rigorous, data-based research to better understand the current state of the field and its needs today.

FOCUS AREA #1: Collaborative conservation methodologies

Collaborative practice in conservation can be defined as an approach to conservation in which cultural heritage is contextualized as fully as possible using multiple sources of information including the deep expertise residing with artists, communities, colleagues in allied fields, and individual stakeholders; scientific knowledge; art historical interpretations; conservation treatment methodologies; and museum and archival resources. The practice prioritizes parity between conservation professionals and collaborating partners who bring additional perspectives and expertise to the process. Sharing and negotiating authority are key to successful collaborations. At times, this results in prioritizing the needs of collaborators over historically prioritized physical preservation needs or honoring use value or newness value (original appearance of cultural heritage) over age value.

Collaborative Conservation in Practice

One example of collaborative conservation in practice is the Alutiiq Museum and Archaeological Repository's [Guidelines for the Spiritual Care of Objects](#). Alutiiq community members and staff worked together to create these bespoke guidelines that integrate spiritual and other cultural concerns into the day-to-day care and management of their collections, particularly sacred objects. The Guidelines are noted to be "intentionally flexible" to encourage the continuous, careful evaluation of the care and use of objects in the Museum's care.

In the realm of contemporary art, conservators and their colleagues have developed non-profit and governmental organizations that advance collaborative practices with artists. The [International Network for the Conservation of Contemporary Art \(INCCA\)](#), based in Amsterdam, created an international database for sharing information provided by artists about conserving their work. Unfortunately, this much needed resource no longer functions due to lack of funding. In the U.S., [Voices in Contemporary Art \(VoCA\)](#) initiated a robust program of training conservators to interview and collaborate with artists to document their concerns for re-installing, re-performing, and migrating their works to new technologies for future exhibition.

Collaborative conservation methodologies, grounded in world cultures and more inclusive ethics, have emerged in recent years. Native American collections in the U.S. Southwest and Canada began to develop models for practice that address issues of access, ownership, representation, and inclusion seriously. Simultaneously, international institutional collections of contemporary art realized their need to expand their network of information sources outside the museum realm to understand issues of artist intention and authority. An expansion of stakeholders beyond the museum helped foreground collaborative decision-making.

The inclusion of many different perspectives and expertise broadens and strengthens decision-making towards a more inclusive and respectful solution. The knowledge system of the conservator alone is not sufficient to make determinations about a heritage item's role or function in society, as this role is always changing. Cultural institutions must ensure an equitable contribution to that relationship by thinking outside current paradigms and expanding accepted practice. The current dynamic between most collections and community members needs to be acknowledged as inherently asymmetrical.

Tasked with the care of an overwhelming diversity of cultural material, each with unique context and history, the conservation field increasingly recognizes collaboration with colleagues, allied professionals, and stakeholders to be fundamental. The HiT reports “Diversity, Equity, Inclusion, and Accessibility,” Collections Care and Preventive Conservation,” and “Engagement, Communication, and Storytelling” all strongly call for a prioritization of collaborative practices within the cultural heritage preservation field. As it relates to conservation philosophy and ethics, the field faces the following challenges and opportunities in more fully embracing collaborative practice:

Challenges

→ Insufficient resources for collaborative practice

Most instances of collaborative practice in preservation have been carried out without much funding, staff resources, or time. Consequently, they have not frequently been widely shared. Support is needed for those who are already practicing collaboratively, as well as resources for the development of trainings and integration of new practices throughout the field. This is particularly important for private practitioners, the largest segment of professionals within the cultural heritage preservation and conservation field. Their kinds of collaborations often vary from developing fabrication materials and techniques to maintenance protocols and conservation interventions. Private practitioners report that since they are paid on contract, there is usually little or no support for needed collaborations. Collaborative conservation has yet to become a methodological norm, but rather, most museums see collaborative conservation work as something extra and optional.

→ Institutional barriers that inhibit collaborative practice

Conservators working in institutions face barriers to developing collaborative practices. In addition to the lack of resources, there is a lack of understanding of what these practices entail and how institutions benefit from engaging with

community members and artists. Bespoke guidelines that tailor institutional practices rarely exist, and institutional managers often feel threatened by models of practice that share conservation authority. Considerable educational work needs to take place to break down these barriers and develop guidelines for collaborative practice within museums and collecting institutions.

→ **Education in collaborative practice within conservation graduate programs**

Conservation graduate programs in the U.S. have begun to model collaborative practice in their teaching, but considerable development needs to take place in order to comprehensively address this practice in the curriculum.

Opportunities

→ **Advance research-based, accessible methods for collaborative practice**

Given the lack of field-wide research and adoption of collaborative practice, there is an opportunity to promote research-based, accessible methods. There is also a need for an investigation on barriers and additional literature with case studies. Recent initiatives, such as SAR's aforementioned [Guidelines for Collaboration](#), lay the groundwork for advancing collaborative practice, but the Working Group found very few other instances of this level of collaboration to advance the field.

→ **Gain nuanced, multi-vocal knowledge about cultural heritage sites and collections**

Collaborative practice offers the opportunity to gain indigenous knowledge and perspectives otherwise unavailable, providing a more nuanced picture and informing conservation practice. This is particularly evident in collaborations with indigenous communities that require navigating different knowledge systems with a common goal of building long-term, positive relationships. Central to this collaborative work is the acknowledgement that there is a deep expertise rooted in communities and that historically predominant, traditional conservation approaches are, at times, inappropriate. As a result of such collaborations, there is an increased rigor and accountability to conservators' work.

Collaborative Practice Within Museums

An example of artist collaboration in museums is the San Francisco Museum of Modern Art's [Artist Initiative](#), funded by the Andrew W. Mellon Foundation. The initiative includes a series of projects in which artists and museum staff members pilot new approaches to contemporary art conservation, interpretation, and display. By combining artists' concerns with the concerns and abilities of staff, these interdisciplinary teams research the care and exhibition of complex media works to develop documentation that will guide future decision-makers.

An example of community collaboration is seen in a series of grants from Institute of Museum and Library Services (IMLS) to the Museum of Indian Arts and Culture and the Museums of New Mexico conservation labs in which conservators, interns, curators and Pueblo potters and leaders collaboratively examined the pottery; discussed meanings and uses; and identified pots made by family members, materials, forming, condition, and residues. The group also discussed treatments and long-term stewardship. The School for Advanced Research (SAR)'s [Guidelines for Collaboration](#) (Indian Arts Research Center. 2019), facilitated by Landis Smith, Cynthia Chavez Lamar, and Brian Vallo, served as a reference and training guide during the projects. However, such collaborative work at the museums remains episodic rather than methodological, as its full implementation would require re-structuring the museum and expanding staff and other resources.



Erik Fender (San Ildefonso Pueblo), potter and artist, and projects conservator Landis Smith, discussing potential treatments for a previously restored Pueblo jar in the collections of the Museum of Indian Arts and Culture, Santa Fe, NM.

→ Develop new forms of documentation for knowledge gathered through collaborative practice

A different type of knowledge is gathered through collaborative practice, and the field is struggling to find the best ways to record that information for current and future use. This is particularly apparent for variable art such as installations, time-based media, and performance works, which require considerable effort to learn how the artist would like their work to be experienced in different scenarios as installations are re-installed, technologies are migrated, and new performers are trained to perform their work. Questions of authorship, authenticity, and artwork integrity are often at stake.

→ **Develop education in collaborative practice within conservation graduate programs**

Given that collaborative practice is relatively new to the field, faculty in conservation graduate programs are often not equipped to teach these skills from their own experiences. A recent example of introducing collaboration into the curriculum is the UCLA/Getty Program in the Conservation of Cultural Heritage's Preservation & Access grant from the National Endowment for the Humanities (NEH) titled "Community, Collaboration, and Cultural Heritage Conservation Initiative." The initial funding enabled the development of course sessions and collaborative experiences during internships and master's thesis research. Collaborative internships are under development with tribal and African American collections. The Getty Foundation provided additional funding for the UCLA/Getty Program to hire a Director of Community Engagement and Inclusion, who is helping develop partnerships with African American collections, scholars, and students.

FOCUS AREA #2: National cultural heritage conservation infrastructure

There is significant national infrastructure for cultural heritage conservation that addresses or should address conservation philosophy, ethics, and collaborative practice. This includes graduate programs, publications, mid-career training opportunities, professional organizations, non-profit organizations, and tribal organizations. Yet the Working Group's survey of AIC members found that while 83 percent reported some exposure to the subject in college, graduate, or other training courses, 70 percent felt that the existing literature and education is inadequate. In addition to supporting and evolving the existing infrastructure, there are emerging organizations and initiatives whose perspectives should be elevated and who deserve funding priorities to help lead the nation into the future.

Challenges

→ **Uneven approach to conservation philosophy and ethics in graduate programs**

While conservation graduate programs provide emerging professionals with knowledge and skills to conduct research and practice, research carried out by this Working Group indicates that these programs unevenly address conservation philosophy and ethics.

→ **Insufficient publication on humanistic approaches to conservation**

The Working Group's literature review confirmed that the majority of cultural heritage preservation publications contribute to material, technical, or scientific investigations. Despite paradigmatic changes in the cultural heritage conservation field, there is little in the way of publications that address philosophical underpinnings of the profession. Considerable work needs to take place to integrate indigenous and non-western philosophies and philosophical insights from the humanities and social sciences into conservation philosophy. The body of literature also needs to expand beyond case study descriptions to

more thoughtful texts engaging with conservation philosophy, ethics, and collaborative practice. The connection between practice and theory must be strengthened.

Opportunities

→ **Connect with the growing number of diverse organizations involved with conservation philosophy and ethics**

There are several emerging organizations and initiatives that can help lead cultural heritage preservation in the U.S. into the future. These organizations include tribal museums, heritage centers, and community-driven collections centers, particularly those related to African American, Latinx, Asian American, and LGBTQIA+ communities. New organizations and affiliated groups devoted to new theory and practice for contemporary art, including the [Contemporary Art Network](#) (CAN!) within the AIC and [VoCA](#) support research, literature, and practice that frequently includes artist collaboration in addressing new needs for conceptual, installation, performance, and time-based art. These organizations outside of established cultural centers need equitable support systems as they are often highly relevant for their surrounding communities but may not have adequate capacity and funding. Examples of organizations that help address the complexities and needs of indigenous communities include the Association of Tribal Archives, Libraries and Museums (ATALM) and Mukurtu, a free and open-source community archive platform designed with the unique needs of Native communities in mind.

→ **Assist graduate program faculty with integrating conservation philosophy and ethics curricula**

Conservation faculties are small, particularly considering the vast scope of subjects students must master. New faculty and faculty assistance for graduate programs would support the development of courses with appropriate literature and exercises, pre-program and graduate internships, and apprenticeships that all include a substantive focus on emerging and priority aspects of conservation philosophy and ethics.

→ **Expand opportunities for mid- and advanced-career professionals to expand their knowledge and skills related to conservation philosophy and ethics**

There is a need for more training opportunities for mid- or advanced-career professionals to expand their knowledge and skills and reflect on their experience and potential contribution to the larger field. Some successful workshops include VoCA's programs to train art conservators and their colleagues in methods of interviewing and working with artists. CAN! within AIC engages conservators of contemporary art to support and educate themselves in the often specific theoretical and ethical dilemmas experienced in the field. The need for more training in collaborative methodologies was also seen in the record attendance of FAIC's C2C Webinar course, *Building Collaboration Between Museums and Indigenous Communities*, by conservators from all stages of their careers.

→ **Increase local training opportunities for Native-led cultural heritage organizations**

More local opportunities for education and training are needed especially for Native people who may have religious or governmental responsibilities in their communities and cannot travel for training. In response to this need for local alternatives, organizations such as the Association of Tribal Archives, Libraries and Museums (ATALM) have emerged to support tribal initiatives and agendas, offering skill and capacity-building workshops at annual conferences. Though ATALM cannot at present meet all of the need for training, it is setting an important precedent. Potential sources of funding for such programs include gaming enterprises, as well as federal, state, city, and private foundation grants.

→ **Improve research and publication training for conservation professionals**

Research and publication training for conservation professionals to publish on their practices supporting the evolution of conservation philosophy and ethics (e.g., collaboration, art as commodity, the sensitivity of stewardship of indigenous cultural heritage) is needed. Such training can also encourage conservators to expand beyond case study descriptions to more thoughtful texts engaging with conservation philosophy, ethics, and collaborative practice. Recent academic curricula interventions, such as the Chicago Object Study Initiative (COSI) at the University of Chicago and Northwestern University and the Cultures of Conservation initiative at the Bard Graduate Center, New York, are a strong response to the perceived disconnect between conservation and the academic humanities. However, more conservators need to be engaged in or at least exposed to such initiatives.

STRATEGIC GOALS

We recommend the following three strategic goals within the arena of cultural heritage conservation philosophy and ethics, each of which addresses the two focus areas discussed above. Summarized below are outcomes the field can pursue in the short, medium, and long term to achieve these goals.

GOAL #1: Strengthen the role of conservation philosophy and incorporate humanist, diverse philosophies into conservation education, literature, and practice

The first museum and field conservation laboratories were established during the late nineteenth and early twentieth centuries. Although humanist lines of inquiry into the symbolic meaning and aesthetics of conservation objects have always been present, chemistry and material science became the dominant research and teaching paradigms throughout the twentieth century. An underlying assumption has been that if we understand materials and mechanisms of deterioration, we can arrive at conservation solutions. Today, there is a strong movement inside the field and externally to recalibrate this dominance of science and strengthen the humanities in conservation research to give other ways of understanding cultural heritage equal footing with

scientific research. This requires extensive work within the field, starting with graduate training and continuing through mid-career education to include humanist, indigenous, conceptual art, and non-western philosophies, and new methods of inquiry in research to arrive at considered ways of caring for cultural heritage. Ultimately, the field should become fluid and flexible in adapting philosophy contextually and humanistically.

Timeline	Outcomes
Short term 2023-2024	• Support research to develop strategies for identifying and integrating Western and non-Western philosophy in cultural heritage conservation. • Develop opportunities to engage philosophical thinking in a wide range of conservation contexts (e.g., private practice, large museums/small museums, in proximity of cultural centers, outside of such centers). • Advocate for and identify funding for conservation philosophy, fostering investment in the subject and allowing dedicated time for its pursuit. • Secure funding for research on integrating sustainability and collaborative practice in cultural heritage conservation education.
Mid term 2024-2027	• Host symposium and publication on integrating Western and non-Western philosophy in cultural heritage conservation. • Support residencies and visiting professorships to foster collaborative research and teaching Western and non-Western philosophy in cultural heritage conservation. • Provide support for faculty in conservation programs to incorporate more Western and non-Western philosophical writing into their syllabi and curricula. • Design and support early and mid-career education on Western and non-Western philosophy in conservation. • Encourage international and domestic exchanges between educators of diverse conservation philosophies and time in the field, resulting in accessible documentation, such as conferences with resulting papers. • Fund and develop conservation philosophy programming via lectures, podcasts, and videos, as well as web-based resources (online texts, reading lists, webinars, etc.). • Develop widely accessible forums for discussion of philosophy: continuing education courses, workshops, reading groups. • Integrate conservation philosophy into AIC's annual meetings.

Long term 2027 onward	• Assess the status and changes over time in education, literature, and information exchange in philosophy and cultural heritage conservation. • Establish publication grants to encourage new publications in conservation philosophy.
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GOAL #2: Reformulate conservation ethics to include the demands of social justice and climate change.

Ethics, as taught, practiced, and embodied in our professional codes, have not been deeply integrated with concerns around social justice and climate crisis. It is time for a paradigm change that will require a reframing of cultural heritage conservation objectives to center the needs of artists and communities, the development of sustainable theories and practice, with a goal of social inclusion and climate activism.

The Working Group found no mention of equity, inclusion, collaboration, or sustainability in the AIC Code of Ethics and that reference is made only to “cultural property” or the tangible aspects of art and cultural materials, rather than “cultural heritage” which signals an inclusion of both tangible and intangible aspects of the materials in our care. When compared with various ethical codes, including those of International Council of Museums’ Code of Ethics and the Australian Bura Charter, the AIC Code is clearly in need of revision. There is also a need for bespoke ethical codes tailored to specific communities and institutions. Based on research conducted by the distinguished British conservator/scholar Jonathon Ashley Smith, local groups of conservators and their colleagues will benefit from actively discussing and revising ethical codes for their institutions and areas of specialization. Additional research, education, and publication on bespoke codes would benefit the field.

To make structural changes that reflect these growing trends and support the needs in the field of cultural heritage conservation, the movements in the field need to be documented and evaluated more broadly to develop educational models that support all fields in which conservation is used. Note that the following recommended tactics are focused on the reformulation of cultural heritage preservation and conservation ethics. We recommend the HIT reports “Climate Crisis,” “Diversity, Equity, Inclusion, and Accessibility,” and “Education, Professional Development, and Leadership” as companions to this work with additional specific goals and outcomes to benefit the field and support the below work.

Timeline	Outcomes
Short term 2023-2024	• Design and secure funding for initiative to examine ethics in allied fields.

	• Establish committee of AIC members, including emerging professionals, and collaborators to revise AIC Code of Ethics and Guidelines for Practice. • Encourage AIC & FAIC to examine how it can change to support a more equitable, action-oriented field that integrates and promotes social and climate justice through its work.
Mid-term 2024-2027	• Advocate for the establishment of museum positions responsible for developing and implementing sustainable practices. • Committee as described above assesses and revises the AIC Code of Ethics, including a response to global issues of social justice and sustainability and including intangible values and context that exist outside institutional settings. • Fundraise or shift currently available funds to create Sustainability Officer/Coordinator positions within AIC & FAIC to speak to how AIC & FAIC can become more sustainable and provide resources to those within the field to make these changes. • Design and offer accessible training for faculty in conservation programs to incorporate sustainability into their syllabi. • Design and offer accessible, free mid-career education in sustainability in conservation regardless of professional association membership.
Long term 2027 onward	• Assess the status and changes over time in education, literature, and information exchange in sustainability in cultural heritage conservation.

GOAL #3: Incorporate inclusive and collaborative policies and practices in cultural heritage conservation

By incorporating collaborative conservation methodologies into conservators' professional repertoire, the profession has the potential to consider a wider, more sustainable, inclusive, and equitable effect on contemporary society and its cultural heritage. To integrate the concerns of artists and communities with stakes in the conservation of cultural heritage, we must broaden conservation research and decision-making to include and even prioritize their voices or have them lead the process. Collaborative methodologies improve the accuracy and extent of conservation and curatorial documentation resulting in more responsible decision-making. However, models for collaborative process are nascent and fraught with concern about sharing authority and consensus building. Similar to strengthening the role of philosophy and reformulating conservation ethics, incorporating inclusive and collaborative practices in cultural heritage conservation will require a foundational change and considerable work.

Timeline	Outcomes
Short term 2023-2024	• Identify and compare recent models for collaborative practice in conservation, including decision-making processes, barriers, concerns, risks, and potentials in restrictive contexts (e.g., lack of funding, absence of highly educated experts in well-established areas of the field). • Develop trainings on equitable collaborations between cultural heritage preservation professionals, communities, and artists. • Research and create centralized resource on organizations that provide funding for museums and individual conservators to collaborate with stakeholders. • Identify and support emergency planning needs of highly vulnerable small communities, museums, and heritage sites, beginning with improving communication with and between needed agencies and personnel.
Mid-term 2024-2027	• Support integrating collaborative practice in cultural heritage conservation pre-professional education. • Advocate for museums and cultural institutions to provide funding for community access to their collections and require collaborative practice training for appropriate staff. • Provide free training to all within the conservation and collections field on developing equitable, reciprocal, and long-lasting relationships between cultural institutions and communities. • Advocate for support of small conservation entities (museums, private practice, heritage sites, and communities) with grants and technical assistance that work for their timeframe and capacity. • Demand change in mid-sized or big museums, heritage sites, and cultural organizations for implementation of inclusive and sustainable practices, using successes from small-sized trials as models.
Long term 2027 onward	• Establish collaboration as a standard model for practice within cultural heritage conservation. • Assess the status and changes over time in collaborative practice in the field of cultural heritage conservation.

CONCLUSION

The committee members who conducted research and drafted this report are passionate about its content. We are at a moment in history in which much needed changes in cultural heritage

conservation are being articulated and implemented in response to external and internal calls for social justice and more ecologically sustainable practices. At its best, cultural heritage conservation has the potential to connect people with their histories and cultures and to foster individual and community identity. Collaborative work is mutually beneficial for museums and communities and offers the opportunity for dialog, to correct and upgrade the information a museum has about its collections, and to make more informed, and therefore more responsible conservation decisions. We join with the many other conservators and their colleagues who researched and authored other reports under the Held in Trust umbrella in hoping that Held in Trust will impact future funding streams to help enact the changes that we recommend for the ongoing health and relevance of the field.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

Smith, Landis and Glenn Wharton. 2023. "Philosophy and Ethics." Held in Trust.
<https://www.culturalheritage.org/docs/default-source/publications/reports/held-in-trust/held-in-trust-report.pdf>.

APPENDIX I: COMMITTEE MEMBERS

The HIT Philosophy and Ethics Working Group consists of 13 conservators and allied professionals, a diverse group in terms of years in the field, types of professional experience, demography, and conservation specialties and interests.

Joseph Aguilar, Deputy THPO, Pueblo of San Ildefonso

Damon Crockett, Data Scientist, Lens Media Lab, Institute for the Preservation of Cultural Heritage, Yale University

Kate Fugett, Associate Objects Conservator, The Metropolitan Museum of Art

Matthew Hayes, Conservator in Private Practice, The Pietro Edwards Society for Art Conservation

Alex Lim, Architectural Conservator, affiliated with, but not representing, the National Park Service at Tumacácori National Historical Park

Kelly McHugh, Head of Conservation, National Museum of the American Indian

Rachel Moore, Intern, National Museum of the American Indian until entering UCLA/Getty Graduate Program in the Conservation of Cultural Heritage

Amanda McLeod, Curator, Anthropology Museum, University of Winnipeg

Nancy Odegaard, Emerita Conservator, Professor, University of Arizona

Mareike Opeña, Conservator in Private Practice, New York; PhD Candidate in Conservation, Maastricht University

Landis Smith, Projects Conservator, Museums of New Mexico and Coordinator, SAR Guidelines for Collaboration*

Cybele Tom, Objects Conservator, Doctoral student in Art History, University of Chicago

Glenn Wharton, Chair, UCLA/Getty Interdepartmental Program in the Conservation of Cultural Heritage*

**Working Group co-chairs*

APPENDIX II: WORKING GROUP RESEARCH METHODOLOGIES

Moderated internal discussion among a diverse working group

Data was collected through moderated discussions and meetings of the working group and sub-committees and in-depth interviews with a range of conservators and allied professionals. The purpose was to refine the process and learn from those with important experience relevant to the Philosophy and Ethics pillar of the HiT initiative. Topics and questions were formulated by each of the three Philosophy and Ethics Working Group subcommittees – Conservation Philosophy, Code of Ethics, and Collaborative Practice.

Interviews

Members of the Working Group conducted in-depth interviews with a range of conservators and allied professionals using an interview template created by the Group. Interviewees included: Sasha Arden, Tamia Ayana, Sanchita Balachandran, Joy Bloser, Brian Castriota, Angela Chang, Randall Frambes, Anisha Gubta, Lauren Hall, Richard Harck, Susan Heald, Jennifer Hickey, Rosaleen Hill, Margaret Holbein Ellis, Roy Ingraffia, Narayan Khandekar, Meredith Lavelle, Rosa Lowinger, Frank Matero, Suzanne McLeod, Michele Marincola, Fran Matero, Maureen Matthews, John Moses, Delia Müller-Wüsten, Jen Munch, Catherine Myers, Ellen Pearlstein, Patricia Smithen, Samantha Owens, Patrick Ravines, Hannelore Roemich, Rebecca Rushfield, Martha Singer, Norman Weiss, and Joelle Wickens.

Survey

A subcommittee of the Working Group and Eric Pourchot, Institutional Advancement Director of the FAIC, developed a survey to gain insight into the role of conservation philosophy, ethics, and collaborative practice, and the ways conservators practice and perceive their profession. AIC sent the survey to its membership. Also of interest to the Working Group were outside perceptions of conservation about which Eric Pourchot shared data from a previous study.

Focus Group Meetings

A focus group meeting hosted by Glenn Wharton and Nancy Odegaard with conservation graduate program faculty took place on October 18, 2021. The intention of the discussion was to investigate graduate education as it relates to conservation philosophy, ethics, and collaborative practice. Mareike Opeña hosted a second forum with members of the AIC Contemporary Art Network (CAN!) on September 21, 2021. The aim of this discussion was to investigate the current status and needs of contemporary art conservation.

APPENDIX III: DEFINITIONS

Philosophy is a broad umbrella term for a form of inquiry concerned with the fundamental principles or assumptions in a field of study. The multiple conservation philosophies of cultural heritage are the result of meta-conservation investigations into the nature of conservation itself. Conservation philosophy is the process of asking the “why” behind the how or what.

Collaboration is defined as an approach to conservation in which cultural heritage is contextualized as fully as possible using multiple sources of information including conservation expertise, museum resources and records, the literature and importantly, the deep expertise residing in communities or individual stakeholders. Collaborative conservation is a shared endeavor in which the collaborators strive for parity between the conservator(s) who offers a certain type of expertise and the collaborating partner(s) who brings perspectives and expertise to the process that are otherwise unavailable. A shift in authority from the museum conservator to a shared authority with the collaborator/collaborating individual or community is key to a successful engagement.

Working with indigenous communities may involve the navigation of different knowledge systems with a common goal of building positive relationships and greater understanding. Transparency is key. As a result of such collaborations, there is an increased rigor and accountability to conservators’ work. In collaborative practice, listening and discussion are paramount, so that actions taken are in alignment with the perspectives and information shared by community members. Collaboration is an iterative, not an extractive practice. In this process, cultural heritage is contextualized in terms of its contemporary relevance and meaning to stakeholder communities.

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Science and Materials

Committee Co-chairs: Francesca Casadio and Sarah Scaturro

INTRODUCTION

A deep connection to diverse cultural heritage traditions, objects, and sites must be encouraged and maintained to foster a society where all humanity is valued and thrives. While the work of cultural heritage conservators to prevent and repair damage is better known, the role of scientific inquiry, knowledge, and research in augmenting and underpinning the preservation enterprise is equally foundational and needs to be nurtured and developed.

Cutting-edge science unveils the complexity of aging processes, reveals aspects of making, and when combined with the most powerful and networked data science, it has the potential to boost the preservation of our cultural patrimony amidst the climate crisis. Scientific research on cultural heritage allows new glimpses beneath the surface of objects and sites, and in doing so reveals unexpected facets of the social, economic, political, and cultural history of societies.

A particularly meaningful example in the United States as we approach the semiquincentennial, are the original documents of the Declaration of Independence, the Constitution, and the Gettysburg Address. All are monumental achievements for the nation that represent immortal ideas, yet their evidence is encased in fragile documents whose material existence needs to be preserved. To achieve this, these founding documents are stored in highly engineered cases that precisely control the environment, according to the latest scientific and conservation knowledge.

Technological innovations aid the preservation and transmission of tangible and intangible heritage. We can use advanced technology to recover, re-play, and digitally archive sound and video recordings thought damaged beyond repair. We can use augmented reality, holography, artificial intelligence, or other technological advances to enhance access to people's heritage and traditions. A strong and recognizable example of the utility of technology in providing access to museum collections and architectural sites has been the rise of virtual experiences during the early years of the COVID-19 pandemic.

Connections between art and science go back thousands of years, when humans around the world started combining metals, minerals, and clay to make pottery, bronze, and the first synthetic pigment, known as Egyptian blue (documented as early as 3200 BC). The first modern scientific laboratory in an art museum was established in 1888 at the Berlin Museums in Germany (now Rathgen-Forschungslabor) (Riederer, J. 1976). In the United States, Edward Waldo Forbes founded the Fogg Museum's Department of Technical Research at Harvard in 1928, the first of its kind in North America (Bewer 2010). Over the past several decades, robust growth in the number of scientific

laboratories within cultural heritage institutions has led to the emergence of a small but impactful field.

At the same time as we recognize the achievement enabled by the intertwined endeavors of conservation and science in the United States, we must also acknowledge their problematic histories. By focusing on objects and using the scientific method to confer an aura of “objectivity” to the whole conservation enterprise, we deflected attention from the very people who make subjective decisions and interpret objective evidence in a personal way to support decisions. This association of conservation with objectivity has, in part, been the misguided ideological foundation of a culture in the field that has been exclusionary.

The early days of conservation and conservation science research privileged the study of objects of European and North American makers over those produced by other cultures and geographies. The field has also set expectations for the advanced academic education of practitioners, which has led to a professionalization of the field at the expense of entire ethnic groups and communities that have been traditionally and systemically excluded from this biased interpretation of what “objective” and “science-based” conservation practice and research means.

Today, this is no longer acceptable: while celebrating the importance of scientific inquiry for advances in the areas of innovation, environmental sustainability, and science for the humanities for Held in Trust, we must also recognize that for many decades science has been used in the field to create a misleading veneer of “objectivity” and has been weaponized to normalize and codify exclusionary practices. Started in museums and connected to the very birth of professional conservation, a white supremacy construct of “science” has been pervasive until recently in cultural heritage.

If we want to chart an equitable, more compelling, and resilient path for heritage science in conservation, then we need to acknowledge the root cause of this exclusion and recognize that scientific research is done by people and is subject to interpretation just like any humanistic discipline. We must join forces with other sectors to ensure equitable access to graduate training, as well as value the technical expertise gained through embodied practice outside of academia. We must also strengthen a decentralized approach to scientific investigation, bolstering art + science hubs that are not exclusively available to predominantly white institutions, but work in the service of public projects to ensure communal participation in answering critical questions in heritage science for all Americans.

As the United States struggles to attract diverse communities to careers in Science, Technology, Engineering, and Math (STEM), the scientific study of art and conservation materials can be a natural catalyst for equity and inclusion in the sciences. It is a global pursuit that requires integration of a diversity of expertise. An art + science approach opens new paths of inquiry, engages students in new endeavors in the humanities, and catalyzes innovation in the sciences. The opportunities outlined here would provide students with new, highly adaptable skill sets and career paths that are currently not explored in a systematic manner in the formal U.S. educational system.

Creating a roadmap for heritage science to thrive will have significant societal and scientific impact. In the sciences, it will promote innovative developments in sensing and contribute to modeling of aging phenomena and material properties, which also benefit other fields in the humanities and social sciences. In society, it will deepen the connections that the American public already have with certain objects, sites, and the values of their intangible cultural heritage. Examining the past through the lens of objects' materials and making creates a platform for sharing knowledge and ideas. The interdisciplinary collaborations required for this endeavor promote a respect for multiple authoritative voices. Ultimately, investing in heritage science programs and ideas as outlined in this document will help engage Americans with the value of science for humanity.

CRITICAL AREAS OF FOCUS

By combining art and science in formal and informal learning experiences, it is possible to inspire the next generation of Americans to think beyond traditional intellectual domains, and with significant depth, about how the humanities and physical sciences can work together for the betterment of human understanding. In the following pages, we outline a roadmap for heritage science in the United States and share our recommendations to achieve a thriving field, organized according to three critical focus areas identified by the working group: *Innovation*, *Environmental Impact*, and *Science for the Humanities*.

It should be noted that an overarching challenge to realizing the potential of cultural heritage science is a lack of funding. Without concerted efforts, this is unlikely to change, as recent trends show a shift from applied sciences to more basic and fundamental scientific research that precludes innovation, ignores environmental impact, and disregards science for the humanities. Another imperative is to activate the diverse communities within the U.S. who may not have been involved in defining their agenda for scientific research in heritage preservation, and whose knowledge and perspective are invaluable to broaden input for more inclusive, joint stewardship; sustained communication; and collaborative research.

FOCUS AREA #1: Innovation

The goal of innovation in heritage science is to positively address pressing challenges that are unique to preserving and understanding cultural heritage, especially in achieving ever more precise identification of materials, assessment of condition, development of sustainable treatments, and in collaboration with others, a more nuanced understanding of the creation and history of objects and sites. Heritage scientists apply and adapt innovative scientific techniques, discoveries, and materials to questions and challenges posed by cultural heritage. In turn, the preservation and understanding of material culture and intangible heritage pose complex challenges that can push the development of novel technologies, tools, materials, and methods that lead to valuable transferable outcomes for other fields.

Investing in Innovation

Recognizing the generative power of cross-disciplinary collaborations, federally funded agencies have made recent investments in building connections between academics, museums, and industries that have propelled new leaps in knowledge and practice:

National Endowment for the Humanities (NEH)—launched Research and Development grants in its Division of Preservation and Access with higher award amounts, in recognition that innovative scientific research in heritage preservation requires a higher level of support than other humanities-based research. Funding up to \$350,000 over three years supports partnerships between heritage scientists and academics to push the envelope in developing new treatments, diagnostic techniques and approaches, and databases and platforms for information sharing.

National Science Foundation (NSF)—supported a trailblazing initiative from 2009 to 2016 that funded advanced research requiring collaborations between academics and museums, the Chemistry and Materials Research in Cultural Heritage Science program (also known as SCIART/ CHS). For a relatively modest investment of \$6.7 million over 6 years for some 20 grants, this initiative enabled numerous innovations in preservation, while offering for the first time, an opportunity to U.S.-based graduate students to do research in heritage science. As a result, the program has graduated some of the few specialized and U.S.-trained heritage scientists now working in the country.

An overarching challenge in heritage science is the paucity of specialized practitioners. We estimate fewer than 100 heritage scientists are working in the U.S., primarily active in well-resourced institutional labs, with 75% of the expertise clustered on the East Coast and in California.

In recent years, a new collaborative model has emerged that aspires to fill the gap between the country's need for scientific analysis at cultural heritage sites and institutions and the capacity of heritage scientists to meet this demand: diffused science hubs. In the U.S., these include, most notably, the Northwestern University/Art Institute of Chicago Center for Scientific Studies in the Arts (NU-ACCESS); the Network Initiative for Conservation Science at The Metropolitan Museum of Art (NICS); the Pacific Northwest Conservation Science Consortium (PNCSC); and the Baltimore-based consortium offering opportunities for scientific research associated with art conservation for diverse cohorts of undergraduate students (SCIART fellowship initiative).

Harnessing groundbreaking scientific processes to study the visual arts and material culture promotes creative design thinking and innovation moving beyond the hyper-specialization of today's research world. This has long been understood in the non-profit world and is spreading in the corporate arena, with Fortune 500 companies investing in art + science projects (e.g., Google Arts and Culture). Other examples include an alliance between the Getty, Tate, and Dow to develop a new class of cleaning treatments for acrylic paints (Ormsby et al. 2016) and a collaboration between The Metropolitan Museum of Art and the Bruker Corporation on advanced instrumentation.¹

Partnerships with national synchrotron labs such as the Stanford Synchrotron Radiation Lightsource (SSRL); Argonne National Lab; Brookhaven National Laboratory; The Cornell High Energy Synchrotron Source (CHESS); and advanced fellowships held jointly at museums (e.g., National Gallery of Art) and the National Institute of Standards and Technology (NIST) or the US Army Research Laboratory (ARL) have led to breakthrough discoveries, new instrument and coatings development, and publications with high scientific impact in the field (Woll et al. 2006, Faber et al. 2021).



Cleveland Museum of Art conservators and scientists from the Northwestern University- Art Institute of Chicago Center for Scientific Studies in the Arts (NU-ACCESS) investigating the polychromed terracotta 'Christ and the Samaritan Woman at the Well,' c. 1500–1530, workshop of Giovanni della Robbia, Italy, Tuscany, Florence, 16th century (Gift of Samuel Mather 1922.210).

¹ <https://www.bruker.com/pl/news-and-events/news/2017/bruker-and-the-metropolitan-museum-of-art-announce-partnership-in-the-field-of-cultural-heritage.html>

An excellent example of the benefits of collaboration between cultural heritage science and other areas of science and technology is work involving cultural heritage science and forensic analytical chemistry.² The disciplines share a common mindset and methodologies such as the need to identify materials using increasingly smaller sample sizes, coupled with the focus on imaging and non-invasive techniques. Collaborations with this allied field have afforded museum scientists with opportunities for two-way technology transfer (e.g., fingerprints, imaging, DNA, etc.); alternative funding sources; and access to graduate student researchers (Errington et al., 2016). The public fascination with both fields makes for effective public engagement regarding the investigative use of science in studying human behaviors and products, both historic and modern.

The above examples are just a selection of recent collaborations highlighting the innovative potential of cultural heritage science. Outlined below are the challenges this work currently faces and key opportunities to pursue.

Challenges

→ **Lack of broad awareness of cultural heritage science**

A lack of broad awareness of the work of cultural heritage science, its impact, and its potential hinders innovation. It is an obstacle to attracting funders, partners, and interdisciplinary research, as well as to growing and diversifying the workforce.

→ **Scarce overlap with funded areas of national priority**

Unlike energy, security, and the economy, cultural heritage is not seen as “mission critical” in the U.S. On the other hand, in Europe, because cultural heritage is considered foundational in defining the national identity and driving tourism, science and innovation initiatives related to the preservation and interpretation of cultural heritage are supported. What if heritage science could align itself to other “mission critical” priorities in the U.S. such as the green energy revolution or the CHIPS and Science Act to increase visibility and impact?

→ **Low capacity with existing facilities**

There are less than 15 museums in the U.S. with well-equipped scientific laboratories and teams of more than four staff scientists. These labs are located at well-resourced private and public institutions (i.e., the Getty, the Metropolitan Museum of Art, Smithsonian’s Museum Research Institute, the National Center for Preservation Technology and Training (NCPTT), etc.), predominantly clustered on the East coast, with a few in the Midwest and West coast. Similarly, there are only a handful of university-based centers in the U.S. with a mission to support cultural heritage institutions with easy access, expertise, and connections to advanced technological resources, most of which are located on the East coast.

→ **Small pool of U.S.-based cultural heritage scientists**

² <https://theconversation.com/ancient-egyptian-pigment-provides-modern-forensics-with-new-coat-of-paint-60037>

There are less than 100 heritage science positions in the U.S. Their affiliations with disparate cultural institutions leads to highly individualized and disconnected research efforts. There are also few academic partners working in cultural heritage materials and a dearth of graduate student projects due to lack of funding and the relatively low-impact factor of publications in conservation or applied sciences.

Opportunities

→ Promote cultural heritage science through public programs

Engagement programs that purposefully include cultural heritage science at museums, other cultural institutions, and online workshops will center different communities, promoting inclusion and potentially driving curiosity about the field. The more people that are aware of and understand the goals and work of cultural heritage science, the more opportunities there are to grow, diversify, and enrich the field in terms of ideas, scientists, and collaborations. Heritage science represents a positive application of science that can build interest in and broaden the support of science within the American population.

→ Create a national superstructure of heritage science hubs

While recent years have seen the emergence of excellent regional hubs (NU-ACCESS, NICS, PNCSC) to fill the gap in demand and availability of heritage scientists, a national superstructure of heritage science hubs will energize and sustain the field and collaborate with similar European networks for heritage science.

→ Leverage the computational revolution

Big data analysis of shared scientific observations on objects and sites can address problems and propose solutions that are potentially much more impactful than the usual case-by-case study.

The rise of artificial intelligence and computational modeling advances our understanding of processes at multiple time/length scales, enhances our ability to assess potential risks, and boosts our capacity to develop strategies and solutions. We should leverage digital protocols to increase usability and interoperability of data and promote equitable access. This includes developing and distributing Standard Operating Procedures (SOPs), reference data sets, open-source code, computational resources, and FAIR data (meeting the principles of Findability, Accessibility Interoperability and Reusability).

FOCUS AREA #2: Environmental Impact

Scientific research is used to measure and suggest means to reduce the environmental impact of current cultural heritage conservation practices. It advances the implementation of sustainable methods and materials in the preservation and conservation field in ways that align with institutional, national, and global environmental sustainability goals. These methods include environmental planning aimed at reducing heating and cooling energy usage; reusing display and packing materials; using greener materials and treatments; and renewing focus on integrated pest management to

address increasing infestations and shifting pest species brought about by climate change.

One of the biggest sustainability challenges in cultural heritage is balancing the materials and methods needed to preserve our cultural heritage with their environmental cost (see also HiT report “Climate Crisis and Environmental Impact”). For example, for several decades now a dominant approach aimed at prolonging the life of important cultural objects has been to strictly control the temperature and relative humidity ranges. Yet, these strict standards force cultural institutions to depend on energy-intensive heating, ventilation, and air conditioning (HVAC) systems. This is especially problematic as environmental change and sustainable practices dictate a decrease in fossil fuel use. An additional impact is that institutions that could not achieve these strict parameters are often unable to procure loans because of codified lender stipulations grounded in a restrictive interpretation of scientific research on the matter. Developing adequate sustainability plans requires a science-based evaluation of the sensitivity of museum collections and built heritage sites to environmental changes and an audit of how current standards and policies impact the environment. This goes together with rethinking how to set the useful life of an object or site accounting for the fact that the planet may not exist as we know it at some point in the near future.

The primary challenges facing increased involvement of cultural heritage scientists with sustainability, the environmental impact of cultural heritage practices, and the impact of climate crisis on cultural heritage are outlined below, as well as the significant opportunities.

Challenges

→ Need for new paradigms for research in the field

We need a paradigm shift to allow scaling of experimentation on individual or model heritage materials and structures to match real-world objects and their needs. Epidemiological studies of the effects of environments and sustainable policies on collection objects require highly networked research partnerships, advanced imaging and data processing techniques, standardization of methodologies around interoperable frameworks, and even citizen science, which are research methodologies the field has yet to master.

→ Lack of awareness and accessibility to resources

Medium and small cultural institutions and the public have little or no access to the ongoing scientific research on the impacts of climate change to collections and heritage sites. This is compounded by a lack of awareness and financial support for cultural institutions to address the ongoing impacts of climate change on their collections, buildings, and sites.

Opportunities

→ Advance data-backed, sustainable solutions for cultural heritage institutions, sites, and collections worldwide

Collecting, sharing, and interpreting data on real-time change of artworks and sites exposed to larger brackets of environmental parameters, as well as the mining of past historical information, will revolutionize the preservation of our cultural heritage. With machine learning, this data can be analyzed globally to provide evidence for solutions to curtail carbon footprints of museums and other cultural institutions.

→ **Contribute to environmentally friendly practices for the movement, treatment, and display of cultural heritage objects**

Specialized research between heritage scientists, practicing conservators, curators, and other professionals in the larger community of environmental scientists can lead to the development of environmentally friendly practices, including planning and disposal of materials used during shipping, crating, display, construction projects, and scientific analysis and treatments performed on movable and immovable heritage, along with robust material testing (including the measurement of chemicals off-gassing from display and storage materials) to support the use of sustainable materials. A handful of projects in the U.S. have been impactful in this area, such as:

- Getty Conservation Institute's Managing Collection Environments project
- Research, development, and redesign of passive and energy-efficient storage environments led by Dr. Lukasz Bratasz at Yale University and by scientists at the Image Permanence Institute
- American Institute for Conservation (AIC) materials working group and materials testing [wiki](#) (a field-sourced website focused on selection of heritage safe materials and a data sharing model)
- [HERIE](#), a digital platform to model stability of collections under a user's environmental conditions and assist in the assessment of risks and deterioration processes that affect heritage assets; and
- NEH-funded [STiCH project](#), which examines the environmental impact of conservation products and packing materials through their entire lifecycle.

→ **Contribute to creating awareness for the urgency of climate action**

Heritage conservation and preservation offer society an alternative entry point into thinking about environmental themes, positing the preservation of our cultural legacy as a counterpoint to our disposable and commodified society.

FOCUS AREA #3: Science for the Humanities

Combining science with the humanities in innovative pedagogies and dissemination approaches can develop competencies and attitudes for Americans that are essential for innovation, collaboration, problem-solving, and the communication of complex ideas.

Academia should be preparing students to work in increasingly interdisciplinary and complex environments by fostering a research approach that promotes a “radical diversity of [thoughts](#)” (Ottino and Randolph 2018). New generations of humanists need to be trained and educated not only in the methodologies and results of scientific inquiry, but also in the collaboration and co-creation of knowledge, which is a

fundamental practice of scientific research. In turn, scientists need to understand the language, methods of inquiry, and relevant questions that the humanities ask of objects. Together, educational programs that integrate learning experiences in the humanities and arts with science, technology, engineering, mathematics, and medicine (STEMM/STEAM) lead to improved educational and career outcomes for undergraduate and graduate students ([National Academy of Science and Engineering Committee 2018](#)).

Investing in Science for the Humanities

Since 2000, the Andrew W. Mellon Foundation has been a key force in strengthening and sustaining the practice of collaborative research in science, heritage preservation, and art history.

Andrew W. Mellon Foundation investments in heritage science—Benefitting U.S. museums and cultural institutions, the initiative endowed over twenty positions for scientists between 2000-2020; supported acquisition of state-of-the-art analytical equipment; and created a pipeline of talent into the field by establishing postdoctoral fellowships and other training programs in cultural heritage science.

Andrew W. Mellon Foundation investments in object-based art history—In higher education, the joint presence of scientists, conservators, and curators in museums and the development of interdisciplinary pedagogy in academia has catalyzed the field of art history to augment traditional formal analysis in fresh ways with scientific explorations of the underlying materials, structure, and design of cultural heritage objects and sites. The Mellon Foundation supported this innovative pedagogical and research practice with grants to several academic/museum partnerships, such as, the Chicago Object Study Initiative, a collaboration between the University of Chicago, Northwestern University, and the Art Institute of Chicago to strengthen object-based training for art history graduate students (2011-2023).

Historians have shown a growing interest in using reconstruction as a theoretical model for studying historical objects, elevating making as an important cognitive and embodied tool (Smith, P. et al. 2017; Carlyle et al. 2021). By leveraging scientific techniques to uncover details about art objects' creation, heritage scientists can provide art historians with additional information about artistic practices and making, complementing archival sources and effectively using the objects themselves as primary sources of information about artistic, artisanal, and industrial practices.

This focus on making, in connection with Indigenous histories and the science of the materials used to make functional and aesthetic objects may facilitate connections between Indigenous ontologies and the natural world. For example, the Chilkat Dye Project is a collaborative effort among the 25-member Chilkat Dye Working Group,

conservators at the Alaska State Museum, and chemistry faculty and students at Portland State University, with Lily Hope, a weaver and teacher. This collaboration used advanced mass spectrometric techniques and workshops using traditional techniques for accurate reconstructions, to identify the dyestuffs used to create the three iconic colors (blue/green, brown/black, and yellow) which typify Indigenous Chilkat ceremonial textiles.

The project highlights the importance of traditional Indigenous knowledge in scientific research; informs curriculum; and provides knowledge to Chilkat weavers about their ancestors' dye choices that they can use to inform their own artistry. The project's model of research foregrounds the priorities of Indigenous people through a network of long-term relationships and access to science through the diffused hub of the PNCS. Pedagogical offerings of Indigenous making and sharing "demonstrate that Indigenous people can exert agency to restore futurities by, among other things, reclaiming traditional forms of making as a living legacy of Indigenous scientific and technological activity" (Barajas-López, F. et al. 2018).

The innovative Art Bio Matters conferences of 2018 and 2021 (sponsored by The Institute of Fine Arts at New York University, and The Metropolitan Museum of Art with support from the Richard Lounsbery Foundation) convened scientists, conservators, and curatorial/cultural historians to explore the interdisciplinary study of biological materials used in the creation of artifacts of historical and cultural importance. Scientists who use leading-edge knowledge and methods, historians, and conservators discussed approaches to answering critical questions regarding art historical and conservation-related issues and the value of that information. Other success stories at braiding cultural heritage science with art history include the [Summer Institute for Technical Studies in Art](#); the [Summer Teachers Institute in Technical Art History](#); the [Mellon Foundation grant to the Virginia Museum of Fine Arts for the study of African Art](#); and, abroad, the [Netherlands Institute for Conservation + Art + Science](#).

Though a gap still exists between the sciences and the humanities, the divide is shrinking and there has been much progress to report since C.P. Snow's (1962) critique of the gulf separating "the two cultures." Outlined below are the challenges this work currently faces and key opportunities to pursue.

Challenges

→ **Lack of accessible, open-source, multi-lingual resources**

Platforms to disseminate shared art + science findings and teaching methodologies are limited and difficult to discover. Data on the same or similar sets of material is difficult to share across institutions (partly due institutional resistance). The relative lack of open access/open-source data and publications make it difficult for those without institutional support and connections to access or partner with heritage scientists. This hinders international cooperation and research, which is vital for humanities research.

→ **Low incentives for the creation and support of art + science interdisciplinary positions in K-12 and higher education**

Chronic underfunding in public school systems and strict adherence to common core standards with limited bandwidth to think creatively have been challenges to creating art + science positions and curricula in K-12 education. Universities and colleges are mostly not interested in providing an employment line for individuals who would focus on cultural heritage-related studies even though they value the STEAM connection. As an example, attempts to situate conservation scientists at the University of Texas Dallas (to partner with the Dallas Art Museum, Amon Carter Museum, and Kimbell Art Museum) and Stanford University (to partner with the Asian Art Museum, Fine Arts Museums of San Francisco, and the Iris & B. Gerald Cantor Center for Visual Arts) have not been successful to date for a variety of reasons, from logistical to cultural. University scientists are expected to raise financial support through grants, train graduate students, and publish in journals seen as impactful by their scientific peers. In contrast, museums, while valuing research, also have a need for day-to-day treatment-driven analysis (e.g., varnish identification). The static number of heritage scientist positions will limit the long-term impact the field can make.

→ **Lack of dedicated interdisciplinary funding**

While heritage science can be a bridge between science and the humanities, its interstitial position creates issues with funding and siting within academic institutions still rigidly structured through disciplinary departments. For instance, NSF funded the SCIART project for several years, but due to their organizational priorities, could not fund technical art history-related projects, whereas the Samuel H. Kress Foundation strongly favors the latter types of inquiries. The lack of a 'home' funding organization leaves interested researchers without a clear funding path.

Opportunities

→ **Recovering lost histories or connections among material culture for historically underrecognized communities**

Heritage science has a role to play in helping to recover effaced histories or lost connections among material culture of historically underrecognized or under-supported communities. Science can reinvigorate the humanities by contributing to reestablishing the historical, political, and social context of objects and places (especially quotidian ones that might otherwise be overlooked).

→ **Encouraging cross-disciplinary literacy**

Heritage science attracts students and audiences who might be discouraged from traditional science courses, thus helping to improve basic scientific literacy. Similarly, heritage science courses can be used to introduce students on the science/engineering tracks to cultural material and the humanities, and to challenges in the conservation and preservation field that need attention from scientists and engineers. This is important for building shared language, modes of thinking, and critical assessment of scientific information. It can also promote ways of communicating scientific information to non-specialist audiences. The

field should invest in ways to increase cross-disciplinary sharing of knowledge between the sciences and humanities (such as education, arenas for information exchange, databases, bibliographies, websites, networks, infrastructures, etc.). The role of social media, virtual reality, gaming, and learning podcasts in reaching youth and non-scientists could be large.

STRATEGIC GOALS

After considering the challenges and opportunities in each focused area above, we have identified the following strategic goals, organized around short-, medium-, and long-term timeframes. We hope these recommendations and aspirations are inspirational for others to either follow or design their own. Encapsulated in these goals are issues surrounding cross-disciplinary collaboration, diversification of the professional field, accessibility, funding, and education.

GOAL #1: Encourage innovation through expanded funding and partnerships for cultural heritage science

FOCUS AREA #1: Innovation

There are numerous opportunities for innovation through cultural heritage science and its collaboration with allied disciplines. Stable funding is critical to promoting innovation; generating awareness and overall scientific literacy among the public; supporting research and projects; and diversifying education. In addition, promoting collaborations between academic institutions, museums, and cultural institutions with national labs and industries will accelerate innovation for cultural heritage science and allied fields. Connecting U.S. scientists to a broad network of museums and cultural institutions to promote visual literacy and design thinking will foster a sustainable ecosystem for the generation of new ideas for heritage preservation and training. Communities who care for their own cultural materials must be engaged as partners to identify what training and research programs are needed to meet their goals. Progress towards this goal will be made over the short-, mid- and long-term strategy reflected below.

Timeframe	Outcomes
Short term 2023-2024	• Create a survey to identify individuals, institutions, companies, and funding sources connected to heritage science. • Build a multilingual database to compile, share, and promote the survey findings. • Secure funding for survey and database. • Evaluate existing models for heritage science hubs that serve multiple institutions and local and national communities through a combination of academic/museum infrastructure and mobile

	equipment (such as NU-ACCESS, NICS, and EU models) and identify opportunities for expansion nationally. • Identify institutions that already have social justice and community programs and collaborate to offer programs for the displaced (such as the MIT Refugee ACTion Hub) and marginalized communities centered on art and science and informed by their own identities and experiences. • Highlight cultural heritage science fellowship/internship opportunities at career fairs at conferences, high schools, and colleges through partnerships with HR departments and academic outreach offices. Pair this effort with the creation of a “find a mentor” directory within AIC to further spread word about paid internships and provide long-term support. • End unpaid internships in heritage science programs at cultural institutions to promote equitable career paths. Work to increase relocation support for students who must relocate for internships. Leaders of conservation and scientific research labs in institutions need to advocate and spend personal capital/ redirect budgets to make sure this goal is met.
Mid term 2024-2027	• Strengthen and expand a professional network that builds on and connects existing institutions and individuals regionally, nationally, and internationally. Assemble network nodes around key research needs and connect with academia in both research and training. Build digital tools to support networking and connectivity. • Build public awareness of the socio-economic value of heritage science by showing broad, multi-disciplinary impact of heritage science projects. Create a heritage science communication toolkit that can support advocacy and communication efforts (see also HiT report “Engagement, Communication, and Storytelling”). • Poll the public and professionals on what they see as the grand challenges of heritage science and heritage preservation, and how they relate to critical contemporary and structural issues such as lack of affordable healthcare/housing, inequities in the educational system, racial inequality, and climate change. Reach out to community caretakers and stewards operating outside of predominantly white institutional settings to record their needs and priorities through community-led clinics.
Long term 2027 onward	• Broaden funding base for cultural heritage science through the creation of public/private foundations and individual philanthropy partnerships. One option would be to create a collaborative fund (e.g., United States Artists) that awards support via expert panel

	recommendations. The expert panel should be composed of caretakers with institutional and non–institutional affiliations. • Sustain a vital heritage science ecosystem by fostering key partnerships with academia, industry, and national labs alongside funded graduate fellowships. For example, fundraise to establish an art innovation corps for diverse students that offers returning year-to-year, paid summer internships at high school and undergraduate level. The fund could be managed by AIC or hosted by individual federal or private funding agencies. • Strengthen and expand training and employment in heritage science through summer schools and advanced professional development opportunities for science faculty at liberal arts colleges. • Promote heritage science awareness and partnerships with other STEM professionals through funded projects in connection to other agencies (including academic institutions, national labs, industry etc.) to grow collaborations on matters of national priority. • Establish a special program of after-school activities with K-12 educators in collaboration with Indigenous communities that focuses on the science and technology of making and heritage preservation. Seed funding could be established for Indigenous community leaders and educators to develop regional programs in partnership with heritage scientists in institutions and the distributed hubs for heritage science.
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GOAL #2: Support cultural heritage field’s efforts to prioritize sustainability and work within the challenges of climate crisis

FOCUS AREA #2: Environmental Impact

From risk assessment and management approaches to the development of more sustainable exhibition and packing materials, cultural heritage science is ideally positioned to support the cultural heritage field’s efforts to prioritize sustainability and work within the challenges of the climate crisis. This includes supporting a universal understanding that energy efficient and environmentally safe materials and practices are not antagonistic and can work in synergy with the preservation of material culture and sites. Ultimately, research in this area needs to expand significantly if we want to reach scale in research efforts and implement successful transfer of research into practice to meet United Nations sustainable development targets in the preservation of cultural heritage (especially [7-affordable and clean energy](#); [11-sustainable cities and communities](#); and [12-responsible consumption and production](#)). Furthermore, this area provides an excellent avenue to elevate traditional Indigenous knowledge systems (deeply rooted in nature and the local environment) as valuable sources of scientific

knowledge for the environmentally sustainable care and preservation of cultural heritage.

Outlined below are recommended tactics over the short-, medium-, and long-term to fully leverage these capabilities.

Timeframe	Outcomes
Short term 2023-2024	• Identify key urgent scientific research areas at the community-level (e.g., degradation mechanisms/pathways, etc.) through surveys and focus groups that must include rural and urban source communities. • Commission a peer-reviewed article or web-based platform summarizing the bounds and existing gaps to what the current literature teaches about guiding decisions on whether it is safe to change environmental conditions for particular objects/materials. • Identify opportunities to gain support for scientific research in environmentally sustainable conservation practices from the NSF and other funders, such as the Helen Frankenthaler Climate Initiative. In seeking funding, explore newer and more sustainable models such as looking for ways to pool resources and conduct comparative research across institutions (e.g., collaborative research strategies with academic research and environmental science programs who are already working in the larger environmental sustainability/conservation field). • Ensure meaningful opportunities for conservators/heritage scientists to work with engineers and facilities managers in the design of new buildings or retrofitting of existing structures. Engineer solutions for passive preservation environments and monitor their effects on collections, objects, and historic sites. • Conduct a survey to understand why institutions might or might not be implementing the guiding principles of the Bizot Accord Green Protocol. • Evaluate ways in which the preservation field can identify greener approaches to treatment, scientific research, display, storage, and transport materials and methods. • Develop draft frameworks/guidelines for specific issues: disposal of materials and the environmental impact of treatments and display, storage, and transport materials and methods. • Secure funding for surveys, survey analysis, and reporting.
Mid term 2024-2027	• Contribute to a national survey that assesses the status of collections care in the U.S, (like the Heritage Health Index) and

	identifies sustainable preservation research needs to inform a research agenda. • Develop new methods for evaluating materials used for scientific analysis, treatments on both movable and immovable heritage, as well as storage, exhibition, and transit of collection objects. • Develop data management strategies for increased size of data (e.g., super resolution imaging) and growing demand for data sharing cross-institutionally and with community caretakers and independent practitioners. • Develop comprehensive maps of climate change and risk to cultural heritage collections and sites to focus action (Pagliarino and Meredith 2020; see also HiT report “Climate Crisis and Environmental Impact”) and ensure underrecognized communities have access, thus combining both scientific and climate justice approaches. • Leverage the expertise of NCPTT and other public, non-profit, and private institutions to host sustainability workshops to increase communication and adoption of guidelines, to disseminate innovation, and to teach tools and the limits of these tools for establishing appropriate relaxed environmental boundaries.
Long term 2027 onward	• Establish a “<i>science for heritage day</i>” at museums and other cultural places of gathering to organize environmentally themed activities geared to K-12 students and their families. Include pledge to act on select items on their environmental agenda. • Create a fund to support new graduate research internships/fellowships in heritage science focused on environmental sustainability research for the conservation field. For example, we propose a cohort of Held in Trust-Save our Heritage Science Fellows: 3 graduate fellowships annually for 10 years, with full cohort activities at a host institution once a year. Given the focus Indigenous communities have placed in respecting and protecting our planet, one fellowship will be devoted to collaborative project with source communities and hosted at sites that have a track record of successful and longstanding collaborations. • Implementation of frameworks for disposal of materials used during the lifetimes of cultural heritage objects and sites and to assess their environmental impact.

GOAL #3: Increase awareness, engagement, and research between cultural heritage science and the humanities

FOCUS AREA #3: Science for the Humanities

Creating bridges between arts and science pursuits provides models of interdisciplinarity beyond museum walls and highlights the universality of human creativity. Heritage scientists have a great deal of valuable material and information to share with stakeholders in a variety of educational settings that highlight the common ground between the arts, humanities, sciences, and engineering. The following outcomes are recommended to actively pursue these connections and increase cross-disciplinary sharing of knowledge between the sciences and humanities.

Timeframe	Outcomes
Short term 2023-2024	• Conduct a survey to determine what kinds of science/humanities cross-disciplinary courses are being taught sustainably (not a single instance), where, at what level, and what course materials are being used/need to be developed. Examples include object-based learning courses, chemistry courses that incorporate arts, or arts courses that incorporate science. • Conduct a survey including museums, academia, community and cultural centers, archives, libraries, and private practitioners to identify the most effective avenues for communicating science to the humanities and vice-versa. • Leverage existing heritage science hubs with portable equipment (NICS, NU-ACCESS) to increase accessibility of heritage science resources and expertise to underserved geographic locations and communities. • Explore how to improve accessibility of scholarly resources across disciplines by adding to existing platforms such as the Bibliographic Database of the Conservation Information Network (BCIN) or creating new ones. • Define a clear set of metrics for success in incorporating scientific methodologies and findings in knowledge-production and training in the humanities, first identifying the criteria that have been used by organizations already funding science/cultural heritage endeavors such as the Samuel Kress and Mellon foundations, NEH, and NSF. • Create a guide for (and co-written by) scientists, conservators, and art historians on how to engage in productive conversations and co-create critical questions.
Mid term 2024-2027	• Create online platforms for dissemination and sharing of information, lesson plans, etc. similar to the AIC K-12 education Wiki, Khan Academy, or Smarthistory.

	• Launch platform for sharing knowledge on objects and heritage and its preservation, giving equal weight to embodied practices and scientific knowledge. Design and build in collaboration with community caretakers, and stewards operating outside predominantly white institutions. • Prepare toolkits to facilitate the development of relationships between smaller cultural heritage institutions and nearby colleges and universities. • Establish paid summer training camps for junior and mid-career professionals that pair academic scientists with their local museum counterparts. These experiences will foster relationships that can then be supported by a virtual community of more experienced heritage scientists who can help with data interpretation. • Support scholarships to publish and disseminate traditional Indigenous systems of scientific knowledge and their methodologies for learning and transmission of knowledge. • Create a task force of museum educators, community partners, and heritage scientists to introduce art + science in K-12 curricula, combined with visits to museum and cultural sites, in alignment with local and national school curricula.
Long term 2027 onward	• Support operations and staffing of four heritage science hubs in the East, Central, West, and U.S.-Caribbean regions of the United States (leveraging facilities and expertise at the university- and museum-level) to create a diffuse infrastructure for heritage science that is available to underserved geographic locations and communities through a combination of mobile and fixed lab solutions. • Establish a “Lab/ Institute / Center for cross-cultural sciences” that could host scholarships for Indigenous scholars and practitioners to pair with heritage scientists, possibly at the Smithsonian NMAI.

CONCLUSION

This report seeks to answer the question: “What are the transformative possibilities that will raise the conservation, preservation, and heritage science enterprise to a new, sustainable, impactful and deeply resonant level with Americans for generations to come?” Focusing in on three overarching areas—innovation, environmental sustainability, and science for the humanities—we have presented a possible path forward that foregrounds equity and access to science on local to national scales. Heritage science has the potential to touch upon all that humanity creates and holds dear. Held in Trust offers us an incredible opportunity to redress the scientific enterprise

within the preservation of cultural heritage through centering people and expanding our reach to all communities of cultural heritage practitioners and caretakers. In resonance with the scientific methods, it aims to encourage curiosity, collaboration, and a shared expertise.

How to Cite This Report

The Held in Trust initiative encourages the use and citation of this report to share its availability and findings broadly. Please find the appropriate citation below:

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APPENDIX II: DEFINITIONS

Outlined below are the nuanced definitions of various terms employed throughout this report.

Art—throughout this document the term “art” and cultural heritage are used to encompass tangible and intangible heritage objects, sites, and places of cultural significance. Art is not meant to refer exclusively to fine arts but instead is offered as shorthand concision for “tangible and intangible heritage.”

Science—the term “science” or “the sciences” is used as a broad umbrella term to include the physical sciences, as well as computer science, engineering, etc.

Conservation—employed as a simplified term to encompass all aspects of the profession including preservation, restoration, and other specific subsets of the larger term for natural and cultural resources.

Heritage science/scientists—used in lieu of conservation science/ scientists to embrace a more expansive definition that sees sciences not only in support of conservation but of the entire endeavor encompassed in this document.

Community partners—representatives of communities that have a vested interest in their cultural heritage and how it is preserved. This may include historically marginalized, under-represented, and under-resourced communities.

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APPENDIX IV: SELECTED READINGS RELATED TO FOCUS AREAS

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Afterword

Lissa Rosenthal-Yoffe
AIC and FAIC Executive Director

WHAT'S NEXT?

We have reached a pivotal moment to preserve and protect cultural heritage in the United States. Conservation is changing and the findings in the Held in Trust report are only the beginning. This report has laid the foundation for action, but it is up to all of us to carry this work forward. We extend our hand to you—our colleagues, audiences, and current and future funders—to join us in these next steps. Identify the ways in which you, your private practice, institutions, and companies can actively participate and support our efforts in conservation, community, collaboration, climate, culture, and care. Together, we can ensure greater equity in our work and value in work that is rooted in people.

If you are in the field, read the report, identify ways you can create change and help build new systems, and share this resource with colleagues and collaborators. And, if you are not in the field, volunteer, support local conservators and institutions doing this work, and talk to your friends, neighbors, and elected officials about the value of cultural heritage and the importance of preserving it in your community.

We Need You! Together we can...

Develop inclusive and innovative strategies

We will explore new approaches to how we value and protect cultural heritage from the goals of integrating a people-centered approach and mitigating the effects of social injustice, climate impact, natural disasters, and other threats. By prioritizing our work through people first, cultural equity, and collaborating with experts and leveraging new solutions, we can reframe our ability to protect and preserve our shared cultural heritage.

One of the remarkable early outcomes of the Held in Trust project concurrent to developing this report is the upcoming launch of the web-based initiative, *Climate Resilience Resources for Cultural Heritage*. Thanks to the NEH, this groundbreaking resource will be available in late 2023 and will provide invaluable tools for cultural institutions and heritage sites. Interactive climate risk maps, comprehensive learning modules, and vibrant communities of practice will empower organizations to prepare for and mitigate climate-related environmental hazards and weather disasters.

Foster greater collaboration and knowledge sharing

We are thinking about conservation and collaboration more broadly. We will strive to facilitate partnerships between cultural institutions, heritage sites, practitioners, community cultural caretakers, and other key audiences. By creating platforms for collaboration and knowledge sharing, we can amplify our impact and collectively address the challenges currently faced by cultural heritage preservation. What might our existing culture look like? How may we center people in all of our work and learning?

Advocate for policies and increased support

We will work to raise awareness among policymakers and advocate for increased support for cultural heritage preservation. We will leverage our work with the NEH to reach out to other key government agencies, private sector funders, and decision-makers to secure the necessary people, resources, and policies to ensure the long-term preservation of our cultural heritage.

By reading this report, you have taken the first step towards understanding the urgency and significance of preserving and protecting cultural heritage in current times. With the work of our esteemed colleagues across the Held in Trust initiative's nine areas of study, the gaps have been identified and new strategies to propel our work outlined. Our path forward towards greater equity in cultural heritage work requires you, and the time to act is now.

TAKE THE NEXT STEPS WITH US NOW

We call upon you to take the next steps with us:

- **Volunteer your time and skills:** Whether it's lending your expertise in one of HIT's nine areas of study by participating in community initiatives, helping to center our work, supporting emerging practitioners, identifying supporters, or assisting with research, your involvement can have significant impact.
- **Spread the word:** Advocate for the importance of cultural heritage preservation within your networks and communities. By raising awareness and encouraging others to get involved, you help expand our reach and influence.
- **Share your story about the cultural heritage in your community:** How we tell our stories is important. Our best work includes human connection. We need to make this more explicit in our work. Your story has value. We want to hear your voice!
- **Collaborate with us:** FAIC welcomes inclusive partnerships and collaborations with practitioners, institutions, communities, funders, and individuals who share commitment to cultural heritage preservation.
- **Make a contribution:** Your financial support through FAIC will directly contribute to the preservation and protection of cultural heritage. Every contribution, no matter the size, makes a difference.

WHAT DO YOU HOLD IN TRUST?

With the findings of the Held in Trust report as a guide, we can do better. We can leverage our collective expertise, people, and resources to create meaningful change. We can make a lasting impact on the preservation of cultural heritage and ensure that future generations can learn from and be inspired by the stories of people that are

embedded in our objects and places. Together, let's forge a future where preserving and protecting cultural heritage is inclusive, rooted in people first, prioritized, and celebrated. Please join FAIC in our next steps together.

—Lissa Rosenthal-Yoffe, Executive Director, Foundation for Advancement in Conservation (FAIC)

Appendices

Appendix A: Participant List and Organizational Chart

Appendix B: Health and Safety Needs and Resources

Appendix C: Equity Review Executive Summary

Michele Kumi Baer, Kumi Cultural

Appendix D: Held in Trust National Convening

Summary and Speaker Abstracts

Appendix E: Climate Resilience Resources for

Cultural Heritage

Appendix F: Area of Study Summary Documents

Appendix A

Participant List and Organizational Chart

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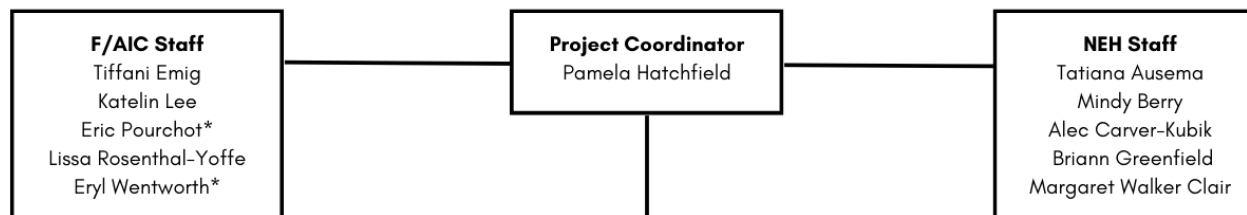
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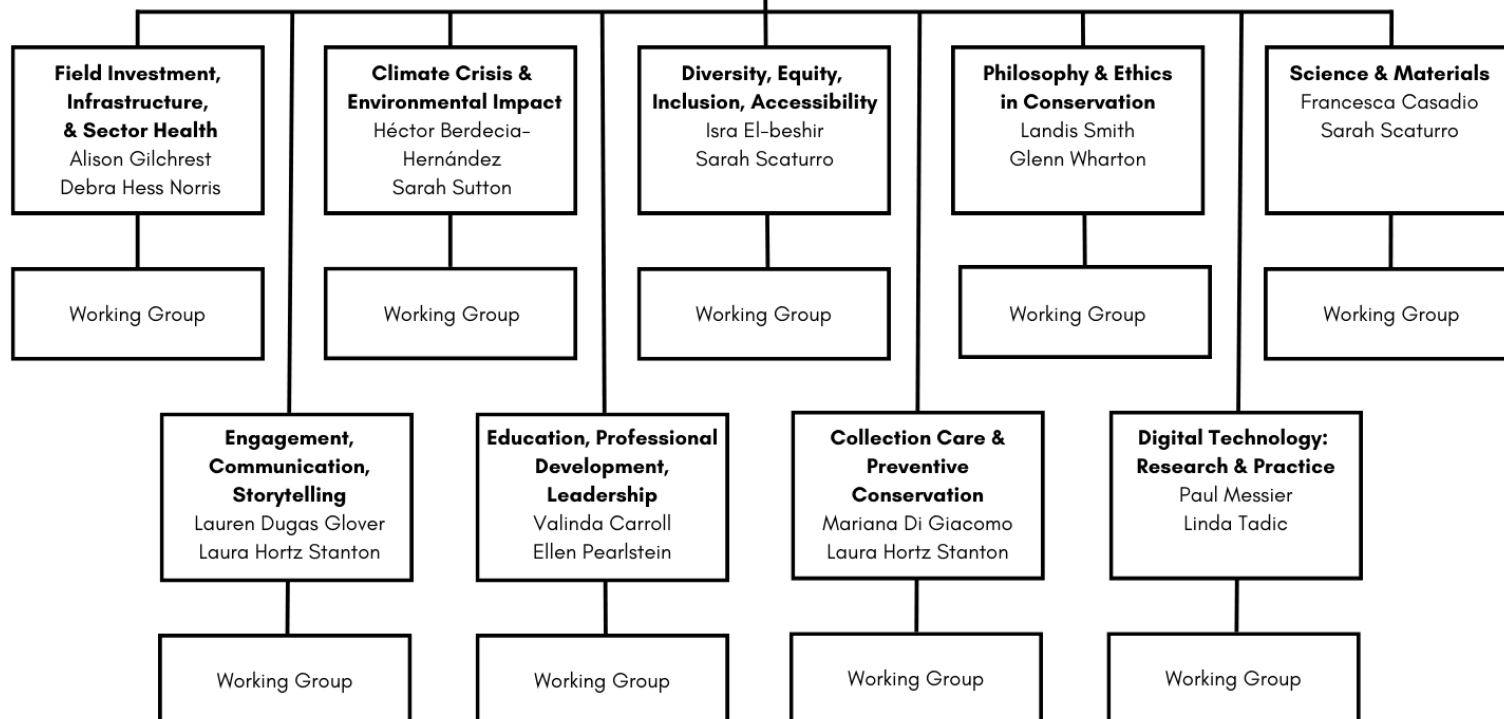
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Appendix B

Health and Safety Needs and Resources

Health and Safety Needs and Resources

Review and Comment by the AIC Health and Safety Network and the American Industrial Hygiene Association (AIHA) Museum and Cultural Heritage Industry Working Group

Health and safety (H&S) topics are integral to all nine pillars of the Held in Trust (HIT) initiative. Cultural heritage professional organizations are increasingly addressing the need for formalizing health and safety concerns and establishing outreach programs in the form of publications and webinars. Further, we are constantly made aware that students in and graduates from Museum Studies and Conservation programs report their curriculum lacks appropriate health and safety training.

The HIT Steering Committee asked AIC's Health and Safety Network (AIC H&S Network) and the American Industrial Hygiene Association (AIHA) Museum and Cultural Heritage Industry Working Group to review the issue area reports and provide health and safety expertise. Demonstrating health and safety needs in initiatives such as HIT are essential to gaining wide-spread recognition and institutional support for H&S issues within cultural heritage.

Over its 40 years, the AIC H&S Network has provided conservators and collection care professionals much needed peer-reviewed technical information and services including respirator fit testing and training; published resources, such as *AIC News* articles and pullout guides; and *Health & Safety for Museum Professionals* (2012), which serves as a textbook and guide for communication between allied professionals.

The committee was also instrumental in establishing an agreement allowing FAIC to archive ACTS FACTs, the monthly newsletter "Arts, Crafts, and Theater Safety," which has been in publication since 1987 and is edited by Monona Rossol (<https://resources.culturalheritage.org/acts-facts/>). More recently, the network has developed a safety survey tool for historic houses and small museums, designed to help these institutions target areas where improvements can affect human health and safety.

The most recent Museum and Cultural Heritage Industry Working Group, consisting of members from the AIC and AIHA, brings together professionals with a wide range of specialized talents and knowledge to target problems and projects faced by cultural heritage facilities and employees.

Outlined in the following pages by the below members of the AIC H&S Network and the AIHA Working Group are comments and resources regarding H&S concepts for each of the nine pillars of HIT.

Reviewed by:

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Kerith Koss Schrager, Head of Conservation, 9/11 Memorial & Museum

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Climate Crisis and Environmental Impact

Health and Safety connections

- Increasing and worsening natural disasters as climate change progresses call for plans to be put in place to protect collections staff.
- Understand and identify the causal sequence effect of natural disasters on emergency services (i.e., the close proximity of several cultural institutions to each other leading to competing needs for emergency services).
- Identify risks to health and safety from contaminated flood waters/ground soil, mold, loss of power grid and other utilities, and community destruction that may include loss of staff homes resulting from natural disasters.
- Consider the potential for heat stress and related heat disorders as global temperatures continue to rise (such as working in outdoor conditions in hot temperatures).
- Understand the safe and sustainable use of solvents and materials (e.g., plastics) that contribute to the global climate and environmental crisis, including the energy consumption of extra materials required for their safe use by workers.

Immediate needs

- Each institution must create an emergency action plan (EAP) for each possible natural disaster that can occur in the region (e.g., wildfires, earthquake, hurricane, tornado, tsunami, drought/heatwave).
 - Each department should have an individual EAP for staff to follow based off of the larger facility's EAP. It should answer questions such as: what should staff with and without warning of the event do based on their location to the site and event?
 - Each EAP should address actions for staff to take before, during, and after an event as well as allowed and disallowed risks for protecting a collection or collection facility.
- Each institution should conduct a risk assessment of heat stress potential among staff and whether any positions require acclimatization prior to full-time employment.

Existing resources

- **AIHA Cultural Heritage Emergency Preparedness and Response: Guidelines for the OEHS Professional:** <https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/White-Papers/Cultural-Heritage-Emergency-Response-White-Paper.pdf>
- **AIHA Disaster Response Resource Center:** <https://www.aiha.org/public-resources/consumer-resources/disaster-response-resource-center>

- **AIC H&S Network: Health and Safety in Emergency Response:**
https://www.conservation-wiki.com/w/images/9/92/H%26S_Health_%26_Safety_in_Emergency_Response_2016.pdf
- **AIHA H&S Issues in Natural Disasters Guidance:** <https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/Guidance-Documents/Health-and-Safety-Issues-in-Natural-Disasters-Guidance-Documents/Document.pdf>
- **AIHA Incident Preparedness and Response Working Group:**
<https://www.aiha.org/get-involved/volunteer-groups/incident-preparedness-and-response-working-group>
- **AIHA Museum and Cultural Heritage Industry Working Group:**
<https://www.aiha.org/get-involved/volunteer-groups/museum-and-cultural-heritage-industry-working-group>
- **AIHA Thermal Stress Working Group:** <https://www.aiha.org/get-involved/volunteer-groups/thermal-stress-working-group>
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
 - Arsenic and Old Lace: Controlling Hazardous Collection Materials
<https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **FEMA:** <https://www.fema.gov/>
- **National Institute for Occupational Safety and Health (NIOSH/CDC):**
Directory of NIOSH Emergency Response Resources,
<https://www.cdc.gov/niosh/emres/>
- **National NIOSH Stress Resources:**
<https://www.cdc.gov/niosh/topics/heatstress/default.html>
- **NIOSH Occupational Safety & Health Climate topic page:**
<https://www.cdc.gov/niosh/topics/climate/default.html>
- **Red Cross:** <https://www.redcross.org/>

Collection Care and Preventive Conservation

Health and safety connections

- Health and safety concerns guide collection care protocols and procedures.

Immediate needs

- Health and safety training and resources specific to the care of cultural heritage.
- Collaborations with Occupational and Environmental H&S professional organizations (such as AIHA, their regional Local Sections, and the AIHA Museum & Cultural Heritage Industry Working Group) to address occupational risk management needs, including monitoring for and control of exposures to workplace chemical, physical, biological, radiological hazards.
- Continued contributions to the profession's AIC Health and Safety Network, with members from conservation, collections care, and occupational/environmental health and safety professions.
- Psychological counseling and training to workforces with tasks involving trauma-triggering objects and/or traumatic events (e.g., Holocaust, 9/11 collections, human skeletal remains).

Existing resources

- **AIC Health and Safety Network:** [https://www.conservation-wiki.com/wiki/Category:Health %26 Safety](https://www.conservation-wiki.com/wiki/Category:Health_%26_Safety)
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
 - Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **Health and Safety for the Museum Professional.** 2012. C. Hawks, M. McCann, K. Makos, L. Goldberg, D. Hinkamp, D. Ertel Jr, P. Silence (editors). <https://www.culturalheritage.org/publications/books-periodicals/shop/health-and-safety>
- **OSHA OnSite Consultation Program:** free, confidential, non-enforcement assistance program to small/medium size employers. Program promoted to cultural heritage facilities via AIHA Museum and Cultural Heritage Industry Working Group and AIC Health and Safety Network. <https://www.osha.gov/Consultation>

- **Preventive Conservation: Collection Storage.** 2019. L. Elkin, C.A. Norris, editors. Society for the Preservation of Natural History Collections, American Institute for Conservation, Smithsonian Institution, George Washington University Museum Studies. Section VII. Storage of Digital Collections, and Chapter 17. Safety and Health Issues within Storage Spaces.
https://spnhc.biowikifarm.net/wiki/Collection_Storage

Digital Technology: Research and Practice

Health and safety connections

- The control of deterioration agents in storage environments (e.g., temperature, RH, lighting, pollutants, etc.) will reduce volatile organic degradation products from film storage areas: acetic acid being the most common product, but also methylene chloride, butanol, 1,1,1-trichloroethane, various acids from acetate films, and nitrogen dioxide from nitrate films. There is also a serious flammability risk from poorly stored cellulose nitrate films.
- Ergonomic/musculoskeletal injuries can occur through poor chair and tabletop examination and work set-ups involving computer work, film reel-to-reel observations, etc.
- New technologies have unknown H&S implications (e.g., emissions from 3D printers, effects of LED lights on eyes, etc.).
- Additional hazards of working with electronic equipment including electricity, heavy metals, and other potential physical hazards, along with proper disposal needs.

Immediate needs

- Storage spaces should undergo a ventilation/storage area risk assessment by an industrial ventilation expert, preferably in consultation with a safety/industrial hygiene environmental assessment for off-gassings during work or accumulation in closed storage. This also includes needs assessment for cold storage and segregated storage for cellulose nitrate films.
- Workplaces should undertake ergonomic consultation to provide appropriate chairs, standing desks, etc. depending on the task.
- Workplace H&S assessments are needed around the hazards of new technologies and working with new equipment.

Existing resources

- **AIHA Consultants Directory:** <https://www.aiha.org/consultants-directory>
- **AIHA Ergonomics Committee: Ergonomic Assessment Toolkit:** https://aiha-assets.sfo2.digitaloceanspaces.com/AIHA/resources/ERGOVG-Toolkit_rev2011.pdf
- **Connecting to Collections Care,** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>

- Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
- New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **Film supports: Negatives, transparencies, microforms, and motion picture film.** 1995. Nishimura, D.W. p 365-394 in Storage of Natural History Collections: A Preventive Conservation Approach. Society for the Preservation of Natural History Collections.
- **Health and Safety for the Museum Professional.** 2012. C. Hawks, M. McCann, K. Makos, L. Goldberg, D. Hinkamp, D. Ertel Jr, P. Silence (editors). <https://www.culturalheritage.org/publications/books-periodicals/shop/health-and-safety>
- **NIOSH Ergonomics Topics page:** <https://www.cdc.gov/niosh/topics/ergonomics/>
- **NIOSH 3D Printing Safety at Work:** <https://www.cdc.gov/niosh/newsroom/feature/3dprinting.html>
- **OSHA Ergonomics Topic page: Computer Workstation e-Tools:** <https://www.osha.gov/etools/computer-workstations>
- **OSHA OnSite Consultation Program:** free, confidential, non-enforcement assistance program to small/medium size employers. <https://www.osha.gov/Consultation>
- **Preventive Conservation: Collection Storage.** 2019. L. Elkin, C.A. Norris, editors. Society for the Preservation of Natural History Collections, American Institute for Conservation, Smithsonian Institution, George Washington University Museum Studies. Section VII. Storage of Digital Collections, and Chapter 17. Safety and Health Issues within Storage Spaces. https://spnhc.biowikifarm.net/wiki/Collection_Storage

Diversity, Equity, Inclusion, Accessibility

Health and safety connections

- Underrepresented groups are disproportionately affected by lack of access to H&S resources and training.
- Native American and other Indigenous communities worldwide are not well informed of potential residual pesticide and preservative hazards remaining on repatriated sacred objects and ancestral remains.

Immediate needs

- Museum collections need to address health and safety/hazards associated with their collections, such as past pesticide use, that create a significant barrier to helping communities reconnect with their objects.
- Connect Native American communities with National Park Service/Department of Interior H&S professionals with expertise in hazard identification and hazard communication regarding needs that develop from the Native American Graves Protection and Repatriation Act (NAGPRA) policies.
- Involve academic Anthropology departments and museum staff who have meaningful relationships with Native American tribal communities on sharing information and trainings on the safe handling of contaminated objects repatriated under NAGPRA.
- Provide women with access to personal protective equipment (PPE) that fit appropriately.
- Deliver training in understanding the limitations of health and safety regulations as they relate to different genders and backgrounds, especially related to pregnancy.
- Provide consistent and free access for museum professionals to up-to-date H&S literature.

Existing resources

- **AIHA Museum & Cultural Heritage Industry Working Group:** <https://www.aiha.org/get-involved/volunteer-groups/museum-and-cultural-heritage-industry-working-group>
- **AIHA Social Concerns Committee:** <https://www.aiha.org/get-involved/volunteer-groups/social-concerns-committee>
- **American Society of Safety Professionals. “How Can We Fix the Fit of Personal Protective Equipment?”** <https://www.assp.org/news-and-articles/how-can-we-fix-the-fit-of-personal-protective-equipment>

- **American Society of Safety Professionals. “Women and Safety in the Modern Workplace:”** https://www.assp.org/docs/default-source/default-document-library/assp_women_and_safety_report_0419.pdf?sfvrsn=28&utm_campaign=general&utm_content=1556290079&utm_medium=social&utm_source=facebook
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
 - Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **National Academies Propose Expansion of Respiratory Protection to the Public:** https://www.aiha.org/news/220210-national-academies-proposes-expansion-of-respiratory-protection-to-the-public?utm_source=aiha&utm_medium=email&utm_content=respiratory-protection&utm_campaign=sweekly22
- **National Park Services NAGPRA Policies:** <https://www.nps.gov/subjects/nagpra/index.htm>
- **OSHA OnSite Consultation Program:** free, confidential, non-enforcement assistance program to small/medium size employers, <https://www.osha.gov/Consultation>
- **The Harvard Gazette.** “Solemn Stewardship.” September 15, 2022. <https://news.harvard.edu/gazette/story/2022/09/report-offers-guidelines-for-human-remains-in-museums/>
- **Work gear designed for women:** Xena Workwear (<https://www.xenaworkwear.com>) and Charm & Hammer (<https://charmandhammer.com>).
- **Workplace Health Without Borders:** Organization with a mission to provide workers with technical assistance, training, and skills development to develop the capacity and local infrastructure to manage and improve health conditions in their workplaces. This includes helping Non-Governmental Organizations (NGOs) in developing countries to integrate occupational health into their operations, <https://whwb.org/>

Education, Professional Development, Leadership

Health and safety connections

- Health and safety concerns guide collection care protocols and procedures taught, maintained, and instituted by leadership.
- Course leaders on any level, but specifically within academic and training programs, have an ethical and legal responsibility to inform students of their responsibilities to protect the safety of their colleagues and cultural heritage facility visiting public, as well as practitioners' rights to receive full disclosure of hazards on the job and the controls that their employers have in place to protect them from injury or illness.

Immediate needs

- Health and safety training and resources specific to the care of cultural heritage.

Existing resources

- **AIC Health and Safety Network:** [https://www.conservation-wiki.com/wiki/Category:Health %26 Safety](https://www.conservation-wiki.com/wiki/Category:Health_%26_Safety)
- **AIHA Museum and Cultural Heritage Industry Working Group:** <https://www.aiha.org/get-involved/volunteer-groups/museum-and-cultural-heritage-industry-working-group>
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
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 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **Health and Safety for the Museum Professional.** 2012. C. Hawks, M. McCann, K. Makos, L. Goldberg, D. Hinkamp, D. Ertel Jr, P. Silence (editors). <https://www.culturalheritage.org/publications/books-periodicals/shop/health-and-safety>
- **NIOSH Education and Research Centers:** <https://www.cdc.gov/niosh/oep/ercportfolio.html>
- **OSHA:** www.osha.gov
- **Preventive Conservation: Collection Storage.** 2019. L. Elkin, C.A. Norris, editors. Society for the Preservation of Natural History Collections, American Institute for Conservation, Smithsonian Institution, George Washington University

Museum Studies. Section VII. Storage of Digital Collections, and Chapter 17.
Safety and Health Issues within Storage Spaces.
https://spnhc.biowikifarm.net/wiki/Collection_Storage

Engagement, Communication, and Storytelling

Health and safety connections

- Studies show that using a narrative and storytelling approach to an H&S incident have longer, more lasting impacts on an audience than simply relaying data points. For example, Covid restrictions for in-person viewing greatly expanded the need for on-line exhibits and information resources that require innovative ways to engage public viewing.
- Various communication strategies should be employed to engage museum visitors about public health issues, as well as creatively engage cultural heritage workers on the importance of H&S in their work practices.

Immediate needs

- Develop resources that outline how to tell an effective H&S story to get the most impact.
- Engage in collaborative conservation/collection care/H&S events and publications.
- Actively support and submit presentations to the semi-annual Safety and Cultural Heritage Summit, which hosts a day-long seminar with presentations on case studies conducted by professionals from both OEHS and collections care.
- Contribute to the annual AIHA Museum and Cultural Heritage Industry Working Group Health & Safety Virtual Exhibit of the Year Award, which recognizes a Virtual Exhibit (and its sponsoring organization) for excellence in communicating the risk control challenges related to worker and/or public health and safety.

Existing resources

- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
 - Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>

Field Investment, Infrastructure, and Sector Health

Health and safety connections

- Institutions need to plan for long-term funding of H&S initiatives to protect the health and safety of their collections, staff, and visitors.
- When access to objects is restricted due to health and safety concerns that staff cannot adequately address, they are no longer available for display or research and their long-term preservation may be compromised.
- Collecting organizations should have robust collections policies regarding the acquisition, care, and disposal of hazardous materials within their collections.

Immediate needs

- Build an alliance between private and public practitioners and H&S Professionals that helps to ensure a robust awareness about occupational H&S training.
- Seek funding from health and safety-focused grant organizations not traditionally aligned with arts or conservation.
- Graduate programs in conservation, museum studies, and related cultural heritage disciplines need to require an H&S overview course or seminar series to teach basic program management and legal responsibilities, as well as basic hazard identification, exposure control methods, and H&S budgeting and resources.

Existing resources

- **AIHA's Human Capital/ESG Task Force:** <https://www.aiha.org/get-involved/volunteer-groups/humancapitalesgtaskforce>
- **AIHA Museum and Cultural Heritage Industry Working Group:** <https://www.aiha.org/get-involved/volunteer-groups/museum-and-cultural-heritage-industry-working-group>
- **Capitals Coalition** (<https://capitalscoalition.org/>): a global entity in the sustainability/ESG (Environment, Social, Governance) space. American Industrial Hygiene Association (AIHA) has joined to further H&S investments in human capital, making sure there are systems in place to ensure accountability, managing the corporation's carbon footprint, and adhering to stronger occupational health and safety protocols.
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>

- Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
- New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **Global Reporting Initiative:** <https://www.globalreporting.org/>
- **National Institute for Occupational Safety & Health (NIOSH) Education & Research Centers:** located around the country, these centers are a resource for H&S professional education and training opportunities.
- **NIOSH ERCs:** <https://www.cdc.gov/niosh/oep/ercportfolio.html>
- **Smithsonian Institution (SI) Safety Manual.** Section 1. Program Management. https://www.sifacilities.si.edu/safety_health/safety_manual/safety_manual_toc.asp

Philosophy and Ethics in Conservation

Health and safety connections

- To ensure employee effectiveness, productivity, and professional fulfillment in executing the organization's mission, implement with serious commitment, a safety, health, and environmental management program to create a comprehensive, self-sustaining culture of safety performance. Executive and line management must propel this program with a pro-active commitment to building and sustaining a strong safety culture throughout all levels of the organization.
- It is the ethical and legal responsibility of management to provide a safe and healthy working environment for a cultural organization's staff, volunteers, affiliated researchers, and visitors.

Immediate needs

- Health and Safety needs to be a core value of every employer. The ethical statements of the Smithsonian Institution in their Safety Policy Documents (https://www.sifacilities.si.edu/safety_health/safety_manual/safety_manual_toc.asp) can be used as guides.
- Graduate programs in conservation, museum studies, and related cultural heritage disciplines need to require an H&S overview course or seminar series to teach basic program management and legal responsibilities, as well as basic hazard identification and exposure control methods.
- Professional education and training opportunities can also include H&S training from NIOSH/CDC (National Institute for Occupational Safety & Health) Education & Research Centers around the country.
- Ensure that collection care workers are aware of how to find H&S resources and professionals specific to their issue and make collaborative practice between these fields a priority.

Existing resources

- **AIC H&S Network:** https://www.conservation-wiki.com/wiki/Category:Health_%26_Safety
- **AIHA Museum and Cultural Heritage Industry Working Group:** <https://www.aiha.org/get-involved/volunteer-groups/museum-and-cultural-heritage-industry-working-group>
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>

- Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
- New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **NIOSH ERCs:** <https://www.cdc.gov/niosh/oep/ercportfolio.html>
- **Smithsonian Institution (SI) Safety Manual:** Section 1. Program Management. https://www.sifacilities.si.edu/safety_health/safety_manual/safety_manual_toc.asp

Science and Materials

Health and safety connections

- Cultural heritage scientists' expertise on materials can be used to develop H&S resources specific to the care of cultural heritage and safe lab practices.
- H&S practices are also related to environmental impact through the use of less toxic materials and minimizing exposure risks during collection care practices.

Immediate needs

- Health and safety information is readily available about hazardous collections and the chemicals and products used to care for cultural heritage.
- Hazard communication is clear and constant about collections and information transfer on scientific methods to determine if such hazards are present.
- Cultural heritage conservators and scientists often use products and chemicals in unique ways that have not been tested and work with hazardous collections. Heritage scientists could work with allied fields to test materials for things like exposure limits and best glove choice and create data on how long it is safe to work with hazardous collections. Results could be added to a new, free, online database or an existing one like the Museum of Fine Arts Boston's Conservation and Art Materials Encyclopedia Online (CAMEO, https://cameo.mfa.org/wiki/Main_Page).

Existing resources

- **AIC Health and Safety Network:** [https://www.conservation-wiki.com/wiki/Category:Health %26 Safety](https://www.conservation-wiki.com/wiki/Category:Health_%26_Safety)
- **American National Standards Institute (ANSI) Laboratory Safety Standards:** <https://webstore.ansi.org/industry/laboratory-safety>
- **ANSI/ASSP Z9.5-2022: Laboratory Ventilation:** <https://blog.ansi.org/ansi-assp-z9-5-2022-laboratory-ventilation/#gref>
- **Connecting to Collections Care:** <https://connectingtocollections.org/>
 - Handling and Exhibition of Potentially Hazardous Artifacts in Museum Collections, <https://connectingtocollections.org/dangerous-collections/>
 - Arsenic and Old Lace: Controlling Hazardous Collection Materials, <https://connectingtocollections.org/arsenic-and-old-lace-controlling-hazardous-collection-materials/>
 - New Tools of the Trade, <https://connectingtocollections.org/tools-of-the-trade/>
- **National Institute for Occupational Safety and Health (NIOSH):** <https://www.cdc.gov/niosh/index.htm>
- **OSHA Laboratory Safety Guidance Document:** <https://www.osha.gov/sites/default/files/publications/OSHA3404laboratory-safety-guidance.pdf>

- **OSHA Laboratories Resources:** <https://www.osha.gov/laboratories>
- **The Laboratory Safety Institute:** <https://www.labsafety.org/>
- **Yale University Libraries: Conservation & Exhibition Strategies: Designing a Conservation Lab:**
<https://guides.library.yale.edu/c.php?g=582995&p=4484563>

Appendix C

Equity Review Executive Summary
Michele Kumi Baer,
Founder and Principal,
Kumi Cultural

Review of Held in Trust's Working Group Recommendations

Report by Michele Kumi Baer, Founder and Principal at Kumi Cultural

October 14, 2022

Background and Overview

Formed via a cooperative agreement between the FAIC and the National Endowment for the Humanities (NEH), [Held in Trust](#) comprises a collective of conservation and allied professionals who have been preparing recommendations for the future of the cultural heritage preservation field. The collective is engaged in nine [areas of study](#), each held by a working group.

In the spring of 2022, Pamela Hatchfield of the Museum of Fine Arts in Boston reached out to Michele Kumi Baer of Kumi Cultural seeking support to strengthen Held in Trust's understanding and application of equity in its work. What ensued was a scope of work to provide an equity workshop to the Held in Trust Steering Committee and members of the DEIA working group at the American Institute of Conservation's (AIC) Annual Meeting in Los Angeles in May, and to generate an equity audit, or review, of the nine working groups' recommendations.

Building upon the May 14 Advancing Equity workshop in Los Angeles, this review applies an equity lens to the current drafts of the nine working groups' recommendations to advance the state of preservation and conservation of tangible and intangible cultural heritage in the United States. Within their area of study, each working group has been exploring the question: "What are the transformative structures that will raise the conservation and preservation enterprise to a new, sustainable, impactful, and deeply resonant level with the US citizenry for a generation to come?"

This review applies equity knowledge and practice to these inquiries and offers the following as sections of this report:

1. Overall notes on the opportunities to advance equity through these working groups' recommendations;
2. Further detail explaining those opportunities for improved equity praxis; and
3. Specific considerations for each of the nine working groups moving forward.

Throughout the report, Michele will be referring to herself and "this reviewer" in lieu of using first person pronouns.

Overall Equity Review Notes

This reviewer's equity-oriented survey of the working groups' top-line recommendations and long-form reports surfaced the following overall notes and feedback for the working groups:

- Collectively the reports read as a call for a tidal shift in worldviews and philosophical approaches that pervade the cultural heritage preservation field, from more Western, Eurocentric approaches to more Indigenous approaches from people of the global majority.¹
- While relevance is a core topic throughout the reports, there remains a need to reconcile multiple dimensions of relevance as they pertain to the working groups' areas of study.
- Capacity for equity practice in the field is lacking and demonstrated by the inconsistent incorporation of equity knowledge and practice throughout the working groups' reports.
- There is a need for more consistent root cause analysis across the working groups with respect to the core challenges they are trying to address.
- Collaboration is a core theme across the working groups, and there is an opportunity to address how power, culture, and ideology operate to support or hinder collaboration in the field.
- There is an overall lack of explicit language across the reports about the ways in which privilege and advantage operate in the field.
- In various moments across the reports, there exist opportunities to shift language that expresses unnamed assumptions and beliefs that are antagonistic to equity knowledge and practice. In particular, there are moments when paternalism and deficit-based frameworks show up in the language in the reports.
- There is an opportunity to clarify the need to bolster community engagement knowledge and practice in the field.

¹ For context on why people of color in this reviewer's circles are beginning to use this term, please read Daniel Lim's [blog](#), "I'm Embracing the Term, 'People of the Global Majority.'"

Appendix D

**Held in Trust National Convening Summary and
Speaker Abstracts**

Summary

The Foundation for Advancement in Conservation and the National Endowment for the Humanities presented a National Convening on “Held in Trust: Transforming Cultural Heritage Conservation for a More Resilient Future.” This program took place on Friday, April 28, 2023, at the Library of Congress.

The National Convening was the culmination of a three-year collaboration characterizing the current state of preservation and conservation of tangible and intangible cultural heritage in the United States and its territories, identifying future directions, opportunities, and resources that will be needed moving forward. A vibrant and resilient future for conservation and preservation depends upon the development of new, highly collaborative paradigms and structures embedded with social justice, equity, and environmental action.

A recording of the program can be found online on [AIC and FAIC's YouTube channel](#).

FAIC and NEH would like to thank the Library of Congress for co-hosting this important national conversation.

Speakers

Dr. Carla Hayden, Librarian of Congress

Shelly Lowe, Chair, National Endowment for the Humanities

Neil Barclay, President and CEO, Charles H. Wright Museum of African American History

Brent Leggs, Executive Director, African American Cultural Heritage Action Fund, National Trust for Historic Preservation

Tatiana Ausema, Office of Challenge Programs, National Endowment for the Humanities

Briann Greenfield, Division of Preservation and Access, National Endowment for the Humanities

Suzanne Davis, Kelsey Museum of Archaeology, University of Michigan, AIC Board President

Brian Vallo, former Governor, Pueblo of Acoma

Jeanette Austin, Executive Director and Co- Founder, George Floyd Global Memorial

Panel:

Anisha Gupta, Conservator and PhD Candidate, University of Delaware (Moderator)

Cheyenne Caraway, UCLA/Getty Conservation of Cultural Heritage Program

Héctor Berdecía-Hernández, Centro de Conservación y Restauración de Puerto Rico (CENCOR)

Dr. Alicia McGeachy, Research Scientist, Metropolitan Museum of Art

Moriah Ulinskas, Audiovisual Archivist and PhD Candidate, University of California, Santa Barbara

Presentation Abstracts

Neil Barclay

“Sustainability, Environmental Equity, and the Role of Museums ”

BIPOC organizations have long had a close relationship with the challenges and opportunities inherent in addressing the current climate crisis. Yet very few history museums or cultural organizations are actively involved in the environmental sustainability movement other than in ways which foreground cost saving initiatives, capital projects efficiencies, or other economic concerns. This might be expected given our mission driven focus on re-asserting what we see as critical omissions to the historical record of our nation or the desire to deepen our countries understanding of the rich cultural traditions of our people. However, these two seemingly disparate approaches to making more intentional our museums' involvement with environmental sustainability—one historical and one economic—need not be viewed in terms of an either-or solution but one where both approaches are employed simultaneously. Indeed, African Americans have long been involved in the environmental movement despite a history that sought to exclude our contributions to this growing field. This presentation explores some fundamental approaches the Wright Museum has taken to deepen the sustainability practices of our museum within a broader cultural context as a means of deepening our community's engagement with the ongoing conversations about climate change, environmental sustainability and its outsized negative effects on the African diaspora. It provides an opportunity to consider innovative ways to uplift the historical context of environmental work rooted in diverse communities thereby broadening a conversation that has long excluded those most directly impacted by the policies currently being adopted by our society.

Panel: The Need for Change

Anisha Gupta

This panel of conservation professionals saw a need for change in the field and created projects that are transforming the way we do our work. They are all focused on providing greater access to conservation and preservation, working locally and regionally to create sustainable projects that directly respond to the needs of communities. In my introduction to this panel discussion, I will outline *why* we need such transformation. Our discussion will be centered on how we can achieve change and transform the field into a more accessible and equitable one.

Moriah Ulinskas

Community Archiving Workshop (CAW) has worked together for over a decade with community organizations to jumpstart preservation of and access to endangered regional audiovisual recordings which capture the history of underrepresented and marginalized communities. CAW is a one-day event that takes place outside of, or alongside, the work of major cultural institutions and brings best practices and available

resources to small community held collections. Organized by AV archivists and powered by local volunteers, the workshop harnesses the power of regional networking and inter-organizational resource-sharing as a model that can make AV preservation and access effective and affordable and create an opportunity for regional community members to play a role in the preservation of their own history. In this presentation Moriah Ulinskas will share current CAW projects, specifically the “Audiovisual Collections Care in Tribal Archives” and the “Training of Trainers” projects. This presentation will address community centered archiving as a model for AV preservation that focuses equally on three things: 1. the technical aspects (what needs to be done with AV assets to ensure their preservation and access), 2. the cultural aspects (what the value of AV recordings have to the community represented or the community that holds the assets), and 3. the human aspect (what the value of collaboration and shared authority brings to the archiving process).

Héctor J. Berdecía-Hernández

Our cultural heritage—from buildings through collections—comes in many sizes and shapes and resides in diverse and complex environmental and socio-cultural contexts. These challenges require creativity while simultaneously pushing conservation practitioners to embrace innovative practices to meet the needs of cultural heritage in diverse settings. The lack of access to technical preservation and conservation expertise, educational opportunities, and economic resources are some of the pressing challenges in underserved communities, especially in the Caribbean region. Conservation practitioners and stewards in areas with scarce resources often face questions about advancing conservation practice, particularly when established principles, methodologies, and practices in our field come almost entirely from the global north. Considering our complex contextual challenges, there has been a need to rethink, attempt to solve, or at least deal with them collaboratively with cultural institutions, heritage stewards, and communities locally and regionally. This brief presentation discusses lessons and approaches from our experience developing a long-term sustainable strategy to promote technical expertise, education, and research in heritage preservation tailored to the Island’s needs through the establishment of a new non-profit Regional Conservation center.

Cheyenne Caraway

The field of conservation has a history of elitism—from barely paid and unpaid preparatory work and internships to a highly competitive professional path with uncertain outcomes after the investment of time, money, and effort. Recent shifts towards diversifying the field have been pursued by several philanthropic foundations and smaller groups with outreach, workshops, and initiatives.

When communities are given more authority in the preservation process, formulated solutions are manifested into a more ethical, authentic, and inclusive field. As the conservation graduate programs diversify their cohorts, the field will start to implement more people-based approaches. By having individuals from host communities in these

positions, collaborations will be a welcomed new standard and museums can be more proactive in addressing ethical issues directly in their efforts.

Alicia McGeachy

Collaborative and interdisciplinary programs like the Center for Scientific Studies in the Arts (CSSA) at Northwestern University and the Network Initiative for Conservation Science (NICS) at The Metropolitan Museum of Art represent a burgeoning model for addressing questions at the interface of art history and material understanding. As research centers that provide access to scientific staff and analytical resources, free-of-charge, these initiatives can cultivate science-facilitated, art historical research that has the potential to contribute to a multitude of culturally significant questions. Through this presentation of an umbrella of projects studying the materials and artistic practices of colonial-era Puerto Rican, Mexican, Bolivian, and Colombian artists, we explore the ways that global influence and indigenous practices juxtapose. Together this corpus of work, undertaken in partnership with the National Museum of Mexican Art, Museo de Arte de Puerto Rico, The Caryl & Marilyn Thoma Foundation, and The Hispanic Society of America represents an expansion of the CSSA and NICS global and local relationships and have opened new doors to explore the evolution, transference, and endurance of artistic practices across the Americas and the Caribbean. The largest impact of these studies, beyond their clear art historical relevance, is that they represent the first time that some of these works have ever been surveyed. With our partners, we hope that the outcomes from these studies can be tied directly into museum programming and serve as a teaching tool in the gallery emphasizing the role of scientific analysis in uncovering unheard stories.

Brent Leggs

“Inspiring Collaboration and Mobilizing Communities: Preserving the Landmarks of African American History”

Cultural heritage sites that bring forward the African American narrative have served a crucial role in redefining our collective history and, ultimately, reconstructing a national identity that reflects the country’s true diversity. Preservation professionals and grassroots leaders harness the power of place and the influence of history to inspire and advocate for equity, funding, and recognition of our shared cultural legacy. This talk examines a range of Black heritage sites to reinforce the notion that preservation comes in many different forms. Through historic preservation practice, the African American Cultural Heritage Action Fund is scaling up the preservation movement to strengthen site stewardship and grow the preservation economy in communities across the country.

Tatiana Ausema and Briann Greenfield

“The Humanities and Conservation: A Crucial Partnership”

Throughout its history, the National Endowment for the Humanities has recognized cultural heritage resources as essential to humanistic learning and understanding,

working in partnership with the conservation community to ensure that these foundations of our diverse national life remain available for all. With the announcement of *American Tapestry: Weaving Together Past, Present, and Future*, NEH once again turns to the conservation community as a crucial partner. In this session, NEH staff will discuss how *American Tapestry* seeks to address our nation's most pressing challenges, while exploring the importance of conservation to the work of strengthening our democracy, advancing equity for all, and addressing our changing climate.

Suzanne Davis

“Let Me Tell You a Story: Community Partnerships & Storytelling in Conservation”

I will discuss community partnerships and storytelling as crucial components of cultural heritage conservation. I will begin with a story about a heritage site near my childhood home, a historic Black cemetery that has struggled to receive the attention it deserves. Important for many reasons, this site matters to me personally because it influenced the course of my life. The things we preserve tell us who we are. Historic cemeteries, art, artifacts, and archaeological sites—they help us remember, they let us explore and discover, and they inspire us. If the field of cultural heritage conservation had everything it needed, it would be easy for local communities to preserve their important sites. Instead of a funding landscape that favors major institutions with sophisticated grant-writing and development teams, we would have a fully collaborative, partnership model where conservation projects are developed by, with, and for communities. We would also have a field that recognizes the power of stories. The objects and sites we care for are tangible connections to the past—to other people, places, and times—and these connections matter. Conservation has its roots in racist museum collecting practices of the 19th century, and while we can't undo the damage already caused, we can choose to work differently now. We can pay careful attention to what we're preserving, whose stories are being told, and which voices are centered in the telling. Embracing community-centered work and storytelling as integral parts of preservation can be a reparative and even joyful path forward.

Brian Vallo

“Accountability and Collaboration: Native American Representation in Museums”

Over the last decade, Native people have observed and experienced a much-needed shift in the way museums are collaborating with descendant communities. From collections reviews, repatriation, exhibit development, collections stewardship, and inclusion at the highest levels of museum leadership, Native people are finding their rightful place in museum settings. Furthermore, the growing number of emerging Native American museum professionals are also influencing meaningful change within these colonial institutions. The “change” comes in many forms, oftentimes requiring a significant effort on the part of Native people to ensure follow-through and long-term accountability to both tribal nations and the material culture that are in the ownership of government and private museums.

This presentation will highlight some initiatives developed and administered collaboratively between Native people and museums. These initiatives are shifting obsolete paradigms, policy, and practice within some of this country's flagship institutions. More importantly, these efforts are providing "seats at the table" for Native people.

Jeanelle Austin

"Starting with Culture in Cultural Heritage Preservation"

On May 25, 2020, George Floyd was lynched by the Minneapolis Police Department. In response to this atrocity, people marched on all seven continents during an unprecedented pandemic, risking their health to save black lives. "Ground Zero" of this catastrophic event is the South Minneapolis intersection of 38th Street and Chicago Avenue, now known as "George Floyd Square" (GFS). Here, the people reclaimed the streets as sacred space and built an organic memorial to protest racial injustice. This memorial contains the names of hundreds of modern-day, lynched victims from across the country, marked by art more accurately identified as creative expressions of pain and hope.

Local neighbors gathered daily during the 2020 Uprising and continue to meet to preserve the growing memorial as a form of protest. They tend to the sacred site and care for every offering as an extension of the person who laid it. To date, there is a conservative estimate of 5,000 memorial offerings preserved. The community at GFS brought art conservation to the front lines of a resistance movement for black liberation. They applied their core principles of valuing every offering as sacred and every person as more sacred than any offering or property. In doing so, the movement has set new standards for the work and imagination of how cultural heritage preservation can serve communities. This address will explore how a small group of individuals skilled in various industries are charting a new path for Cultural Heritage Preservation in the United States.

Appendix E

Climate Resilience Resources for Cultural Heritage

Thanks to a 2022 cooperative agreement with the National Endowment for the Humanities, FAIC is working to develop resiliency tools to help institutions prepare for the effects of the climate crisis. The project will result in an interactive climate risk map, learning modules, and communities of practice to help cultural institutions and heritage sites prepare for and mitigate climate-related environmental hazards.

The Resources are tailored for cultural heritage stewards and communities, sites, and organizations of all sizes and locations in the US and its Territories. This project will allow cultural heritage sites to increase their awareness of climate risk and events, develop the knowledge and skills needed to take steps to climate resilience including creation of a climate resilience plan, and provide the tools needed (in English and Spanish) for establishing collective learning groups and guide community action.

The Resources consist of a web-based, interactive Climate Risk & Event Map, Learning Modules, and working groups called Communities of Practice to pilot the development and implementation of the Resources .

- **Climate Risk & Event Map:** A web-based, interactive map will show past, current, and future weather-driven climate risks and impacts which will affect a cultural heritage organization or site, or community. This is intended to increase awareness of past, present, and anticipated future climate risks that will likely impact cultural heritage.
- **Learning Modules:** A comprehensive array of tools, resources, and activities to provide the knowledge and skills needed to learn about climate resiliency, and actions and topics focused on improving resiliency. These guided learning opportunities will provide background information, situational context, case studies, resources, and activities. The content developed by the Learning Modules can be input into a climate resilience plan template which is also being developed.
- **Communities of Practice:** Regional learning groups located in the US Caribbean and New Mexico, which explore using the Resources and creating community-driven support networks. Participant stories of working together in a community to develop climate resilience plans will also be shared on the website.

Climate Resilience Resources for Cultural Heritage, a project of *Held in Trust*, is the first action item resulting from the work of FAIC's four-year collaboration with the National Endowment for Humanities to consider how cultural heritage conservation and preservation must evolve to confront pressing issues the country faces today and build a more resilient future.

Appendix F

Area of Study Summary Documents



Climate Crisis and Environmental Impact

Working Group Report Summary

Co-Chairs: Héctor J. Berdecía-Hernández and Sarah Sutton

Of the Held in Trust (HIT) initiative's nine pillars of study, the findings and goals of the Climate Crisis and Environmental Impact Working Group demand the most urgent attention and action.

On August 9, 2021, the United Nations/World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC) issued a highly disturbing report on the accelerating rate of catastrophic effects of climate change. The damage already done to our climate is creating unprecedented perils to the long-term preservation of heritage resources around the world: museums, libraries, archives, historic structures, monuments, sites, and historic landscapes.

On March 20, 2023, the IPCC issued a Synthesis Report for the Sixth Assessment ([AR6](#)) calling for countries to eliminate their greenhouse gas emissions by 2040, not by 2050. To do so it stated that "Government actions at sub-national, national, and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (very high confidence). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity, and justice, and when decision-making processes, finance, and actions are integrated across governance levels, sectors, and timeframes (very high confidence)."

The cultural heritage sector is an integral part of civil society. Difficulty in reducing the impacts that contribute to climate change cannot limit the profession's commitment to stewardship. When climate events are so substantial as to cause communities to lose parts of their heritage, the vibrancy of the values inherent in and connected to that heritage is diminished. The present and future living communities lose the social significance, symbolism, historical or aesthetic values, and the science embedded in cultural heritage. Stewards of cultural heritage have a responsibility to address and overcome these challenges.

Considering the urgency of the climate crisis, the Working Group's report embraces a practical approach focused on project-based actions that address the needs of the conservation field immediately and support individuals and cultural institutions tackling the effects of climate change. The Working Group identified the following three key considerations for continued research and framing of their recommendations.

KEY CONSIDERATIONS

Awareness and understanding of the impacts of climate change on cultural heritage

Technologies exist to develop a digital climate impact mapping resource for cultural heritage professionals, yet the field has not prioritized its creation. Such a resource would identify climate change impacts across various regions, providing critical information for professionals and institutions developing action plans and partnerships for resilience.

Education for action

In addition to needing clear and usable information about their level of risk, cultural heritage entities need to better understand how to plan for the preservation of their resources. The field can help cultural heritage institutions and preservation professionals develop climate actions plans, which outline science-based strategies to reduce greenhouse gas emissions and address ways the climate is already changing. Plans should include activities for mitigating contributions to climate change and its effects on cultural heritage; adapting to climate change in responsible ways; and becoming resilient, physically, socially, and financially, in the face of a changing climate.

Policy development

A critical area of focus for the field is an exploration of the policies and considerations that would encourage the cultural heritage profession to take more steps for adaptation and climate action in their work. These policies can address risk management and planning policies for impending climate change events. They will set goals for the field and advance the development of supportive procedures for reducing risk exposure and impacts that drive climate change, collecting and collection management, and care and display. The field needs to prioritize equity expertise in developing these policies.

STRATEGIC GOALS

The HIT Working Group on Climate Crisis and Environmental Impact has identified the following four strategic goals for the field to help cultural heritage professionals and institutions anticipate climate impacts and develop climate action plans, identify sector-wide policies that encourage resilience and adaptability, and raise awareness of and commitment to climate change response across the cultural heritage sector in the U.S. To incentivize organizations and individuals to prioritize this work, the Working Group recommends tying American Alliance of Museum (AAM) accreditation to the existence of climate action plans and continuing education credits to trainings related to climate crisis issues.

Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Aid cultural heritage professionals and institutions in visualizing and anticipating climate impacts.

Climate risk maps are effective tools for visualizing and anticipating climate impacts to cultural heritage and can be designed in a manner that drives immediate action. To begin, professionals should investigate the feasibility of overlaying climate vulnerability data on existing models for mapping cultural heritage in the United States. A centralized climate risk map should be publicly and freely accessible, easily updated, and digital.

GOAL #2: Support cultural heritage institutions and sites in developing a framework for their climate action plans.

The HIT Working Group for Climate Crisis and Environmental Impact will prepare a framework with support tools that any institution or community can use to build its climate action plan for their cultural heritage. It is imperative to integrate equity concepts and expertise into these frameworks. Ultimately, having a current climate action plan will be considered best practice within the field.

GOAL #3: Identify field-wide policies and considerations that encourage resilience and adaptation.

Establishing a list of policies and considerations around climate action would help cultural heritage institutions and preservation professionals in developing steps for adaptation that could complement or be incorporated into a climate action plan. Climate crisis is a fluid situation that will require continued diligence, flexibility, and resilience and having a reference list of policies and considerations will be integral to quick, data-backed, and thoughtful decision-making.

GOAL #4: Raise awareness of and commitment to climate change response across the cultural heritage sector in America.

In order to accomplish the first three goals, the field must significantly raise awareness of and commitment to climate change response across the cultural heritage sector in America on par with the level of awareness of international organizations such as the International Institute for Conservation of Historic and Artistic Works (IIC); International Council of Museums (ICOM); International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM); and International Council on Monuments and Sites (ICOMOS), particularly along the lines of the recent [IIC, ICOM, ICCROM declaration](#). The cultural heritage sector's professional associations have an opportunity to lead such recognition and actively support and prioritize climate change-related research in conservation practice and training for conservation and preservation professionals.

IN SUMMARY

The climate crisis is one of the most urgent issues impacting the world today. It is driving decision-making across business, government, and society. It is past time for the cultural heritage preservation sector to establish the frameworks, tools, and policies that will guide actions for mitigation, adaptation, and resilience. Such work presents opportunities for new collaborative partnerships with allied disciplines, community engagement, and sustained investment.

While climate crisis poses an existential threat to cultural heritage worldwide, positive change is achievable if we are willing to act boldly and lead for the sake of a better future. Accordingly, as the Working Group developed these recommendations, the members recognized that the climate risk mapping and resilience planning could not wait until the Held in Trust project was complete. The team designed a project to support Goal #1: Aid cultural heritage professionals and institutions in visualizing and anticipating climate impacts. With support from the National Endowment for the Humanities (NEH), FAIC/AIC has begun work on the Climate Change Resilience Resources for Cultural Heritage project that includes development of an interactive climate risk map and resilience planning learning modules, and it is piloting the resilience planning process for cultural heritage in two communities of practice with partners in New Mexico and Puerto Rico.

To learn further details around the findings and recommendations of the HIT Working Group on Climate Crisis and Environmental Impact, please access their [full report](#).

CLIMATE CRISIS AND ENVIRONMENTAL IMPACT WORKING GROUP MEMBERS

Héctor J. Berdecía-Hernández, Director-General at Centro de Conservación y Restauración de Puerto Rico; Adjunct Professor at the Graduate Program in Architectural Conservation & Rehabilitation, Polytechnic University of Puerto Rico*

Sarah Sutton, Chief Executive Officer, Environment and Culture Partners*

Marie Desrochers, National Endowment for the Humanities Graduate Fellow in Art Conservation, University of Delaware

Geneva Griswold, Associate Conservator, Seattle Museum of Art

Sarah Nunberg, Principal, The Objects Conservation Studio, LLC

Jerry Podany, Heritage Conservator

Julianne Polanco, State Historic Preservation Officer, State of California

Isabel Rivera-Collazo, Assistant Professor, University of California San Diego

Natalya Swanson, Objects Conservator, Brooklyn Museum

Justin Wilder, Manager of Communications & Support Services, National Voluntary Organizations Active in Disaster (VOAD)

**Working Group co-chairs*



Collections Care and Preventive Conservation

Working Group Report Summary

Co-chairs: Mariana Di Giacomo and Laura Hartz Stanton

Collections care and preventive conservation are the foundations of cultural heritage conservation and collections management practice.

As the Held in Trust (HIT) Working Group on Collection Care and Preventive Conservation assessed the current state of collections care and preventive conservation of cultural heritage in the United States and globally, it became clear that additional cross-disciplinary training, new partnerships, and an emphasis on resilience are essential to ensuring the field can meet the challenges facing the preservation of our diverse cultural heritage.

Outlined below are the areas of key consideration the Working Group identified for this central pillar of cultural heritage preservation work.

KEY CONSIDERATIONS

Centering the value and meaning of cultural heritage

When considering preservation of cultural heritage, we must first ask ourselves who we are preserving it for and why. Advocacy becomes a key factor in ensuring we are clear about the importance of our work and those it will impact. By centering the conversation around the meaning and value of cultural heritage, we change how we view the care of collections and preventive conservation from a reactive model to a proactive one that engages with communities through conversations based on trust.

Training and engagement

The best approaches for collections care and preventive conservation are centered on the audiences for whom we do the work. Given the remarkable range of cultural heritage in the U.S. and globally, care and preservation can have many forms and require training beyond traditional educational pathways. Cultural competency is an essential part of preservation and should be reflected in the training of those who will perform preservation tasks. Communities who care for their own cultural materials must be engaged as partners in identifying and addressing strategies to increase their power and agency in caring for their cultural heritage.

Resilience in collections stewardship

Collections care and preventive conservation must evolve to meet the challenges faced by the cultural heritage sector and the world in which we live. Among other seismic shifts, these challenges include climate disasters that have not been experienced in modern history and the adoption and effects of new technologies. Resilience is key in collections stewardship to care for both cultural heritage and the people who do the caring.

STRATEGIC GOALS

The HIT Collections Care and Preventative Conservation Working Group has identified the following three strategic goals to guide collections care and preventive conservation today and into

the future. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Build advocacy

Professionals in the field can work together and with community caretakers to advocate that preventive conservation and collection care are given equal weight and proportional funding to other activities such as curation and education. In advocacy work, the field should focus the conversation about cultural heritage preservation on the audiences and cultures we serve, including diverse voices and experiences to secure the broadest possible support. As part of this work, professionals and institutions need to consider the ethical dimensions of collections care, including recognizing and addressing a legacy of illegal, unethical, and traumatic acquisition and collection practices. Additional resources will need to be allocated to repatriation, decolonization, and provenance research as part of preservation and preventive conservation practice.

GOAL #2: Create more expansive and inclusive training for collections care and preventive conservation

The field needs to provide a collections care framework in which training, policy, and practices are centered on the people/object interaction and framed within social and environmental challenges. Trainings will emphasize resilience, adaptability, and creative decision-making. To engage communities and allied professions, the field should include flexible trainings that can take place outside of institutional centers and encourage dialogue and shared learning. Communities who care for their own cultural materials must be engaged as partners in identifying and addressing what training and other programs are needed to help them meet their goals. The field will also benefit from recognizing and legitimizing the expertise of allied professionals and community caretakers in collective preservation efforts.

GOAL #3: Build resilience and adaptability in collections stewardship

The field can work together and with allied professionals and communities to prioritize adaptable concepts of preventive conservation and collections care that can scale for different sizes and types of institutions while meeting the changing needs of our world (e.g., climate crisis). Fostering creativity and non-standard approaches will be essential. Resilience is built by creating connections with a broader community of care, as well as identifying the cost of ownership of collections, to be better equipped to care for cultural heritage in an accessible and sustainable way.

IN SUMMARY

Collections care and preventative conservation is an opportunity to contribute to the reorienting of cultural heritage preservation towards a people-centered endeavor. Through more inclusive training, language, and practices, the field can empower communities and allied professions as partners or sole stewards. By sharing knowledge and ideas, we can build resilience and energize the field to meet the challenges to preserving our nation and the world's cultural heritage.

To learn further details around the findings and recommendations of the HIT Working Group on Collections Care and Preventive Conservation, please access their [full report](#).

COLLECTIONS CARE AND PREVENTIVE CONSERVATION WORKING GROUP MEMBERS

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Digital Technology: Research and Practice

Working Group Report Summary

Co-chairs: Paul Messier and Linda Tadic

By their very nature, all digital cultural heritage and research data are at risk.

Digital tools and platforms provide a worldwide medium of cultural exchange and creation. Increasingly, the mission of libraries, museums, and archives to collect, preserve, and provide access rests on technology. Today, the field of conservation is fully reliant on digital methods for the documentation and analysis of objects. From content creation through to preservation, the digital present and future introduces new preservation challenges as well as exciting opportunities for deepening knowledge of art and artifacts.

Unlike most physical objects that are generally better able to withstand periods of benign neglect, digital objects and research data are inherently unstable, presenting forms of deterioration that include physical and chemical breakdown and tenuous hardware and software dependencies.

To conserve and preserve anything “digital,” the content and data must endure two types of migrations: storage and format. These actions require policies, planning, training, and infrastructure to store and maintain the digital content into the future, principles that extend to new tools harnessed by conservators and scientists when researching materials and techniques within and across collections. Outlined below are the areas of key consideration the Held in Trust (HIT) Working Group on Digital Research and Practice identified for this pillar of cultural heritage preservation work.

KEY CONSIDERATIONS

Audiovisual media have short life expectancies.

For much of the twentieth century, audiovisual media have been the primary source record of America’s history and culture. This physical magnetic media (video and audiotape), as well as film, must be digitized for the content to live into the future. The resulting digital files can be very large and complex, requiring more maintenance and data storage than most organizations can support. As a result, much content on analog audio, video, and film is deteriorating and being lost.

Organizations are struggling to manage and preserve born-digital content.

Most contemporary audiovisual content created by and deposited with cultural heritage organizations today is in digital formats. Born-digital content requires a deep understanding of sometimes proprietary formats and the required playback software and hardware. Organizations often do not have the training or funds to maintain and preserve these formats.

Emerging tools and methodologies present new opportunities for knowledge building.

Conservation research is rapidly adapting to emerging tools and methods that present opportunities to expand knowledge about collections. New methods for characterizing materials (e.g., multi- and hyperspectral imaging, elemental scanning, and texture mapping) create vast datasets that stress even state-of-the-art digital asset management strategies. There are also challenges of accessing and analyzing data using statistical and visualization methods that are

frequently proprietary and bounded by the knowledge of conservators and scientists who often lack sufficient training in data science and signal processing.

Despite such limitations, these new methods hold tremendous potential to move beyond in-depth analysis of singular objects to investigate entire collections, within and across institutions, for patterns relating to artist/maker techniques and regional practices over time. To realize this potential, the data pipeline, from the first object measurement through to storage, visualization, and engagement, needs to be reassessed to ensure that repeatable and interoperable techniques are widely available and adhere to open source/open science principles across collections.

Digital cultural heritage content collected and maintained by community-based organizations is at great risk.

Community-based archives exist regionally and are frequently in a solely online environment. These collections often center communities not visible in traditional collecting institutions and reflect how each community defines itself. The archives hold documents; images; oral histories; and documentation of events, music, and dance performances. While these collections face the same issues in digital preservation as their larger colleagues, their greater lack of adequate funding for operations to ensure sustainability, staff, training, and infrastructure threatens the disappearance of communities' documented histories.

STRATEGIC GOALS

The HIT Digital Research and Practice Working Group has identified the following four strategic goals to guide the field's actions today and into the future to better preserve and leverage digital cultural heritage and research data. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Define and communicate frameworks, standards, and benchmarks to guide the preservation of technology-based cultural heritage.

While there is a growing body of research, action, and advocacy around the preservation of technology-based cultural heritage, many organizations are working through the related challenges and opportunities in silos. The establishment of clear frameworks, standards, and benchmarks for the preservation of analog and digital content that are accessible to collections regardless of size, location, and available resources will streamline this work and further collaboration across the field.

GOAL #2: Innovate and foster new modes of collections-based knowledge.

We need to create data pipelines that support large-scale, collection-level research within and across institutions, including new analytical equipment; methods for structuring, analyzing, and visualizing results; and open source/open science tools that ensure FAIR (Findable, Accessible, Interoperable, Reusable) cultural heritage data.

GOAL #3: Build partnerships to lower costs and environmental impacts.

Building partnerships across the cultural heritage field, as well as with allied fields and for-profit ventures, would help lower costs and environmental impacts related to digital research and practice. Such ventures should be designed to ensure equitable access across communities and be environmentally sustainable.

GOAL #4: Advocate for and build sustainability of community-based archives.

Community-based archives will benefit from progress towards the other three goals outlined above; however, they also need focused attention on their unique situations to ensure equitable access to resources and education.

IN SUMMARY

Digital research and practice within the cultural heritage preservation field is at a pivotal moment. The field must adapt to the preservation needs of technology-driven works of art, artifacts, and experiences. Meeting these challenges and securing these opportunities will require the reassessment of priorities within collecting institutions, focused and strategic investment from granting agencies and foundations, and increased collaboration across disciplines and through public-private partnerships. With coordinated, targeted effort, we will gain deeper knowledge of our shared cultural heritage and its preservation for future generations.

To learn further details around the findings and recommendations of the HIT Working Group on Digital Research and Practice, please access their [full report](#).

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**Working Group co-chairs*



Diversity, Equity, Inclusion, and Accessibility Working Group

Working Group Report Summary

Co-chairs: Isra El-Beshir and Sarah Scaturro

Advancing and sustaining diversity, equity, inclusion, and accessibility (DEIA) within cultural heritage preservation and its engagement with stakeholders will affect every other pillar of the Held in Trust (HIT) initiative, from climate crisis to communication, education, and digital research and practice. It demands our urgent and sustained action and offers some of the greatest rewards.

Our vast cultural treasures—tangible and intangible—can help foster a society where humanity is valued and thrives. To increase and prioritize DEIA within cultural heritage preservation, the field must ensure equity and justice for those who are doing the work, in the kind of work that is being done, and for the intended beneficiaries of the work.

Outlined below are the areas of key consideration the Held in Trust (HIT) Working Group on Diversity, Equity, Inclusion, and Accessibility identified for this pillar of cultural heritage preservation work.

KEY CONSIDERATIONS

Conservation stewardship in collaboration with creator communities

Conservators working with Indigenous and contemporary art in the 1980s began advocating for ways to involve diverse voices and local communities in the care and interpretation of collections. Following months of protests around racial inequity and social injustice sparked by the murder of George Floyd in May 2020, more cultural heritage institutions and individuals began to re-examine their relationship with the communities they serve and how they interpret, care for, and share the stories of objects within their collections. Among other opportunities to further greater collaboration with creator communities, the Working Group urges a revised [American Institute for Conservation's \(AIC\) Code of Ethics](#) that more explicitly reflects a profession that centers people, not things.

Inclusive engagement with diverse communities

In addition to ensuring the voices of creator communities are prominent in cultural heritage preservation work, preservation professionals and organizations need to ensure they are engaging the diverse communities around them with the cultural heritage displayed and preserved. Working across institutional silos and collaboratively with other cultural heritage professionals, organizations, and allied fields, there is significant opportunity to increase engagement with diverse local and stakeholder communities.

Recruitment and retention within the cultural heritage preservation field

The cultural heritage preservation field is currently predominantly white, female, and upper-middle-class, with entry into the field largely influenced by one's networks (<https://mellon.org/programs/arts-and-culture/art-museum-staff-demographic-survey/>). There is a general lack of understanding or consideration of an individual's intersectionality, a factor that impacts significantly how one enters and experiences the field. The cultural heritage preservation field needs to look closely at its pathways to entry, as well as assess whether it is accessible, welcoming, and empowering to people from a wide variety of backgrounds and circumstances

interested in pursuing and advancing a career in the field. In doing so, it can address recruitment and retention barriers and systemic racism within collecting institutions.

STRATEGIC GOALS

The HIT Diversity, Equity, Inclusion, and Accessibility Working Group has identified the following three strategic goals to guide the field's advancement of diversity, equity, inclusion, and accessibility today and into the future. Additionally, the field would benefit from an in-depth root cause analysis that identifies all the contributing factors to the inequities outlined in this and other HIT reports. Outlined below are three specific goals for the field to pursue that align with the above primary focus areas. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Reconnect communities with their objects and incorporate community-based knowledge.

Many institutions and individual practitioners in the field are making a concerted effort at prioritizing inclusivity and modifying their practices; however, the work is often done in isolation as opposed to endemic to the field. To achieve this goal, the field needs to invest in training and resources to support and require poly-vocal practices in conservation.

GOAL #2: Engage local and stakeholder communities with cultural heritage and preservation in inclusive ways.

Historically, the preservation or conservation of cultural heritage was not something expressly highlighted for visitors. The field has recognized the limitations of this approach and has engaged various strategies to help raise awareness of the critical importance of its work. However, these efforts, to date, have often been exclusionary and sporadic. By engaging more diverse communities with cultural heritage preservation work, the field encourages a deeper connection to our cultural heritage, gains a more nuanced understanding of tangible and intangible cultural heritage, and encourages communities' participation in its preservation.

GOAL #3: Cultivate more equitable, diverse, and inclusive recruitment, advancement, and work environments.

Before new strategies in recruitment and retainment can be implemented, the field needs to gain a data-based, nuanced understanding of current strategies, successes, and obstacles. As part of recruitment and retention, the field needs to focus on how to prioritize cultivating healthy work environments with equitable pay and professional development opportunities. By gathering data in a systematic way, the field will have the analytical intelligence needed to design effective practices and to advocate with funders and partners for resources and change.

IN SUMMARY

Committing to the goals and outcomes outlined above is imperative to preserving and sharing the remarkable diversity of human cultural achievement. It extends across and connects the communities, collections, professionals, and institutions engaged in and impacted by this work. The field has excellent examples on which to build, but will require leadership, training, and resources to truly enact change and foster deep connections with our local and global cultural heritage.

To learn further details around the findings and recommendations of the HIT Working Group on Diversity, Equity, Inclusion, and Accessibility, please access their [full report](#).

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Education, Professional Development, and Leadership Working Group Working Group Report Summary

Co-chairs: Valinda Carroll and Ellen Pearlstein

The current state of education, professional development, and leadership within cultural heritage preservation influences every aspect of the field. Crucial priorities are insuring that the field is attracting, welcoming, and educating diverse candidates for careers; that all professionals have the training and tools they need to work in and advocate for cultural heritage in a changing world; and that community caretakers and allied professionals are both empowered to collaborate in cultural heritage preservation and will have a deep and long-lasting effect on the country and the world's remarkably diverse cultural heritage.

The audiences covered by this report encompass K-12 students through to early career professionals, and those in leadership roles and development. Given the diversity of needs these audiences encompass, the Education, Professional Development, and Leadership Working Group of the Held in Trust (HIT) initiative worked as three separate subcommittees with each focusing on one of these areas. Outlined below are the areas of key consideration identified by each of these subcommittees to achieve a vibrant and inclusive future for cultural heritage preservation.

KEY CONSIDERATIONS

EDUCATION

Early education around cultural heritage preservation

Raising awareness of the importance of cultural heritage preservation early and consistently in young people's education is critical both for advocacy efforts and for establishing a diverse population of students interested in pursuing a career in the field. This can be achieved through a variety of partnerships and curricula that begin in primary school and continue through undergraduate programs, with a focus on equitable access.

Diversity, equity, inclusion, and accessibility

Diversity, equity, inclusion, and accessibility are critical areas of development for education in cultural heritage preservation. Currently, the field primarily recognizes formal graduate programs as pathways into the field. With limited regional access and daunting prerequisites, graduate degree programs have a history of excluding many potential professionals from pursuing a career in cultural heritage preservation. In addition, degree programs have struggled to foster cultures of belonging as the majority have been slow to integrate training in intercultural competencies or a meaningful number of non-Western case studies. The field needs to expand its recognition of education and training pathways to include appropriate pre-graduate and non-degree offerings, including apprenticeships.

Coordination among conservation and allied professions

The cultural heritage sector in the U.S. lacks a uniting agency or infrastructure supporting field advancement, including mentoring, funding, cross-disciplinary and collaborative research, and international exchange. This has been recognized across all the Education, Professional Development, and Leadership Working Group members, who found that education within

museums, libraries, archives, built heritage, landscape, etc. thrives through interdisciplinarity and connections between allied professionals and communities.

PROFESSIONAL DEVELOPMENT

Core competencies in preservation for continuing education and career development

The importance of rigorously implementing and recognizing core competencies should extend to professional development. A set of recognized professional training requirements and free or low-cost programs to meet them would promote professionalization across all areas of cultural heritage preservation. It is important to define core competencies along with skills and knowledge for specific deliverables independent of varying job titles. Such a mandate for ongoing training related to mandated core competencies would encourage greater investment in professional development from institutions and funders.

Access to professional development opportunities

Institutional context and professional roles impact a worker's ability to obtain funding or leave to pursue professional development opportunities. For example, conservators in private practice, hourly wage employees, and volunteer caretakers often lack access to paid research time or subsidized training programs. More individual professional development funding will increase training opportunities for cultural heritage preservation professionals, regardless of employer.

Collaboration across all professional levels and related disciplines

Preservation work is inherently interdisciplinary, yet professional silos often limit access to various continuing education opportunities. There is room for more interdisciplinary spaces where workers can train on issues related to conservation and preservation and learn from other disciplines. Such programs exist, for example programs at Ox-Bow in Michigan, where book conservators can meet with book artists, curators, and historians to explore overlapping themes of interest. More of these cross-disciplinary collaborations are needed to enrich cultural heritage preservation.

LEADERSHIP

Research and data collection

The cultural heritage sector largely lacks comprehensive data quantifying or qualifying the characteristics demonstrated by current acknowledged leaders and by those who demonstrate unacknowledged leadership. With a clear, thoughtful assessment of leadership in hand, actions can be taken to advance leadership for the field and for conservation professionals in their work.

Infrastructure

Museums, libraries, archives, and other collecting institutions, alongside those in architectural preservation, academia, small community cultural institutions, and other cultural heritage organizations all work independently to advance leadership with varying success. Greater collaboration would expand leadership networks and underscore the possibilities and necessities of working across silos.

Access, equitability, and perception in leadership development

There is an overall lack of access to and equitability in leadership development opportunities, alongside a lack of understanding or acknowledgement of the leadership already being displayed by preservation professionals. Barriers to participation include a lack of paid or unpaid time off to participate, little or no financial support for the costs of training, and minimal internal supervisory support for leadership training within organizations and businesses. Lack of acknowledgement also means that those exhibiting leadership are not incentivized to achieve further.

STRATEGIC GOALS

All three subcommittees reported on the challenges of an interdisciplinary field with broadly distributed participants whose educational and practical preparation, professional development, and leadership definitions and opportunities differ significantly. Greater collaboration within and outside the field is necessary and desired. There is an overall concern that current education and professional pathways are exclusive, preventing the participation of all those interested in pursuing and succeeding in a career in cultural heritage preservation. Given the interconnected nature of education, professional development, and leadership, the subcommittee members identified the following three overall strategic goals to focus the field's efforts on ensuring that current and next generations of cultural heritage preservation professionals are welcomed and empowered. Further details and an outline of the short-, mid-, and long-term benchmarks can be found in the HIT Working Group's [full report](#).

GOAL #1: Establish core competencies and benchmarks.

A national organization or consortium of cultural heritage groups designed to represent the various constituencies who contribute to conservation and preservation is a crucial and missing component. AIC membership does not cover all professions within the broader cultural heritage preservation field. This new body would be responsible for setting the core competencies (not formal educational pathways) related to entering the profession and maintaining qualifications.

GOAL #2: Increase collaboration amongst preservation professionals and disciplines.

All workers in cultural heritage preservation and allied disciplines must harmonize their efforts to develop and implement best practices in the protection, treatment, and long-term care of the objects, collections, buildings, and sites that embody our historic and cultural memory. The cross-disciplinary nature of the field is one of its great strengths. It is also one of its greatest challenges, as the specific knowledge that is required by any individual working in one aspect of this pool may vary greatly from that required by others. By finding new ways to share skills and knowledge and activate community and teamwork, the field will be better positioned to address current and future challenges facing cultural heritage preservation.

Goal #3: Expand access to education, professional development, and leadership opportunities.

While more research is needed to gain a detailed picture of which groups, regions, and specialties lack sufficient access to education, professional development, and leadership, existing data confirms overall entrenched inequities that must be addressed for the growth and sustainability of the field.

IN SUMMARY

While the preservation of the nation's diverse cultural heritage requires a wide range of specialized skills, over time the recognized education and development pathways and even a widespread understanding of the identity of foundational skills have fallen behind and become limited. The cultural heritage conservation and preservation field is creative and progressive, which is a strong foundation for thinking of new and expanded pathways that can open the field to new perspectives, backgrounds, and skills. Education, professional development, and leadership affect nearly every other pillar of cultural heritage preservation, and thus, deserve the field and its supporters' investment and focus.

To learn further details around the findings and recommendations of the HIT Working Group on Education, Professional Development, and Leadership, please access their [full report](#).

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Engagement, Communication, and Storytelling

Working Group Report Summary

Co-Chairs: Lauren Dugas Glover and Laura Hartz Stanton

Improving conservation practitioners' community engagement, communication, and storytelling skills across the field is critical for advocating for sufficient resources and building intentional, reparative relationships between collecting institutions and local and source communities.

The Held in Trust (HIT) Working Group on Engagement, Communication, and Storytelling identified its top-level goal as raising the conservation and preservation enterprise to a new, sustainable, impactful, and deeply resonant level with the U.S. citizenry for generations to come. The public, when inspired by conservation storytelling, becomes more engaged in preservation efforts in their communities. Additionally, more conservation projects are funded when philanthropic organizations, government agencies, and allied professionals are inspired by conservation storytelling, thus enabling a wider variety of cultural heritage to be preserved. This type of increase in preservation efforts should be promoted to give the profession more visibility and increase public appreciation for its efforts.

In identifying the following key considerations and goals, the Working Group conducted an environmental scan that evaluated the strengths, weaknesses, opportunities, existing infrastructure, challenges, and threats related to storytelling and communication in the conservation and preservation field. The findings from that environmental scan can be found in the Working Group's [full report](#).

KEY CONSIDERATIONS

Summarized below are the areas of key consideration the Working Group identified for the field around communications and community engagement for greater understanding of and advocacy for cultural heritage and its preservation.

Engagement and audiences

Engagement must come from a place of authenticity and transparency, centering communities, cultures, and people in preservation work. Yet, traditional norms of preservation and conservation may exclude culturally based ways of working. For the field to be impactful and resonant, we need a broad and inclusive way of engaging in a variety of settings and to understand that successful strategies range widely depending on the culture and community.

Inclusive storytelling around artifacts and cultural heritage

Artifacts and cultural heritage mean different things to different people and communities. Preservation professionals need to gain an understanding of the meanings and resonance of objects, artworks, archives, and sites from a multitude of perspectives and be as inclusive as possible in gathering those perspectives. This will help align preservation work and related communication strategies around the needs, goals, and interests of the communities and stakeholders the field and collecting institutions serve.

Communication strategies and processes

The kinds of stories told, by whom, when, where, and how must be considered with careful intention and authenticity. Understanding the diversity and concerns of the audience(s) the cultural heritage conservation field would like to reach and engage through storytelling is essential to forming successful strategies.

STRATEGIC GOALS

The HIT Engagement, Communication, and Storytelling Working Group has identified the following three strategic goals to empower preservation professionals, institutions, and communities to create strong partnerships built on trust, to work meaningfully with each other and the cultural “artifacts” embedded in communities, and to tell resonant stories about those objects and sites and their preservation.

Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group’s [full report](#).

GOAL #1: Foster equitable and meaningful community engagement

The cultural heritage field should prioritize equitable and meaningful community engagement in their communication. This can be accomplished through partnerships with community organizations that have interests and strengths in engaging stakeholders in conversations around cultural heritage, civic engagement, and social justice initiatives. The cultural heritage field must also understand that connecting to multiple and varied audiences is essential and fundamental to this work. For these strategies to be effective, preservation professionals must be committed to active listening and learning from the community-focused engagements and reflect critically on these experiences.

GOAL #2: Build connections with communities around and in support of artifacts and cultural heritage

Ongoing and meaningful relationships and partnerships are the foundation for community connections. The field needs to think carefully about the resources and staffing needed to sustain regular and meaningful connections with the individuals, communities, and organizations that are invested in cultural heritage preservation and conservation. The field will support efforts to connect preservation professionals and community stakeholders for inclusive storytelling around artifacts and cultural heritage with the acknowledgment of the different areas of expertise brought to the conversations.

GOAL #3: Develop resources and trainings based on successful storytelling strategies

Many conservators and communities will be taking on communications around cultural heritage preservation amidst other responsibilities. It is critical that they have straightforward and accessible communications training, tools, and strategies to tell engaging stories in cultural- and community-centered ways (as opposed to colonized/er ways). The resource(s) developed can also identify venues and technology platforms ideal for storytelling.

IN SUMMARY

When communities are empowered through intentional and reparative relationships, they can be more engaged in preservation efforts in their communities or with their cultural heritage. When funders, government agencies, and allied professionals are inspired by conservation storytelling, more work gets funded. Effective storytelling and engagement around preservation

efforts will increase visibility, advocate for policy change, and increase public appreciation, thus propagating a more sustainable conservation and preservation enterprise.

To learn further details around the findings and recommendations of the HIT Working Group on Engagement, Communication, and Storytelling, please access their [full report](#).

ENGAGEMENT, COMMUNICATION, AND STORYTELLING WORKING GROUP MEMBERS

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**Working Group co-chairs*



Field Investment, Infrastructure, and Sector Health

Working Group Report Summary

Co-chairs: Alison Gilchrest, Debra Hess Norris, Annabelle Camp

As the United States approaches its semiquincentennial in 2026, the field of cultural heritage preservation is at an inflection point. All nine areas of study of the Held in Trust (HIT) initiative identify a need for greater financial investment in the field. We must frame a vision for a national support infrastructure for the next 50 years that attracts new and existing donors and investors and demonstrates why and how the preservation of cultural memory and tangible heritage is a critical component in addressing numerous critical, contemporary issues ranging from climate crisis to social, gender, and racial injustice.

The field of cultural heritage conservation has grown reliant on a limited group of funders whose near-term priorities are shifting rapidly and whose long-term investment in the field is not guaranteed. The Field Investment, Infrastructure, and Sector Health Working Group is dedicated to understanding the ways in which the profession can develop multi-faceted, strategic efforts to broaden the funding base to include multigenerational individuals, entrepreneurial companies, and family foundations. Simultaneously, we must consider how significant reliance on philanthropy and government funding has excluded particular stakeholders and how we can engage wider audiences—a step necessary to long-term sustainability.

As the field seeks financial *sustainability*, expanded *visibility* is essential. The conservation field in the U.S. can be highly collaborative, strategic, creative, and action-oriented when appropriately incentivized. Practitioners are passionate; their excitement is engaging and contagious. In periods of emergency or crisis, conservators rise to the occasion and show, rather than tell, why the expertise to save and preserve cultural heritage is critical. But culture is not a project nor is it episodic: it endures. The field's work must spark action-oriented programs and practices that will excite and appeal to donors, resource allocators, and cultural amplifiers while strengthening opportunities for engagement and growth across the conservation and preservation landscape. Long-term sustainability also requires better integration and engagement with a significant but often overlooked segment of its workforce, individual cultural heritage preservation practitioners.

KEY CONSIDERATIONS

Summarized below are the areas of key consideration the Held in Trust (HIT) Working Group on Field Investment, Infrastructure, and Sector Health identified when considering the field's long-term sustainability.

Strengthening public awareness and connections to new philanthropic opportunities

Philanthropic practices among the major foundations that have been stalwart supporters of conservation practices in the U.S. are rapidly shifting to include previously marginalized communities and voices, coincident with a profound reckoning within the conservation profession about what and whose culture is preserved and why. As the cultural heritage preservation field works to secure sustainable, external funding, it must demonstrate its relevance to and impact on society. Members of the profession must clearly communicate why and how the preservation of

cultural memory and heritage is important for society; our material and documentary past are critical components of addressing broad societal issues, such as climate change; public health, cultural understanding, and social, gender, and racial injustice. Corporate, federal, foundation, and private investors will support initiatives and actions that address these intersectional issues. Multi-tiered influencer, communication, and marketing strategies will raise the visibility, trust level, and urgency of conservation in the public conscience.

Financial sustainability, influence, and capacity of individual cultural heritage preservation practitioners

Cultural heritage preservation professionals who work full- or part-time in private practice are the largest percentage of the preservation workforce. A thriving profession must include engagement with and cultivation of the vast amount of expertise and opportunity in the private sector. Calling on opportunities for professional growth, training models, and innovative business and funding models are all facets that can increase the accessibility and impact of this sector for more individuals. A range of opportunities related to the sharing economy and digital infrastructure could nourish community, simplify and lower costs and barriers of entry, and facilitate more equitable project distribution and completion. These possibilities are ripe for research, development, and support.

Collections Sustainability

The policies and practices in museums, libraries, archives, and other collecting institutions affect the persistence and development of the conservation profession. This Working Group questions assumptions about the role of conservation expertise in institutional leadership, decision-making, and policy-setting regarding collection-based activity such as pace and scale of collection growth, (de-)accessioning, risk assessment, provenance research, authentication, couriering, community engagement, and professional training.

STRATEGIC GOALS

An overarching goal regarding field sustainability is to establish cultural heritage preservation as a human right deserving of resources, attention, and credibility in the private and public sectors. As we work toward common goals to elevate an entire field of practice, many of these recommendations will require shifts in our shared ideology and the pursuit of innovative paths to economic sustainability. This is our opportunity to think outside of the box and influence the norms of those who hold power in the cultural sector as we reflect on the field's past and envision a more sustainable future.

The HIT Field Investment, Infrastructure, and Sector Health Working Group identified the following goals to better leverage the numerous opportunities present for the field's long-term sustainability. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Capitalize a professional, national communication and fundraising strategy

As we require financial sustainability through larger and more diversified funding streams, expanded visibility is essential. Over a period of several years, the goal should be to raise the public consciousness about preservation and conservation of cultural heritage and to promote shared human values, storytelling, and diverse perspectives across broader audiences (see also HIT report "Engagement, Communication, and Storytelling" and "Diversity, Equity, Inclusion, and Accessibility"). To accomplish this, the field requires a strategic, coordinated media strategy that addresses local, regional, and national publics. The field must also make a solid case, with financial data, to communicate its intrinsic value and economic impact, as well as the cost of not

investing in conservation. In parallel, this work will improve case-making, drive engagement, and ultimately funding through positive associations and meaningful content.

GOAL #2: Increase professional data collection

There is a clear need for the field to engage lobbying professionals and to commission data-driven research to align with other major service organizations such as Americans for the Arts and the American Library Association. We must, for example, gather, share, and promote data that will allow us to better understand our profession's demographic, experiential, and financial profiles. Such systemic data collection will also allow us to create demographic and economic benchmarks. Without timely, high-impact data and a strategy to mechanize it effectively, the field loses agency in the national conversation about heritage, its value and preservation. The Foundation for Advancement in Conservation (FAIC) has an opportunity to embrace an even greater national leadership role to strengthen the impact and influence of the cultural heritage preservation profession through strong public/private partnerships and greater investment and visibility. Fostering greater connections with an established national think tank should be investigated.

GOAL #3: Innovative business practice

While a high percentage of conservation professions are private practitioners, this component of the conservation workforce has not been fully recognized for or maximized in its contributions. A stronger and more secure future for the profession must include strategic consideration and development of the private conservation sector and its innovation-driven perspectives. It is a talented and engaged workforce highly networked with allied professions and the public, unencumbered by the pace of procedures and embedded hierarchies of institutional practice. We need to leverage the complimentary and innovation-driven perspectives that the private sector offers to further the profession at large. Target support for conservation business owners (entry level, mid-career, and established) should focus on facilitating running a profitable business, while also participating fully in other professional endeavors even if that requires subsidy and public-private partnerships. An effort can be made to establish mechanisms to make it easier to match cultural heritage in need of conservation with appropriate practitioners and funding. In addition, any field-wide marketing campaign or public programming initiative needs to be inclusive of private conservators and their work.

IN SUMMARY

As we examine opportunities for the future, our work must spark creative, action-oriented programs and practices that will excite and appeal to donors, resource allocators, and cultural amplifiers while strengthening opportunities for engagement, growth, and reflection across the conservation and preservation landscape.

To learn further details around the findings and recommendations of the HIT Working Group on Field Investment, Infrastructure, and Sector Health, please access their [full report](#).

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Philosophy and Ethics in Conservation

Working Group Report Summary

Co-chairs: Glenn Wharton and Landis Smith

Cultural heritage organizations have the potential to become trusted sites and agents of reconciliation, mediation, collaboration, inspiration, and learning.

Among heritage professionals and the public, there is a strong call for a more just and inclusive conservation practice that is collaborative, open, diverse, sustainable, and ethically relevant. Long-held notions of authority, expertise, representation, and ownership are increasingly questioned as collaboration with constituent communities, artists, and allied professionals becomes the dominant model of working. This philosophical shift in the way we think about cultural heritage conservation and preservation parallels social justice and climate change activism and reflects the evolving sensibilities of our time. There is a need for new structures that will enable an expansion and broadening of the entire preservation enterprise for the 21st century and beyond.

For the purposes of their work, the Held in Trust (HIT) Working Group on Philosophy and Ethics defined philosophy and ethics in cultural heritage conservation and preservation as follows: Philosophy is a broad umbrella term for a form of inquiry concerned with the fundamental principles or assumptions in a field of study. Philosophies of cultural heritage conservation are the result of meta-conservation investigations into the nature of conservation itself (e.g., the process of asking the “why” behind the “how” or “what”). Conservation ethics are the embodiment of the field’s underlying philosophy and values. Their purpose is to guide decision-making and actions. For purposes of HIT research, the Working Group investigated professional ethics regarding current models of conservation practice in the context of national and global social movements, including social justice and climate action.

Outlined below are areas of key consideration the Working Group identified for this pillar of cultural heritage preservation work.

KEY CONSIDERATIONS

Education on and interrogation of the philosophical systems and ethical codes of the field

Based on the Working Group’s interviews and survey results from members of the American Institute for Conservation (AIC) membership, there has been growing interest in revising and broadening cultural heritage conservation philosophy and ethics in recent years. Existing literature, educational structures, and models for practice are developing; however, there is considerable work to be done to address inequities, traditional hierarchies, and sustainability in the field. Recent scholarship in conservation has challenged established methodologies based on ideals of objectivity and impartiality, instead exploring the subjective, interpretive, iterative, and epistemic nature of conservation practice.

Collaborative conservation methodologies

Collaborative practice in conservation can be defined as an approach in which cultural heritage is contextualized as fully as possible using multiple sources of information, including the deep expertise residing with artists, communities, colleagues in allied fields, and individual stakeholders;

scientific knowledge; art historical interpretations; conservation treatment methodologies; and museum and archival resources. The practice prioritizes parity between conservation professionals and collaborating partners who bring additional perspectives, knowledge systems, and expertise to the process. Sharing and negotiating authority are key to successful collaborations. At times, this results in prioritizing the needs of collaborators and intangible dimensions of collections over historically prioritized physical preservation needs. The results of such commitment to collaborative methodologies reflects the evolution of a maturing discipline. It also positions conservation as a tool for building community and for reconstructing our understanding of the past.

National cultural heritage conservation infrastructure

There is significant national infrastructure for cultural heritage conservation that addresses or should address conservation philosophy, ethics, and collaborative practice. This includes graduate programs; publications; mid-career training opportunities; and professional, non-profit, and tribal organizations. Yet the Working Group's survey of AIC members found that while a vast majority (83%) reported some exposure to the subject in college, graduate, or other training courses, many (70%) felt that the existing literature and education is inadequate.

STRATEGIC GOALS

The HIT Philosophy and Ethics Working Group has identified the following three strategic goals to guide the field's actions today and into the future to ensure a relevant and evolving model of cultural heritage conservation and preservation. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Strengthen the role of conservation philosophy and incorporate humanist, diverse philosophies into conservation education, literature, and practice

Historically, conservation training, research, and practice have been dominated by materials science. There is now a strong movement to recalibrate this dominance and give equal prominence to the humanities and social sciences. This requires extensive work, starting with graduate training and continuing through mid-career education, to equip professionals with humanist, Indigenous, and non-Western philosophies and familiarize them with other methods of scholarly inquiry. It also requires funding to support multidisciplinary collaboration. Ultimately, the field should become fluid and flexible in adapting philosophy contextually and humanistically.

GOAL # 2: Reformulate conservation ethical codes to include the demands of social justice and climate change

Ethics, as taught, practiced, and embodied in our professional codes, have not deeply integrated concerns around social justice and climate crisis. It is time for a paradigm change that will require a reframing of cultural heritage conservation objectives to center the needs of artists and communities and the development of sustainable theories and practice, with a goal of social inclusion and climate activism.

GOAL #3: Incorporate inclusive and collaborative policies and practices in cultural heritage conservation

We must broaden conservation research and decision-making to include and even prioritize the voices of artists and communities with stakes in the conservation of cultural heritage. Collaborative methodologies improve the accuracy and extent of conservation and curatorial documentation, resulting in more responsible decision-making and more accurate information. By incorporating collaborative conservation methodologies into conservators' professional repertoire, the profession

has the potential for a more sustainable, inclusive, and equitable effect on contemporary society and its cultural heritage.

IN SUMMARY

We are at a moment in history in which much needed changes in cultural heritage conservation are being articulated and implemented in response to external and internal calls for social justice and more ecologically sustainable practices. At its best, cultural heritage conservation has the potential to connect people with their histories and cultures and to foster individual and community identity. Collaborative work is mutually beneficial for museums and communities and offers the opportunity for dialog, to correct and upgrade the information a museum has about its collections, and to make more informed, and therefore, more responsible conservation decisions. We join with the many other conservators and their colleagues who researched and authored other reports under the Held in Trust umbrella in hoping that this endeavour will impact future funding streams to help enact the changes that we recommend for the ongoing health and relevance of the field.

To learn further details around the findings and recommendations of the HIT Working Group on Philosophy and Ethics, please access their [full report](#).

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Science and Materials

Working Group Report Summary

Co-Chairs: Francesca Casadio and Sarah Scaturro

A foundation of cultural heritage preservation is cutting-edge science that unveils the complexity of aging processes and integrates some of the most powerful and networked data science to preserve our cultural patrimony amidst the climate crisis.

By combining art and science in formal and informal learning experiences, it is possible to inspire the next generation of Americans to think beyond traditional intellectual domains, and with significant depth, about how the humanities and physical sciences can work together for the betterment of human understanding.

While celebrating the importance of scientific inquiry for advances in the areas of innovation, environmental sustainability, and science for the humanities for Held in Trust (HIT), we must also recognize that for many decades, science has been used in the field to create a misleading veneer of “objectivity” and has been weaponized to normalize and codify exclusionary practices. If we want to chart an equitable, more compelling, and resilient path for heritage science in conservation, then we need to acknowledge the root cause of this exclusion and recognize that scientific research is done by people and is subject to interpretation just like any humanistic discipline.

Creating a roadmap for heritage science to thrive will have significant societal and scientific impact. The interdisciplinary collaborations required for this endeavor promote a respect for multiple authoritative voices. Harnessing the most innovative scientific processes to study tangible and intangible heritage will promote creative design thinking and innovation, moving beyond the hyper-specialization of today’s research world. Ultimately, investing in heritage science programs and ideas as outlined in this document and the [full report](#) from the HIT Working Group on Science and Materials will help engage Americans with the value of science for humanity.

Outlined below are three areas of key consideration the Working Group identified to support synergistic interactions of the sciences with an array of heritage objects, sites, communities, and practices.

KEY CONSIDERATIONS

Innovation

Innovation can be defined differently within different contexts, yet always includes a sense of novelty and progression. The goal of innovation in this field is to positively address pressing challenges that are unique to cultural heritage, especially in finding solutions to the ever-more accurate identification of materials, assessment of condition, development of sustainable treatments, and in collaboration with others, a more nuanced understanding of the creation and history of objects and cultural heritage sites. The preservation and understanding of material culture and intangible heritage poses complex challenges that can push the development of novel technologies, tools, materials, and methods, leading to valuable transferable outcomes for other fields. Current challenges to innovation in the field include, but are not limited to, a paucity of specialized practitioners, a lack of broad awareness of cultural heritage science, inconsistent and insufficient funding, and low capacity in existing facilities.

Environmental impact

Scientific research is used to measure and suggest means to reduce the environmental impact of current conservation practices. It advances the implementation of sustainable methods and materials in the preservation and conservation field in ways that align with institutional, national, and global environmental sustainability goals. The Working Group advocates for a move to sustainable materials and methods in the entirety of conservation scientists' practices, as well as those used in the storage, display, and transit of collection objects; in treatments and interventions on historic buildings and sites; in setting preservation-forward environmental condition ranges; and in the scientific analysis of cultural heritage.

Science for the humanities

Combining science with the humanities in new and creative pedagogical, scholarly, and dissemination approaches can develop competencies and attitudes for American people that are essential for innovation, collaboration, problem-solving, and the communication of complex ideas. Encapsulated in this area are issues surrounding cross-disciplinary communication and collaboration, diversification of the professional field, accessibility, funding, and education.

STRATEGIC GOALS

The HIT Science and Materials Working Group has identified the following three strategic goals to guide the field's actions around conservation science and its collaborations with the humanities for cultural heritage preservation now and into the future. Further detail on these goals and an outline of benchmarks over the short, medium, and long term can be found in the Working Group's [full report](#).

GOAL #1: Encourage innovation through expanded funding and partnerships for cultural heritage science.

Critical to encouraging and promoting innovation is achieving stable funding to generate awareness and overall scientific literacy among the public, to support heritage science research, and to diversify education. In addition, promoting collaborations inside and outside cultural institutions with academia, national labs, and industries will accelerate innovation for cultural heritage science and allied fields. Connecting U.S. scientists to a broad network of museums and cultural institutions to promote visual literacy and design thinking will foster a sustainable ecosystem of new idea generation for heritage preservation and training. This work includes expanding funding for under-resourced institutions and communities and developing pathways to connect them with conservation scientists when requested.

Offering innovative and cross-disciplinary training for youth will ensure longevity and broaden the reach of cultural heritage science: for example, support should be sought to establish *art innovation corps* for students offering returning year-to-year paid summer internships at the high school, undergraduate, and postgraduate levels to acquire sustained hands-on experience with research. In K-12, establishing a special program of after-school activities in collaboration with Indigenous and under-served communities will offer a focus on the science and technology of making, Indigenous knowledge, and heritage preservation. Communities who care for their own cultural materials must be engaged as partners to identify what training and research programs are needed to meet their goals.

GOAL #2: Support cultural heritage field's efforts to prioritize sustainability and work within the challenges of climate crisis.

Climate change and its impacts on our planet have become one of the most pressing issues of debate globally. From risk assessment and management approaches to the development of more sustainable exhibition and packing materials, cultural heritage science is ideally positioned to support the cultural heritage field's efforts to prioritize sustainability and work within the challenges of the climate crisis. This includes supporting a universal understanding that energy efficient and environmentally safe materials and practices are not antagonistic and can work in synergy with the preservation of material culture and sites. A key milestone is scaling and implementing successful transfers of research into practice to meet United Nations sustainable development targets in the preservation of cultural heritage. Furthermore, this area provides an excellent avenue to include traditional Indigenous knowledge systems as valuable sources of scientific knowledge for the environmentally sustainable care and preservation of cultural heritage.

GOAL #3: Increase awareness, engagement, and research between cultural heritage science and the humanities.

Creating bridges between arts and science pursuits provides models of interdisciplinarity and highlights the universality of human creativity. Heritage scientists have a great deal of valuable material and information to share with stakeholders in a variety of educational settings that can be used to highlight for educators and students the common ground between the arts, humanities, sciences, and engineering. This work includes achieving equitable practices of knowledge creation and learning that transcend rigid disciplinary boundaries and foster respect for multiple authoritative voices, including the incorporation of traditional Indigenous knowledge into scientific research. To amplify and democratize access to science for heritage and the humanities at a national scale will require the support for operations and staffing of multiple heritage science hubs in the East, Central, West, and U.S.-Caribbean regions of the United States. Leveraging facilities and expertise at the university and museum level, these heritage science hubs will create a diffuse infrastructure for heritage science that is available to underserved geographic locations and communities through a combination of mobile and fixed lab solutions.

IN SUMMARY

Creating a roadmap for heritage science to thrive will have significant societal and scientific impacts. Focusing in on three overarching areas—innovation, environmental sustainability, and science for the humanities—we have presented a possible path forward that grounds equity and access to science on local to national scales. In the sciences, it will promote innovative developments in sensing and modeling of aging phenomena and material properties, which also benefit other fields in the humanities and social sciences. In society, it will deepen the connections that the American public already have with certain objects, sites, and the values of their intangible cultural heritage. Examining the past through the lens of objects' materials and making creates a platform for sharing knowledge and ideas and promotes a respect for multiple authoritative voices. Ultimately, it will help engage Americans with the value of science for humanity.

To learn further details around the findings and recommendations of the HIT Working Group on Science and Materials, please access their [full report](#).

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