Introduction

With this Declaration on the Collections Preservation Environment, the Smithsonian Institution clarifies values, shared by the diverse professional disciplines that directly and indirectly care for Smithsonian collections, related to the collections preservation environment and likewise presents a shared vision for implementing environmental policy based on these common values.[1]

Collections stewardship is a key component and core priority of the Smithsonian's Strategic Plan. Assembled over the course of 168 years, Smithsonian collections are fundamental to carrying out the Institution's mission, serving as the intellectual foundation for scholarship, discovery, exhibition, and education. Smithsonian collections represent a diverse range of materials and disciplines, including works of art, historical artifacts, natural and physical science specimens, living animals and plants, images, archives, library volumes, audio and visual media, digital art and time-based media, and their associated information. Together, these irreplaceable national icons, examples of everyday life, and scientific material preserve the past, increase our understanding of society and the natural world in which we live, and support the research that expands human knowledge in the arts, humanities, and sciences. The scope, depth, and unparalleled quality of these collections make it imperative to ensure that they are properly preserved and made accessible for current and future generations to enjoy and study.

Environment and environmental control are fundamental components of collections preservation; appropriate environmental conditions provide collections with chemical, biological, and mechanical stability to extend their life, making them available to future generations. As described in the American Institute for Conservation's Guidelines for Practice, assigning appropriate environmental conditions extends the life of cultural property.[2] The Smithsonian Institution aims to provide and actively manage optimized environments to promote collections preservation based on a balance of scientific research, engineering capability, collections management protocols, and environmental impact. The dynamic factors comprising the preservation environment,[3] and to which the common values and shared vision statements detailed below apply equally, are:

1. Humidity and acceptable ranges for relative humidity
2. Temperature and acceptable ranges for temperature
3. Air quality and ventilation

[1] Participants in the "Summit on the Museum Preservation Environment" held in Washington, D.C. in March 2013 affirmed the goals of this Declaration in a straw poll after discussion and review of presentations by experts in the fields of preservation, facilities management, and sustainability.

[2] Guidelines for Practice of the American Institute for Conservation of Historic & Artistic Works, Section 20, "Preventive Conservation," http://www.conservation-us.org/about-us/core-documents/guidelines-for-practice (accessed 6/20/2014).

[3] Environmental factors such as Light and Integrated Pest Management, which have an interrelated role in the preservation environment, will be specifically addressed in separate policy statements.

Common Values and Shared Vision

Core Area	Common Values	Shared Vision
Collaborating	The Smithsonian Institution believes that collaboration is the foundation for establishing environmental parameters. Achieving optimal preservation environments requires defining objectives and finding consensus among all stakeholders. Agreement on environmental parameters is inherently challenging because it requires consideration of a number of factors, such as evolving material-specific environmental guidelines, building fabric, which may be of historic significance and fragile itself, system capability, limitations on staff and resources, and the growing impetus to reduce energy costs and operate more sustainably.	The Smithsonian Institution supports a work force that collaborates across disciplines to establish, monitor, and maintain collections environments. Roles and responsibilities of all stakeholders across all core areas are clearly delineated. Responsibilities include how each stakeholder contributes to routine planned discussions. Architects, curators, conservators, collections specialists, energy managers, engineers, facility managers, scientists, industrial hygienists, IT specialists, administrators, exhibition specialists, and others are included in discussions of the establishment of collections environmental parameters. Decisions are made by sharing information, negotiating positions based on information, and developing consensus towards the expressed value of progress towards an optimized environment. Resources such as the National Collections Program and facility capital and maintenance planning are available to collaborators to foster the spirit and effect of collaboration.

Core Area	Common Values	Shared Vision
Monitoring	The Smithsonian Institution recognizes monitoring as an essential element of preservation environment activities. Monitoring and the data derived from monitoring are the basis of conversations between stakeholders; they provide meaningful information for attempting diverse preservation management actions, such as establishing seasonal adjustments or rehousing priorities, and aid in the establishment of priorities for long-term improvements.	The Smithsonian Institution has a standard way in which environmental monitoring data is collected, reported, and interpreted across the organization. All collections spaces are designed and built with monitoring plans and protocols established and defined at the outset of design discussions. All collections spaces are designed and built with mechanisms for monitoring environmental conditions for the space and air handling systems. Environmental monitoring data is readily accessible to all stakeholders. Environmental monitoring of collections and exhibition spaces is automated and integrated. Existing systems and spaces are studied for action and modeling, especially in historic or older spaces that may not be compatible with desired specifications. The purchase of room- and system-level environmental monitoring equipment and associated software is reliably supported.

Core Area	Common Values	Shared Vision
Training	Training provides the opportunity for understanding the evolution of theory and practice in the application of environmental parameters. The Smithsonian Institution believes that education and training of the Smithsonian workforce on the role of the environment in collections preservation, including promoting the understanding of the relationship between material damage in collections and the exposure to an improper environment, is fundamental to effective collaboration.	The Smithsonian Institution is committed to cultivating professional development and training the workforce on the essential role that a controlled and optimized environment has on collections preservation, as well as on the theory and practice of the preservation environment and the variety of means that ensure collections have optimal environments. Likewise, Smithsonian employees commit to keeping current with the theory and practice of the preservation environment. It is incumbent on staff to take training to understand why reappraisal of established environmental parameters is part of the ongoing professionalism of collections care.

Core Area	Common Values	Shared Vision
Guidelines and Best Practices	The Smithsonian Institution believes that standards, guidelines, and best practices for establishing, monitoring, and maintaining the collections environment form the basis for reasoned collections environment decisions, and therefore does not support a single specification for all collections. A broad range of choices may be made with respect to relative humidity, temperature, and air quality to provide optimal preservation environments and to meet operational and energy sustainability goals.[4] Smithsonian scientists are poised to play a role in the research that leads to establishing environmental parameters.	The Smithsonian Institution conducts research concerning the relationship between the environment and collections preservation in order to continue refining an understanding of the role of the preservation environment and the mechanisms for damage to collections. Standards are routinely reviewed and continuing research contributes to the refinement of existing guidelines and best practices. Standards and regulations regarding fire safety, health, building envelope, and HVAC are well-understood as part of the discussion of the preservation environment.

[4] Several guidelines and standards are especially valued for their helpfulness in formulating a rationale for the specification of relative humidity and temperature for collections:

- British Standards Institute, Publicly Available Specification (PAS) 198: 2012 "Specification for managing environmental conditions for cultural collections";
- American Society for Heating and Air-conditioning Engineers (ASHRAE) Handbook: HVAC Applications Chapter 23 "Museums, Galleries, Archives, and Libraries";
- Smithsonian Institution Facility Design Standards, http://www.ofeo.si.edu/ae_center/pdf/SI%20Standards_Jan2012.pdf (accessed 6/6/2014);
- American Institute for Conservation of Historic and Artistic Works, interim guidelines for loans, http://www.conservation-wiki.com/wiki/Environmental_Guidelines (accessed 6/19/2014);
- Smithsonian Directive 600, Collections Management, http://prism2.si.edu/SIOrganization/OCFO/OPMB/SD/SD600.pdf (accessed 3/19/2014)

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Risk Management	Some Smithsonian collections are tolerant of a wide range of environments because of their robust physical nature; other collections have specific requirements and special needs for long-term preservation. The Smithsonian recognizes that different approaches may be used to characterize the requirements of a particular collection or facility. Comprehensive risk management models used in collections management have an important role to play in establishing environmental parameters. Standards may be used in tandem with risk management models to develop reasoned collections environments.	Smithsonian Institution collections staff are trained to be knowledgeable about the profiles of the materials in their collections and apply modern approaches to categorizing collections' fragility and hardiness. Environmental requirements for a collection are thoroughly discussed with stakeholders and the methodologies used to make decisions, including the resulting decisions themselves, are well-documented. Historic structures are considered when performing risk management exercises and are evaluated for building performance.

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Sustainability	The Smithsonian Institution acknowledges that the preservation environment, operational sustainability, and environmental sustainability are interdependent. More sustainable preservation environments and operations also may extend the lifetime of collections. Sustainable preventive conservation methods have the potential to influence the type of preservation environment required for collections.	Improving the sustainability of collections preservation environments requires implementing strategies to conserve energy and water and to ensure the continued operations of preservation environment systems. The Smithsonian pursues these strategies while also fulfilling its responsibility to preserve, and to make accessible to present and future generations, the collections in its care. Energy and water conservation measures which may affect the preservation environment are developed in collaboration with all stakeholders. The process for selecting systems utilized in the preservation environment takes into account life-cycle costs impacting operational and financial sustainability.

Core Area	Common Values	Shared Vision
Customized Specifications	The Smithsonian Institution considers the preservation environment of each collections space to be one of the paramount mechanisms for ensuring the longevity of collections. Therefore, the preservation environment specifications of each collections space are actively defined to meet practical and sustainable parameters. Because of the wide variety of collections materials and collections spaces across the Smithsonian, and because conservation research has acknowledged the variety of approaches to establishing preservation environment parameters, there is not a default preservation environment specification. The space may be intentionally unconditioned or may be continually refined based on new data through a collaborative process among stakeholders, but tightly controlled 70° F and 50 percent RH is no longer considered an appropriate, practical, sustainable, or useful set-point for all collections.[5]	The Smithsonian captures the many data points of the preservation environment, allowing stakeholders to discuss it flexibly and openly, to adapt to changing information, and to account for differences of findings on environmental readings. At a minimum, all collections spaces receive pro-active specification of relative humidity and temperature allowances and seasonal adjustments. Several core areas from this document – monitoring, guidelines and best practices, risk management, and sustainability – are factors that contribute to the collaborative establishment of the optimal preservation environment for each collections space.

[5] In recent years, the Smithsonian Institution has actively pursued specifications that reflect seasonal adjustments, set-backs, and shutdowns calculated to avoid condensation in building envelopes. Research by the Smithsonian Institution Museum Conservation Institute demonstrated that a broad RH range can be tolerated by many objects. For exhibition spaces where the need for human comfort and protection of building structures is frequently cited, a guideline of 37-53 percent RH and 66-74°Fahrenheit has been developed. http://www.si.edu/mci/downloads/reports/mecklenburg-part1-RH.pdf (accessed 6/6/2014). Many spaces for collections at SI have adopted a "cooler and drier" methodology as well.