

Smithsonian Institution

Statement of Deputy Under Secretary Scott Miller
Hearing on Collections Stewardship
Committee on House Administration
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It is challenging to visualize the size and diversity of Smithsonian collections—137 million objects and specimens, 1.8 million library volumes, and more than 164,000 cubic feet of archival material. These holdings are a global resource accessed by millions of visitors and researchers each year who wish to explore subjects from aeronautics to zoology. Among the vast collections are irreplaceable national icons, historical artifacts, and natural science material vital to the study of the world's scientific and cultural heritage, with a scope and breadth that no other institution in the world can match. Smithsonian collections are so vast that even with 19 museums and art galleries, libraries, the National Zoo and nine research facilities, only a fraction of our collections can be exhibited within the museums and galleries at any given time.

To most people, the Smithsonian conjures a place on the National Mall. We are a destination but we are also so much more. Most of our scientific collections are acquired and maintained solely for the purpose of research, enabling experts to address such significant challenges facing society as the effects of climate change, the spread of invasive species, and the loss of biological diversity and its impact on the global ecosystem. Last year we had more than 45,000 research visitor days to our collection holdings. No matter how collections are utilized, collections must be properly preserved and remain accessible for current and future generations to enjoy and study in order to increase our knowledge of the arts, history, culture and sciences.

Assembled over 167 years, Smithsonian collections are fundamental to carrying out the Institution's mission and strategic plan, serving as the intellectual base for scholarship, discovery, exhibition, and education. Collections stewardship is among the Smithsonian's highest priorities and in some cases, our greatest challenge. The volume, characteristics, complexity, and age of Smithsonian collections, as well as the variety of discipline-specific standards that apply to their care, make their management, preservation, and digitization as unprecedented, challenging, and complex as the collections themselves.

With targeted funding, the Smithsonian has made significant strides in improving the management, care, and accessibility of collections. The Smithsonian approaches collections pragmatically and strategically through assessments, long-term planning, and prioritization, measuring many factors, including: the greatest importance in supporting the Smithsonian's mission and strategic plan; the most urgent collections preservation needs; and the highest current or potential use for research, education, and exhibition. Fundamentally we are one Institution, but the management of Smithsonian collections

has been decentralized and delegated to our individual museums, art galleries, and collecting units. Since I took office in December 2010, my team has been engaged in this cross-disciplinary approach to collections-related challenges and opportunities. Engaging in holistic collections-level management has capitalized on economies of scale and enabled comprehensive care improvements that benefit the greatest number of items in an efficient, practical, and cost-effective manner.

The series of Smithsonian Inspector General's (IG) audit reports on the state of collections and their security illustrate that stewardship is not a single process, but a series of components that are interwoven, interdependent, and ongoing. The reports delineate the challenges facing the Smithsonian and most museums and galleries museums today, and will help guide strategies for tomorrow.

While we've just been informed of a new audit on the horizon, the IG's collections-related reports to date have focused on specific museums, most recently the National Museum of American History. Smithsonian response to these challenges however, has been best addressed through a coordinated, Institution-wide approach. The update and tour of our collections and facilities I provided last July to Committee staff touched on several important strategic initiatives still currently underway. These three efforts directly support the Smithsonian's Strategic Plan and will greatly improve collections care and accessibility, including:

- Implementation of an Institution-wide collections condition assessment to guide long-term plans for collections care, identifying areas where improvements are needed, establishing priorities, measuring progress, and providing a practical framework for the allocation of resources;
- Focus on digitization to guide electronic capture of collections and research holdings to document these collections in a format that saves and shares them in perpetuity. The plan includes central policy guidance including the exploration of Digital Smithsonian as a unifying concept, but also development of unit-based digitization and asset management plans and development of useful metrics to track and document progress in the digitization of our collections; and
- Implementation of collections space planning to survey the current condition of Smithsonian collections space and to develop a framework plan for addressing current and projected Smithsonian-wide collections space requirements, including future collections growth. Currently, our museum collections grow at an annual rate of 0.3% which includes new acquisitions and the refinement and deaccessioning of existing collections. The acquisition of collections is fundamental and critical to the vitality of the Smithsonian in order to preserve the evolution of human knowledge and document our cultural and scientific heritage for future generations.

In fiscal year 2010, the Smithsonian's National Collections Program, a central office under my direction, conducted an Institution-wide collections condition assessment. The

physical condition assessment allows us to identify areas of need, to establish priorities, and to track progress on improving the physical condition and accessibility of collections ultimately to ensure long-term preservation and availability for research and exhibition. As part of the assessment, Smithsonian collecting units grouped and evaluated their collections holdings by defined pragmatic subsets, based on their management and use, and characterizing the quality of collections storage equipment, objects housing materials, preservation, physical accessibility, and collections space.

In fiscal year 2012, collections significance was added to the collections assessment methodology. To appropriately capture the scope and diversity of our collections, from insects and meteorites to locomotives and aircraft, collections are assessed at a collections-level—such as military uniforms rather than a single object- or item-level, or one uniform. Based on the collections assessment results, we continue to target and improve substandard aspects of collections care by providing essential resources, by correcting specific deficiencies identified in the Smithsonian’s Inspector General audit recommendations, and by addressing the Institution’s highest priority collections management needs. Using targeted resources, we have made substantial improvements in preservation and accessibility of collections ranging from national icons to biomaterials in the most efficient and cost-effective manner possible.

Created in fiscal year 2010, the Smithsonian’s Digitization Program Office is leading the effort to document and increase the quantity and quality of digital inventory records and digital images, which advances each of the four major goals of our Strategic Plan, and is a basic requirement for broadening access, revitalizing education, and strengthening collections. Digitization supports collections care by strengthening inventory control through electronic record keeping, and by providing visual documentation of collection items. Digitization also increases access to our collections for those audiences unable to visit our museums and collections in person, and prolongs the life of a collection object by minimizing handling. And again, with less than one percent of Smithsonian collections on display at any given time, digitization extends that access to collections items in storage. We are exploring creative and efficient ways to integrate digitization into the core functions of the Smithsonian. To anchor the direction of the central strategy, all Smithsonian collecting units have created unit digitization plans, detailing priorities and goals at a more granular level.

An annual assessment tracks our progress to date, and will allow us to quantify the impact further investment will have. The unparalleled size of the Smithsonian collections is a unique challenge. We chart our own course as we move from paper-based inventory to electronic inventory control. We maintain paper-based records for 85% of our 137 million objects and specimens, and electronic records for just 15% percent. We are trying to move the dial but this volume is unprecedented, and the variety of sizes, shapes and relative fragility of our collections poses significant challenges. In fiscal year 2012, we added 170,000 standard electronic records for inventory control,

Ultimately, not every item requires a digital record. As I mentioned, many of our collections are acquired for the sole purpose of scientific study and many of these items can be described digitally by groupings. We see this method in Natural History collections most often. For example, fish specimens collected to characterize the population and variability that exists at one place in time are frequently stored in one jar. We track and manage the jar simply in one digital record. As we better understand and document the Smithsonian collections, we are able to prioritize a subset of objects and specimens for digitization.

Priorities include inventory control, compelling research interest, education, and preservation as the primary drivers of the digitization program. Overall, 12 million objects and specimens (or 9% of our collection) have been targeted. Currently, we have standard digital images that represent 12% of this priority collection and our current progress is almost 3% annually. But there is so much more to achieve and we are engaged in creative exploration of meeting these needs cost effectively. We commissioned a study by the Smithsonian's Office of Policy and Analysis that will provide cost-efficient operational models for digitizing collections systematically at scale. Establishing standard rapid digitization for common collections materials ensures maximum return on investment for digitization funding, and will improve the access of digital assets for scientific inquiry and public engagement.

In fiscal year 2010, the Smithsonian launched a space planning initiative to document, analyze, and plan for addressing the Smithsonian's current and future collections space needs in a pragmatic, strategic, and integrated manner. With these goals in mind, the Smithsonian established an interdisciplinary Collections Space Steering Committee, led by the National Collections Program and the Office of Planning and Project Management, a subset of our central Office of Facilities Engineering and Operations, to assess current collections space conditions and needs and to develop a framework plan with near, intermediate, and long-term recommendations for addressing current and projected pan-Institutional collections space requirements.

As part of this initiative, the Smithsonian completed a survey of existing collections space—representing more than 2.1 million square feet of space, or 17.5% of total Smithsonian building space. The survey provides a snapshot of current collections space conditions and characterizes the quality of collections space, storage equipment, accessibility, environmental conditions, security, and fire safety.

Preliminary data highlighted that some collections were at immediate risk of damage or loss. At the Garber Facility in Suitland, Maryland, for example, temporary buildings constructed in the 1950s and 1960s have long passed their useful lifespan, are structurally compromised or failing, and represent substandard conditions or have been rendered inadequate for housing collections. The heavy snowfall which collapsed Garber Building 21 in February 2010—which housed 2,200 objects from the National Air and Space Museum—fortunately caused little to no damage to the collections, but reinforced the

need to develop and implement short and long-term plans to replace substandard facilities and to improve collections space conditions across the Institution. As a result, a fiscal year 2012 Facilities Capital project currently underway begins to address the severe collections space deficiencies in Buildings 15, 16, and 18 at the Garber Facility, supporting the decontamination, stabilization and move of American History and Postal Museum collections currently stored in the buildings to a soon-to-be constructed temporary swing space. Completion of this remediation project and the continued move of Air and Space Museum collections to the Udvar-Hazy Center are the first steps in a phased redevelopment plan for the Garber Facility.

With the assistance of an architecture and engineering firm, our collections space planning efforts are nearing completion. The framework plan will provide an understanding of where and what our greatest collections space needs are, strategies for addressing them, and three prototype building designs on which to model future projects. These models create efficiencies through commonalities while still addressing unique needs, and include strategies for the decompression of collections to make them more physically accessible, accommodation for future collections growth, and the replacement of existing leased facilities through the strategic renovation of existing buildings. The plan outlines construction of Pod 6 at the Museum Support Center and new development of the Suitland and Dulles campuses. In the end, the plan creates a clear yet flexible roadmap to inform Smithsonian management decisions and to guide our budget requests and resource allocation for addressing the Institution's near and long-term collections space requirements.

Existing collections space that needs to be renovated will continue to be addressed through unit-level master planning and individual Facilities Capital projects. Master plans and updates currently underway or included in our Facilities Capital Five-Year Plan will address collections space needs at the Anacostia Museum, Hirshhorn Museum and Sculpture Garden, National Museum of African Art, Freer and Sackler Galleries, National Museum of American History, National Air and Space Museum, National Postal Museum, National Museum of Natural History, and the National Museum of the American Indian.

While we are stewards of Smithsonian collections, we affect collections globally. We set industry standards for collections care and continuously evaluate their utility and viability, often revising standards over time as our scientific research on collections conservation provides new information and guidance. For example, as part of our ongoing collections space planning efforts, we hosted a national summit in March on sustainable environmental best practices and strategies. As a leader in the museum profession, the Smithsonian is committed to furthering our understanding of the environment controls in collections storage and exhibition spaces and to fostering the required collaboration among critical stakeholders who share this responsibility for designing, establishing, and maintaining collections environments. Our leadership established temperature and humidity standards in use across the world. As citizens of

this planet we are all compelled to evaluate our energy impact. During the summit, stakeholders evaluated that standard for a less energy-intensive approach. A direct outcome of the summit is further refinement of our environmental climate needs for collections which will ultimately assist the Institution (and others) with future major energy savings in renovations and new construction of collections spaces. We will again set the standard for an industry. The Smithsonian will lead by example, preserving the collections entrusted in our care, being energy and cost efficient, and educating the public about the effects of global change and our options to adjust to such change. Together we ensure a sustainable strategy for the future of the world's cultural and scientific heritage and the global environment.

The Smithsonian also works with federal partners to examine the current state of Federal scientific collections and to make recommendations for their management and use. I have oversight responsibilities for collections at the Smithsonian, but I am also an entomologist with 30 years experience doing collections-based research. It is especially rewarding to serve as co-chair, along with the U.S. Department of Agriculture, of the Interagency Working Group on Scientific Collections.

We issued a report in 2009 as a first step in ensuring that our shared vital research infrastructure is preserved and strengthened for the benefit of both our country and the global scientific research enterprise. We continue a vital interagency collaboration to ensure a systematic approach to safeguarding scientific collections under the stewardship of the federal government. As recognized by the America COMPETES Act of 2010, the proper management, documentation, preservation, and accessibility of collections are critical to the nation's research and education infrastructure. The preservation and management of Federal scientific collections is recognized as part of the long-term infrastructure needs and responsibilities of Federal scientific agencies. The Smithsonian serves as a leader in the Federal community by the excellent progress we have made and the professional standards we establish in collections management.

To ensure all scientific, cultural and historical Smithsonian collections are preserved and remain accessible for current and future generations, the Institution must improve its collections space—with Congressional assistance—which ultimately strengthens Smithsonian collections stewardship. In addition, the Smithsonian is currently exploring alternative means of funding collections space through the use of public-private partnerships, and other vehicles that would allow the Institution to implement the recommendations of our collections space planning on a more expedited basis.

In addition to these three pan-Institutional programs, the Smithsonian is also engaged in a number of initiatives that involve collaboration among similar collections across the Smithsonian that are strengthening collections stewardship. First, the Smithsonian Cryo-Initiative is greatly improving the management, storage, and accessibility of frozen biomaterials held by the National Zoological Park, National Museum of Natural History, and the Smithsonian Tropical Research Institute. Smithsonian cryo-collections total

nearly 1 million samples of frozen tissue products, germ-plasma, embryos, DNA and animal and plant products from more than 18,500 species. By leveraging the shared expertise and resources dispersed across the Institution, this initiative supports an integrated and efficient approach to curation, management, and data sharing of these important biomaterials to ensure their accessibility for scientific research worldwide. Secondly, the Smithsonian—working closely with colleagues in the museum profession—is developing and implementing interdisciplinary best practices in the acquisition, care, exhibition, and long-term preservation of digital art and time-based media, a growing and fragile collection material. Lastly, we are in the process of developing an interdisciplinary, pan-Institutional support team to strengthen and improve Smithsonian emergency management, planning, preparedness and response for collections.

For the first time in the Institution’s history, these rich datasets combine condition and significance of the collections themselves, with their stewardship context and user accessibility. The Collections Condition Assessment and Collections Space Survey and Planning bring into to focus the current state of collections stewardship and quality of existing collections space, and how to prioritize improvements in both quality and efficiency of collections care and space in the future. When combined with the Digitization Assessment and Planning, this information helps to establish an organizational strategy to ensure improved preservation and accessibility of our physical and digital collections assets.

For many of these efforts, final data are still pending. But we know the indications of these studies point to the need for more resources to address insufficiencies. We know that targeted funding helps us remediate conditions and deficiencies that have existed for many years.

Increases in Federal appropriations from fiscal year 2006 through 2012 totals \$10 million, enabling significant improvements in collections management, such as:

- Addressing OIG audit recommendations regarding deficiencies in collections inventory;
- Stabilizing, re-housing, and inventorying millions of collections items for long-term preservation and accessibility;
- Purchasing space-efficient storage units and replacing substandard cabinetry; and
- Conducting collections and preservation assessments to establish priorities and action plans for the allocation of collections care resources.

Additionally, there are many expenses characterized in other ways, such as exhibitions or maintenance, which directly support and enhance stewardship of the collections.

The current budget state, sequestration especially, comes as a particular challenge for us at the Smithsonian. Our central collections care funding was cut by 60 percent this year

because of sequestration. That is a modest estimate given the significant trimming of museum budgets and other activities which directly impact but are not specifically characterized as collections. We have incredible challenges to address and yet our budget is stretched thin, which will adversely impact the recent progress we have made. The level of current funding jeopardizes the Smithsonian's ability to meet its collections stewardship responsibilities and places collections at risk of loss or damage.

In FY 2014, the Smithsonian will continue to build on these important planning initiatives and follow an action plan for strategically addressing the critical preservation, storage, and digitization needs of our collections, based on the results of the Institution-wide collections condition assessment, digitization assessment, and collections space framework plan. The Institution will continue to take a strategic multifaceted approach—both localized and pan-Institutional efforts—by prioritizing and systematically addressing critical collections needs based on current care methodologies, sound assessment data, economies of scale, and project-driven activities (including collection moves). We will continue to address IG audit recommendations. The Smithsonian will continue to seek additional private funding, as well as external partnerships, to improve collections management while leveraging available resources to support Institution-wide initiatives that strategically address the most critical collections needs.

We have shown what can be accomplished with targeted investment. While each of the three initiatives I've mentioned is critical in sound management of the collections, and requires funding, they are not resourced in the same way. The space planning initiative is a nearly three million dollar investment on top of an already rigorous process for capital investment. In contrast, while our National Collections Program is moving into a more proactive planning and policy role from the more passive coordination role it had for many years, it remains a two-person office. With digitization and collections care, we are building centralized process and oversight where it had been previously decentralized. We recognize there are issues that are too small for capital planning and yet too large to be tackled uniformly with limited resources. Funding for collections storage equipment, the cabinetry itself, is just one example we have yet to sufficiently address.

And yet, thanks to strong leadership and collaboration, our internal directives are the best in the industry. Our internal directives outline, at the unit level, a rigorous process, accountability and planning, but they are not yet integrated at the level of a strategic plan. These pan-Institutional efforts provide us key tools and insight for improving the management, care, and accessibility of collections, but we must sufficiently resource these efforts. Because of sequestration, we have already reduced our central collections care resources by more than half, and face more problems next year if sequestration continues.

There are more projects we must undertake, more collections that require improved preservation and greater accessibility in more ways for scholars, visitors and students. Because collections stewardship is fundamental to the Smithsonian's mission, there is a

critical need for new resources to accomplish basic collections management activities for accountability, preservation, storage, digitization, and accessibility of our collections. We will continue to solicit private support and grants for collections care, storage, and digitization. But we need your help and financial commitment to share and maintain America's treasures.