

COLLECTIONS CARE



When a museum holds a collection, it assumes legal, ethical, fiduciary, and professional responsibilities for stewardship.

Stewardship of collections implies an obligation to the present and the future — a promise to take care of things that have significance and value, on behalf of others. Thus, the term has particularly strong resonance in the case of Smithsonian collections, which are understood as a national legacy.

One central component of stewardship is collections care — the activities associated with organizing and maintaining collections to keep them safe, accessible, and in good condition. Collections care typically includes identifying, recording, and locating collections contents; storing them in a safe, well-maintained environment; handling them in a way that prolongs their life and usefulness; conserving or restoring them, when necessary; ensuring that they are accessible physically and intellectually when needed for display, loan, or study; and monitoring their location, use, and condition.

Among the wide range of care issues, this section focuses on three topics that the OP&A study team considers particularly important: inventory, storage, and conservation.

FINDINGS

inventory

Documents required for effective collections management include accession records, catalogues, photographs, location records, condition reports, loan records, and documents on deaccessions, disposals, significance, and other collections-related issues. Collectively, these records are referred to as “collections information” (or “collections documentation”).

One key source of collections information is the inventory, which SD 600 defines as “an itemized listing of collection items, groups, or lots that identifies the current

physical location of each item, group, or lot (Smithsonian Institution 2001, Section 6).”¹ The inventory is a fundamental and critical component of good collections care. Knowing what the unit has and where it is underlies decisions on accessions and deaccessions, storage, loans, selection of exhibition objects, and research, and is essential to deterring and detecting theft and providing access. Nonetheless, no minimum standard for inventories has been established within the museum profession. AAM’s accreditation standards state that it is expected that “an appropriate and reasonable percentage of the permanent collection is cataloged, inventoried, and visually documented (American Association of Museums 2001a).” This lack of specificity with respect to minimum standards is typical in the collections management field. What is “appropriate and reasonable” can vary according to the experience, background, and values of the evaluator and the importance assigned to the collection in question.

All Smithsonian collecting units are required by SD 600 to maintain accurate and current inventory records, and to establish and implement cyclical inventory plans. Because some Smithsonian collections are too large to inventory completely during cyclical inventories, collecting units can consult with the Smithsonian statistician² and NCP coordinator to determine what percentage of the collection to review.

Inventory is a time-consuming activity, not only because the physical location of items must be verified and because the work requires careful documentation and an audit trail, but also because collection records need to be reconciled with the results of the inventory. It is not unusual for very large collections to have inventory deficiencies. In FY2003, for example, the total collections of DOI — including the Bureau of Indian Affairs, Bureau of Land Management, NPS, and so on — comprised 144 million objects. Less than 40 percent of the collection was inventoried, and over the last five years the collection has grown by 30 percent. In

¹ It should be noted that some Smithsonian museums use the term differently. In the NMNH profiling system for collections, inventory is defined as “the availability of a detailed record for a specimen-lot or collection in a computer database” (http://www.mnh.si.edu/highlight/profiling/profile_p2.html, accessed on October 21, 2003).

² The statistician is on the staff of NMNH.

that five-year period, the backlog of non-inventoried collections increased by 17 percent.

In the 1980s the Congress mandated and funded baseline shelf inventories of two of the largest Smithsonian collections, those of NMNH and NMAH. As a result of those inventories, the numbers of items in the Smithsonian collections were significantly readjusted in 1987. Although the basic work of the inventories was completed, NMNH and NMAH were unable to catalogue all of their holdings to the appropriate item or lot level, and were unable to correct or reconcile incorrect or conflicting data. It was hoped that these backlogs could be dealt with gradually over time.

Even though some progress had been made, four of the largest Smithsonian museum collections — NMNH, NMAH, NPM, and C-HNDM — still have significant cataloguing and inventory work to carry out. The OP&A study team determined that in FY2000, NMNH had a processing backlog of over 5 million objects/lots;³ NMAH had a processing backlog of approximately 740,000 objects;⁴ NPM had a processing backlog of about 600,000 objects;⁵ and C-HNDM had a processing backlog of approximately 32,000 objects. None of these backlogs had been significantly reduced three years later. The NMNH response to the OP&A survey stated, “At the rate NMNH is able to catalogue with current staff and funding, it cannot keep up with new collections, much less make a dent in the retrospective data capture needed.” In some museums, backlogs are more than 50 years old.

At NMAH, the needs of basic collections care have become even more urgent in recent years as the museum has re-oriented its priorities toward exhibitions and the renovation of its building at the same time that overall staff positions were reduced.

³ This does not include the approximately 25 million objects in a collection of plankton received in 1991 when the Smithsonian Oceanographic Sorting Center closed. The plankton collection is regarded as having value in its current, aggregated state.

⁴ Of these, 600,000 are in the numismatics collection.

⁵ This is primarily a single collection of the leftover stock of a stamp dealer that was accessioned, but never processed.

Resources were drawn from other activities to support these efforts. For collections, this meant fewer staff and resources were available for basic care, and collections activity was largely limited to support for exhibitions, loans, and the Affiliations Program. The situation had become so extreme that at the time of this writing, the museum was contemplating shutting down its automated CIS, which it had been trying to implement for several years, because of concern the system would be corrupted in the absence of the minimum level of attention needed to maintain data standards.

In addition to their processing backlogs, the larger Smithsonian collecting units were finding it increasingly difficult to conduct their required cyclical inventories. Each museum is expected to set its own inventory standards, and the guidelines set out in the draft SD 600 Implementation Manual allow museums considerably leeway:

[Inventory] Plans must be reviewed on a periodic basis by the responsible collecting unit to assess available resources and collecting unit priorities. Implementation of the plan may be adjusted to accommodate these changes but may not be abandoned. Such adjustments must be reviewed and approved by the director in consultation with the accountable inventory officer, and appropriate collections staff (Smithsonian Institution, Smithsonian Institution Archives, National Collections Program, 2003b, 126).

In the 2002 Collections Management Assessment Report, an annual summary of the state of Smithsonian collections care, a number of museums noted that they had been forced to halt or sharply curtail their inventory work as a result of staff shortages (Smithsonian Institution, Smithsonian Institution Archives, National Collections Program 2003a). In some museums only the highest value subcollections, such as the contents of vaults and safes, were receiving their cyclical inventories.

From the early 1990s until four or five years ago, the Smithsonian's Office of the Inspector General (IG) conducted regular audits of collections, focusing on inventory, location records, and provenance information. Although these audits

were relatively narrow in focus and not extensive, they were welcomed by collections management staff, who benefited from the dialogue with auditors and the recommendations for improvement that were made to directors. The IG published the outstanding recommendations of the audits in semi-annual reports until they were dealt with. Museums were thus required to respond, and a minimum standard was enforced. The IG audits stopped at the time that SD 600 was being revised, in anticipation of new standards and their implementation. At the time of this writing, the IG had not made a decision about the conduct of future audits or how it might revise or expand such audits.

storage

Storage will always be a problem for collections managers, because collections inevitably grow over time and environmental standards steadily rise as more is known about the factors that influence the deterioration of different types of materials. These pressures can be reduced, as they have been at the Smithsonian, by minimizing the rate of collections growth or simply by ignoring the rise in standards. But if the preservation of collections is important, such measures can delay but never eliminate the eventual need for substantial investments in storage facilities.

Smithsonian collections were stored in more than 50 buildings, representing a combination of owned (90 percent) and leased (10 percent) storage space. As with every other issue related to collections, the storage situation varied considerably depending on the specific unit. Most storage space problems were or would be resolved at museums that had (or were about to have) new or refurbished spaces, such as FSG, NMAfA, NMAI, and NASM.

According to the OP&A FY2000 survey, one third of owned space and two thirds of leased space were below an acceptable level of quality (as each unit defined it). In other words, overall 35 percent of total Smithsonian storage space might put

collections at risk because of the way they were being stored (for details, see Chapter 6). In general, the major dangers to stored collections included:⁶

- ⌘ **Layout** — crowded, poorly configured, or poorly equipped space;
- ⌘ **Neglect** — mislabeled or misplaced items;
- ⌘ **Handling** — excessive or improper handling;
- ⌘ **Theft** — inadequate security equipment, monitoring, or access procedures;
- ⌘ **Temperature** — unstable or extreme temperatures;
- ⌘ **Humidity** — unstable or inappropriate relative humidity;
- ⌘ **Pollutants** — damaging levels of compounds such as sulphur dioxide, nitrogen dioxide, and asbestos;
- ⌘ **Fire** — inadequate fire detection and suppression systems;
- ⌘ **Water** — susceptibility to flooding or damage from water line breaks;
- ⌘ **Light** — inadequate control of light, especially ultra-violet;
- ⌘ **Insects** — limited or ineffective pest control;
- ⌘ **Containment** — storage materials that harmfully interact with collection items;
- ⌘ **Biological hazards** — presence of molds due to excessive humidity; and
- ⌘ **Inherent susceptibility** — to deterioration or damage in some collections items.

The first line of defense against these risks is adequate storage. Good storage protects a collection by minimizing the risk of damage, and prevention is, in the long run, more effective and less expensive than trying to repair damage after it occurs. Even when storage space is less than adequate, some dangers can be mitigated,

⁶ Special storage conditions and handling procedures are also necessary to protect staff from health hazards posed by some collections objects, such as viruses, bacteria, pesticide residues, and materials that are radioactive, toxic, or explosive.

usually by the installation of equipment or the application of supplies directed at those risks.

the preservation calculator

Temperature and humidity are two environmental factors that significantly influence the rate at which an organic object will deteriorate. The most damaging environments from a temperature and humidity viewpoint are those where one or both of these variables change rapidly over a large range, but absolute values also matter. The Image Permanence Institute at the Rochester Institute of Technology has produced a simple program for Windows that demonstrates the combined effect of temperature and humidity levels on the deterioration rate of photographs. At 68 degrees Fahrenheit and 50 percent relative humidity, for example, a photograph can be expected to last 44 years. If temperature rises to 75 degrees, the lifetime is shortened to 27 years, and if relative humidity also rises to 66 percent, the photograph can be expected to last only 18 years, and mold is likely to grow within 763 days. The preservation calculator can be downloaded for free from http://www.rit.edu/~661www1/sub_pages/downloadcounter.html.

According to the responses to the OP&A survey, in the short term 81 percent of the Smithsonian museums and archives with a lack of storage space were addressing the shortage primarily by making more efficient use of existing space — for example, through compressed storage. After this, the most commonly used methods were collaborative storage with other organizations (48 percent); making use of other spaces such as hallways and aisles (48 percent); and limiting new acquisitions until suitable space was available (41 percent).

Finding storage space for growing collections is an Institution-wide issue, for which Institution-wide planning and cooperation are desirable. For example, the Suitland

Master Plan — written in the 1980s to plan for the expansion of storage for Smithsonian collections through the construction of facilities in Suitland, Maryland — was a thorough, Institution-wide look at collections storage needs that enabled a rational, collaborative approach.

Comprehensive, Institution-wide planning for storage facilities poses certain practical challenges. For example, some interviewees pointed out that, while such planning must take account of the stated storage needs of individual units, there must also be a way for planners to objectively evaluate the desires expressed by the units: “There is no validation process to determine if [a museum’s] wishes are reality. Is the wish the actual need?” Smithsonian-wide planning for collections storage is further complicated by the way that costs are covered. Some storage is paid for with central funds and some with unit funds. According an interviewee, “There is no concept of ‘cost of ownership,’ or payback analysis done to determine what is the most economic solution over time.”

A few Smithsonian museums were addressing their needs for more space through collaborative arrangements with other museums, both inside and outside the Smithsonian. For example, NMAH has a loan agreement with the National Museum of Industrial History in Bethlehem, Pennsylvania, that has eased the burden of storing some very large objects.

The Offsite Collection Enhancement Program at NMNH is a fine example of a collaborative arrangement that offers benefits to all parties. One benefit is the reduction of storage space needs. In this program, collections that are important but are not being studied at NMNH due to a lack of expertise or interest are sent out as long-term loans, along with their storage containers. The loans are made to organizations that have the staff, facilities, and budgets to properly study, document, and preserve the collections. The conditions of the loan are established in a memorandum of understanding, which includes the right for the borrowing organization to add new acquisitions to the collection and to loan collection items, subject to NMNH approval. It is the responsibility of the borrower to adequately

maintain the collection, enhance it, and make it available to the research community. The Smithsonian continues to be the owner of the collection, however, and in the event that a borrower can no longer meet its obligations, the collection must return to NMNH. There are also annual reporting requirements that ensure NMNH's ability to maintain some degree of oversight.

offsite enhancement

The NMNH tick collection (order: *acar*), now totaling approximately one million specimens, is currently housed at Georgia Southern University (GSU) through an offsite enhancement program initiated in a 1990 memorandum of understanding. Prior to this arrangement, GSU had a substantial tick research program, but lacked an extensive collection. The long-term loan of the NMNH tick collection has supported GSU's publications, including some of great public interest relating to Lyme disease. In addition, GSU has hosted 35 research visitors from six universities as well as institutions such as the Rocky Mountain Laboratories (Hamilton, Montana) of the National Institutes of Health, Centers for Disease Control and Prevention (Atlanta, Georgia), and Zoological Institute (St. Petersburg, Russia).

The United Kingdom Maritime Collections Strategy, a national network of maritime museums focused on regional centers, offers a possible model for a national collections-sharing program. Strategy is planned by the directors of 10 lead museums, each of which has a particular "sphere of interest." Museums exchange long-term loans of items from their collections in support of one another's areas of expertise. The collaboration among these museums includes joint collection storage, as well as cooperation on collections development and access issues.

The idea of a federal interagency natural history facility — discussed in Chapter 3 in the context of research access — also has an important collaborative storage dimension. The proposed interagency facility would be purpose-built to provide extensive storage space to house the collections of at least three major partners — NMNH, USDA’s Agricultural Research Service (ARS), and the Patuxent Wildlife Research Center of DOI’s US Geological Survey (USGS) — as well as the collections of other Smithsonian units and federal agencies that chose to participate.⁷ Presumably, future collecting by the agencies participating in such a facility would be closely coordinated and oriented toward strategic national objectives. This idea is discussed further in Appendix E.

The complex tradeoff analyses required in determining future collections storage needs are well illustrated by the current situation at NMNH. As mentioned in Chapter 3, substantial portions of the museum’s collections have been moved — and more will be moved in the future — from NMNH Mall facilities to the MSC in Suitland. But since the MSC is distant and does not, in the opinion of some interviewees, have sufficient office space for everyone who needs to work on the collections, access to some portions of the collections is difficult and inefficient. This brings up a key issue: stewardship requires an appropriate balance between preservation and access, and any solution to storage space problems also needs to account for how a collection is to be used. For example, when the main use is research (as with NMNH), collections storage facilities need to provide adequate and convenient space for researchers.⁸

The Smithsonian units with the greatest storage problems appeared to be NMAH and NZP.⁹ According to the OP&A survey, NMAH graded 42 percent of its collections storage space as “below acceptable.” At NZP, the figure for below-

⁷ Other possible DOI partners include the Fish and Wildlife Service (FWS), BLM, and NPS.

⁸ The proposed interagency natural history facility would be a fully integrated research and storage facility.

⁹ Most of the other units where major problems with substandard storage space were evident in FY2000 (such as NASM, NPG, and NMAI) had recently gotten, or were getting, new or refurbished space.

acceptable storage space was 46 percent.¹⁰ Interviewees at NMAH regularly painted an urgent picture of the state of collections storage. For example:

What can be done about this? The collections in storage at NMAH are in dire condition. . . . Although they should be safest in storage, presently they are safer when in view or in motion. . . . This is unsound management of important capital assets. It also neglects the fact that “use” is only possible when there is “preservation.” We should be increasing use. It doesn't make sense to hold on to things exclusively “for the future,” because that future never comes. [But] there needs to be a balance to ensure that critical functions are supported in harmony. Congress put money into collections management in 1987, but that has been eroded.

Follow-up interviews suggested that the state of collections care since NMAH staff were first interviewed for this study in FY2000 and FY2001 had deteriorated even further. Possibly the most extreme example of poor storage conditions at the Smithsonian was the NMAH collections stored at the MSC that are wet serious risk of asbestos contamination. Plastic vapor barriers applied as a temporary asbestos containment measure decades ago have long exceeded their expected life of 10 years. The three buildings that house these collections hold over 400,000 objects, and a significant number of them (approximately two thirds of the collections in Building 16) are still contaminated by asbestos and will need to be decontaminated. There was no plan to treat these objects, or to prevent contamination of the rest of the objects in the three buildings.

Even where space problems were less urgent, there were serious issues to be faced. For example, one of the greatest dangers to NMNH collections is insect infestation. Because of the nature of the aged Natural History Building, collections management staff wage a constant battle against insects, and they have ever fewer weapons at their disposal. As one interviewee put it, “In the past, we fumigated with nasty chemicals, but now there are laws against those chemicals, and there are many restrictions on

¹⁰ NPM also reported that 95 percent of its storage space was below acceptable, but this space was part of NMAH's offsite storage.

fumigation. Many specimens are being lost to pest infestation. Ninety percent of the problem would be resolved by new cases, but they are phenomenally expensive.”

conservation

Ultimately, all collections are impermanent. The point of proper storage and care is to extend the lifetime of collection items in a way that is consistent with their importance and functions. At one extreme, the US Constitution and the Declaration of Independence have just been rehoused at the National Archives in multimillion dollar cases filled with inert argon gas and framed in gold-plated titanium. At the other extreme, the late Felix Gonzalez-Torres made artworks out of piles of candy that visitors were encouraged to take during the exhibition, so that the work would often disappear by the end of the show.

Conservation refers to measures that extend the lifespan of collections items, or make them more suitable for display or loan. This can mean active intervention to preserve or restore individual items that are damaged or at high risk of deterioration. Or it can refer to a more holistic approach — generally known as preventive conservation — that focuses on maintaining conditions conducive to the long-term protection of collections, rather than treating individual items. (Preventive conservation involves monitoring and controlling environments where collections are stored or displayed to minimize the effects of agents of deterioration such as direct physical forces, pests, contaminants, pollutants, light, temperature, relative humidity, fire, water, and vandalism.) To carry out a coherent and efficient conservation program, collection managers need to know what is at risk, establish priorities, and implement treatments or preventive actions.

When the OP&A survey asked about the percentage of collections at risk, some units responded that they could not answer because they had not surveyed the condition

of their collections. For those that made estimates of the collections “at risk of immediate or near-term loss or serious deterioration,” the range ran from 0 to 25 percent, with a median estimate of 5 percent.

Units also reported on changes in at-risk collections over the five years prior to FY2000, and expected changes during the next five years. NMAH had the greatest concerns about the next five years. However, several units reported that they had significantly reduced at-risk collections in the five years prior to the survey through conservation efforts and improved storage; the greatest improvements appeared to be at NMNH. Reasons given for the improvements at NMNH included the move of some collections to the MSC (which often resulted in updating of records, cleaning of objects, and improved storage); the upgrading of collections space in the east court of the Natural History Building, including the introduction of compact storage (also introduced in other storage areas); and the completion of the Pod 4 high-bay storage in Suitland. As this list suggests, many of the improvements came about because of a move of collections or major renovations.

The OP&A survey also asked museums about the process and frequency of their condition assessments. Some reported that they regularly and formally monitor the condition of collections; others reported that they formally review the condition only of items scheduled for exhibition or loan.

Regular, formal condition assessments were not currently considered as critical for basic collections management as were inventories, but they provide an important underpinning for conservation priority setting, especially in the case of large, disparate collections. However, when available resources drop below a certain level, the value of condition assessments may become less clear. For example, one Smithsonian interviewee questioned the value of formal conservation surveys by noting, “If you can’t implement [changes], then why do [conservation assessments]?” As soon as I realized there were no resources for implementation, we stopped bothering to do assessments. There is no reason to plan, if there is no chance to implement. It is a waste of resources.”

Collections are most likely to receive conservation assessment when they are moved or when they are being considered for an exhibition or loan. For example, when NMAI moved the Heye collections from a warehouse in New York to the CRC between 1999 and 2004, a team of 70 specialists worked on them. As part of the move, NMAI cleaned, stabilized, and photographed each of the 800,000 items in the collections, checked them against a record, and barcoded, reorganized, and stored them. Similar efforts took place when NMNH collections were moved from the Mall facility to Suitland, and more recently in connection with the move of NASM collections to UHC.

There was wide variation in the conservation staffing across Smithsonian museums. In FY2000, for example, FSG had five permanent positions for conservators/preservation specialists, and these staff were responsible for about 40,000 items, none of which was at risk of serious deterioration. By contrast, the Department of Anthropology at NMNH had one permanent conservation/preservation specialist position to care for 2 million items, many of which were in serious need of conservation care.¹¹ There was no permanent staff conservator for the remaining 124 million non-anthropology collections items at NMNH.

Interviewees at a number of Smithsonian non-art museums expressed concern that collections were not receiving the levels of care that staff considered appropriate. As one interviewee at NZP observed,

Primary stewardship of the collections is being met at a basic level, but the keepers are stretched very thin. New demands on keepers are impacting on their stewardship responsibilities. Keepers are now expected to do more work in public programs and exhibitions, provide enriched environments, and train the animals as well as perform their basic animal care responsibilities. These new demands on staff have not been calculated into the allocation of staff and other resources.

¹¹ The source is payroll data from the National Finance Center, a bureau of USDA that processes Smithsonian payrolls. In FY2000, FSG also had three conservators/conservation specialists on term appointments, while NMNH had two. Since FY2000, the number of permanent conservation positions has been the same at both museums, but term appointments are down at both.

According to interviewees, conservation care in non-art museums at the Smithsonian was being directed not to the objects that were most important or most in need, but to those that were requested for loans or exhibitions. In the words of one interviewee, “[We say,] ‘We’ll take care of the collections tomorrow.’ But tomorrow never comes.” As a result, serious problems were not being corrected. The greatest disparities between collections care needs and present capabilities were at NMAH, NMNH, and C-HNDM. One interviewee complained, “There are things here that desperately need conservation — I’ve asked for two years but nobody hears me. . . . Conditions [at my museum] and what I cope with at the Smithsonian are so bad that colleagues elsewhere can’t believe what we have to live with.”

Where funding is limited, some museums have established collaborations to share conservation staff. The Whitney Museum of Art in New York and the Harvard University Art Museums, for example, jointly hired a conservator specializing in modern and contemporary painting. At the Smithsonian, collaborative conservation efforts were more in evidence among the archives and libraries than among the museums. In the area of paper conservation, SCMRE became an important leader when it began the Research, Libraries, and Archives Collections Conservation Taskforce (RELACT) 10 years ago in partnership with SIA and SIL, to support Smithsonian staff with paper preservation issues. The program included lectures, demonstrations, workshops, guidelines, meetings, tours, publications, websites, videos, and a gallery of photographs.¹² SIA, in cooperation with SCMRE, established the Smithsonian Center for Archives Conservation (SCAC), a conservation service for the various archives at the Smithsonian that offered each free consultation and 20 hours of free services; work beyond that was billed at below-market rates. Working out of space at SCMRE, SCAC provided survey assistance, training, and treatments. Unlike the archives, Smithsonian museums had not established collaborative, cross-unit systems for training or for sharing conservation resources.

¹² For more on RELACT, see <http://www.si.edu/scmre/relact/relact2.htm>.

In recent years, conservators and conservation organizations have been making the case that “the most successful way to preserve objects is not to hide them away to ‘preserve them,’ but to make them more accessible, so that people care about them (Wadum 2003, 3).” From this point of view, conservation is not an isolated activity, but is integrally linked to other collections care activities that contribute to accessibility. Campaigns such as SAAM’s award-winning “Save Outdoor Sculpture,” a joint project with Heritage Preservation, has been internationally acclaimed as a model for building conservation awareness.¹³ At NMNH, the National Anthropological Archives had recently obtained a grant from the White House’s Save America’s Treasures Fund to preserve one third of its artwork collection, and was using fees from the sale of images to pay for the photography and digitization of archives. In the recent *Gyroscope* exhibition at HMSG, a room dedicated to conservation issues in modern art graphically demonstrated the seriousness and complexity of the problem of preserving artworks.

an emerging crisis in collections care?

There was a sense, both at the Smithsonian and in the broader museum community, that, increasingly, declining resources were putting collections at risk. In UK museums, for example, core expenditures in museums declined 12.5 percent in real terms between 1994 and 1999 (Babbidge 2000). In museums and archives generally, there was concern that resources were being shifted away from basic collections care. One report on the findings of a working group on collections in the United Kingdom noted:

¹³ Save Our Sculpture is a private/public initiative to document all monuments and outdoor sculptures in the United States, and to help communities and local groups preserve their sculptural legacies. Heritage Preservation (formerly the National Institute for Conservation) is an organization committed to preserving America’s collective heritage; see www.heritagepreservation.org.

Every kind of public access counts in new ways towards the performance criteria by which a museum is judged and funded. Lacking the appropriate additional funds to take on new levels of this activity, museums have little choice but selectively to divert scarce resources to those areas and away from core collection issues. This is scarcely viable as a short-term strategy; as a long-term institutional policy it is disastrous (Thomson 2001).

This concern was deeply felt in the American museum community as well. For the last three years or so, Heritage Preservation, together with IMLS and the Getty Grant Program, have been planning a nationwide baseline survey, called the Heritage Health Index, of the condition of collections in museums, libraries, archives, and historical societies.¹⁴ The first survey is to be conducted in 2004, and follow-ups are to take place every four years. The data will draw more attention to collections care issues, provide reliable indicators of progress or decline, and possibly stimulate new support for collections care. All Smithsonian units will be participating in the 2004 survey, and the results will allow precise comparison with similar collections nationally.

In some Smithsonian museums, as collections care positions have markedly decreased (see Chapter 6), the remaining staff have sometimes found it difficult to get the museum's top management to recognize the seriousness of their concerns until something goes wrong. One interviewee described the situation in these words: "[Collections care] is invisible to them. Then something happens, and everyone is yelled at. Morale is terrible."

Even where collections care resources had been reduced to the point where stewardship responsibilities appeared to have been compromised, there was little evidence of a serious attempt to make up for the shortfall by raising money externally. For example, in FY2003, 39 percent of the awards funds administered by the Office of Sponsored Projects were for research, 33 percent were for exhibitions, and only 6 percent were for collections. The majority of the collections awards (70

¹⁴ See <http://www.heritagepreservation.org/PROGRAMS/HHIIhome.HTM>, accessed on November 4, 2003.

percent) were directed at archival holdings. Most interviewees who were asked about fundraising for collections care purposes expressed pessimism that external donors would be interested in funding such basic “housework.”

It is not clear, however, whether the relative lack of outside support for collections has been due to the disinterest of donors to provide it, or to the disinclination of units to ask for it. Some interviewees thought that the units, and the Smithsonian as a whole, had not done enough to solicit financial support for collections management. Likewise, the SIC strongly challenged the view that donors were not interested in supporting collections care at its annual meeting in October 2003, which specifically focused on collections issues. This group of outside experts, including museum directors and specialists, unanimously and strongly urged the Smithsonian to make a more direct and determined effort to raise outside funds for collections storage and care. They maintained that,

While it seems easier to raise money for programs, [the Smithsonian’s need for collections support] is so dramatic that people will gather around the solution. There is a community — foundations, individuals, corporations — that will understand and sympathize. If you have the “nation’s attic,” you have a jumble; but if you have the “national heritage,” you can use that to your advantage.

Some non-Smithsonian organizations, especially libraries and archives, have demonstrated that fundraising for collections is a feasible option. Ten years ago, the British National Library launched a successful campaign offering books in need of conservation for adoption. A number of conservation projects in Latin America have actively involved their communities. In Peru, for example, a project called “Adopt a Textile,” introduced by the International Council of Museums (ICOM), made it possible to conserve rare textiles in which the dead were wrapped. Programs of this kind raise awareness and mobilize volunteers as well as provide financial support.

At a grassroots level, conservators and collections managers in a number of museums provide members and the public with guided behind-the-scenes tours that emphasize the process of museum work: why items are collected and preserved, how they are cared for, and how they are studied and used. Some museums give these tours on a daily, weekly, or monthly basis and charge for them, or provide them as benefits for higher-level membership. The aim is not just to entertain or educate visitors, but to inspire support — to show what is being done, what is needed, and how the museum plans to get to where it should be in preserving common heritage. First-hand contact with an articulate staff person can be a powerful way to build public commitment to collection care, and also to raise needed financial support.

Some units have routinely included funds in their exhibition budgets for conservation and other functions related to objects to be used in exhibitions. Far less common were provisions for the rehousing of objects in exhibitions that were being closed. Similarly, inadequate attention was being paid to the long-term resources needed to handle collections being moved as a result of renovation. NMNH, for example, moved the mammals collection to leased space in Virginia, pending renovation of this collection's exhibition space and installation of the new Mammals Hall. Not all of the collection was used in the new exhibition, yet no provision was made for the long-term storage of the remaining objects.

setting priorities

Because of the vast size of Smithsonian collections and the depth of their needs for care, it is unlikely that there will ever be enough money to do everything that ought to be done. Choices will always have to be made. In cases where resources for collections care have diminished, the question of how to distribute the remaining staff and funds is especially difficult.

The OP&A study team asked Smithsonian units about their bases for allocating collections care resources, including conservation. Nearly all cited every one of the following criteria:

- Most mission critical;
- Greatest risk of loss/damage;
- Impending use;
- Heaviest use; and
- Funding earmarked for specific object/collection/project.

Among Smithsonian museums, NMNH has been a leader in developing a systematic, thorough, reasonably objective, and quantitative method of collections profiling for assessing the state of collections and determining priorities for the allocation of collections care resources. (In general, natural history museums, because of the vast size of their collections as well as the fragility and uniqueness of many specimens, have been particularly rigorous in setting preservation guidelines, both individually and through associations such as the Society for the Preservation of Natural History Collections.) NMNH's collections profiling process established a new level of best practice in this area. It began 15 years ago with the entomology collections and has since been adapted and extended to all of the museum's collections. The point of this profiling is to obtain a quantitative measure of collections care needs, documentation status, and accessibility, so that improvements can be efficiently planned and implemented. For all NMNH collections, the principle measured parameters have been:

- **Conservation** (whether the physical state of items is unstable, degraded but stable, stable and not degraded, or optimal);

- **Processing** (whether items are unprocessed, sorted but not accessioned and/or labeled, or fully processed with accurate and complete archival labels);
- **Storage** (whether a building/room or storage equipment is substandard or museum-quality);
- **Arrangement** (whether items are not arranged, arranged but needing improvement, or fully arranged);
- **Identification** (whether items are not identified, identified to the gross level, identified to a useful level, identified to an accepted standard, or identified by an expert); and
- **Inventory** (whether items are not inventoried, inventoried at the collection level, or completely inventoried).

A pilot project in FY2000 demonstrated that the system was feasible and provided baseline data (Shelton, et al. 2000). The pilot project also noted several troubling museum-wide trends at NMNH:

- Inadequacy of storage space, crowding, and low quality of storage containers;
- Lack of a museum-wide conservation program; and
- Limited staff and funding resources.

The museum's plan was to complete baseline profiling for all collections and then to annually track and report ongoing progress. In this way, NMNH would be able to track the condition and documentation of its collections across departments in a way

that would enable limited collections resources to be spent efficiently and strategically.

SCMRE has similarly experimented with a profiling system for archives, called the Preservation Priority Data Base; that system was refined by SIA to include seven physical parameters, together with use and significance. Like NMNH in the Smithsonian museum community, SIA has become the leader for profiling in the Smithsonian archives community.

The Library of Congress offers another example. The situation at the Library in the late 1990s was described as follows:

While Library managers and staff had a fairly strong grasp of what threats existed to their collections and what actions could be taken to mitigate them, there were no data to support that knowledge or to demonstrate to funding organizations the need to invest in improving controls. To rectify this, the Library began systematically assessing the risks to its collections (Price and Smith 2000, 4).

As part of constructing a risk assessment program that would meet this need, the Library instituted a classification system that identified five levels to which collections could be assigned:

- **Platinum** includes the Library's most priceless items. The Treasures, a small group of the Library's most precious items (such as the Gutenberg Bible), are the quintessential components of this category.
- **Gold** includes rare items that have prohibitive replacement cost, high market value, and significant cultural, historical, or artifactual importance. This category includes first editions and rare books, daguerreotypes, manuscript maps, and wax cylinder recordings.

- **Silver** includes items that require special handling and items at particularly high risk of theft, such as computer software, popular titles in print, videos, and compact discs.
- **Bronze** includes items that can be used without special restrictions in the Library's reading rooms and materials that may be loaned without stringent restrictions.
- **Copper** includes items the Library does not intend to retain but holds while deciding what to do with them; for example, items that may be used for its exchange and gift programs (Price and Smith 2000, 9).

A number of museums have found, when resources are extremely stretched, that it can be very useful to have a system for categorizing collection contents by significance. For example, as part of the Delta Plan for the Preservation of Cultural Heritage, a collections rescue effort in the Netherlands, collection items were assigned to one of four categories to establish priorities for tackling backlogs:

- **Category A** — unique, singular examples, holotypes, or prototypes.
- **Category B** — objects important for their presentation value, and objects with important documentary value.
- **Category C** — objects that “round out” a collection or add significance to its overall context.
- **Category D** — objects that do not complement or fit into the collection, or are so severely damaged that restoration is useless.

risk assessment applied to collections

In 2002, the Canadian Museum of Nature received a national outstanding achievement award for its Risk Assessment Project, an innovative long-term approach to conserving and prioritizing care of the 10 million specimens in its natural history collections. The risk assessment approach, begun 10 years ago, identifies 85 individual risks, ranging from catastrophic events to subtle risks such as slight variances in temperature. According to staff, the museum's whole way of thinking about collections management has shifted; instead of simply following a checklist of prescriptive standards, the museum now thinks in terms of how much of the collection's value will be retained over a given period of time. "We are able to clearly indicate to management how much benefit will be associated with a decision for enhanced collection preservation. In that way, we can make better-informed decisions on where to invest limited resources for preservation."

Source: "Canadian Museum Wins Award for Care of Natural History Collections"
www.museum.com/jb/news, July 15, 2002.

The Heritage Collections Council (HCC) in Australia has established an elaborate system for identifying the significance of objects and collections that is designed to be applied nationally across the entire spectrum of museum collections. Four primary criteria (historic; aesthetic; scientific, research, or technical; and social or spiritual) and five comparative criteria (provenance; representativeness; rarity; condition, completeness/intactness and integrity; and interpretive potential) have been used to evaluate an object's or collection's significance. This significance assessment system is intended "to focus resources on the most important objects or collections and give them priority in curatorial, conservation, exhibition, and education programs (Heritage Collections Council 2001, 13)." The value of significance assessment of this kind extends beyond issues of collections development and care to include the role of the museum in the community. Because the HCC significance assessment criteria are so broad,

the process is most effective when it involves a range of people, skills and consultation. . . . Significance assessment provides a framework within which museums and communities can debate the meanings of objects, work collaboratively on collection themes and documentation, and communicate the value of Australia's heritage collections to a wider audience (Heritage Collections Council 2001, 13).

the delta plan

A 1988 Netherlands Audit Office report on the condition of the nation's cultural heritage, which cited the National Museum of Ethnology in Leiden as being an example of how bad conditions had become, set in motion a series of reforms at Dutch national museums referred to as the Delta Plan. The Museum of Ethnology addressed its critical collections storage and preservation issues by first assigning a group of seven registrars to work exclusively for four years to automate collections registration. The museum then began a project with the Social Service of Leiden whereby unemployed persons were selected to be trained at the museum for one year and paid by social security funds. In addition, the museum brought on anthropology and art history students as well as "housewives, a female men's hairdresser, a gardener, a housepainter, in short anybody who is willing." The artifact work was split into separate tasks — unpacking, labeling, dusting, photography, registration, etc. — and workers performed one task where they were closely supervised by a conservator. Tasks were rotated so that after a year each new employee was familiar with the entire project. The training program that the Museum of Ethnology developed is now the basis for Holland's National Primary Training for Museum Conservation Technicians.

Source: van der Burg 1996.

CONCLUSIONS

Collections care is fundamentally important to the health, longevity, and usefulness of collections, but it is relatively invisible and therefore vulnerable to neglect. Collections care and the allocation of resources for it need to be viewed as critical functions and a key part of the Smithsonian's "internal economy" — the complicated mix of business practices, tradeoffs, mechanisms for setting priorities, and perceptions of costs and benefits — across all collecting units. If inventories are postponed, storage improvements delayed, and conservation cut back, what will be the result in two years, five years, or ten years? When collections are large and there is no quantitative measure of their status and needs, questions like these are very difficult to answer.

The longer that collections care activities are kept below optimal levels, the more difficult it is even to know what the effects of continued reductions in care have been and might be. If there has been no inventory in a decade, or if there is no ongoing conservation assessment (also called "preservation assessment") of the collections, then there is no objective way to know with confidence what is happening to the collections over time, and the collecting unit must rely on anecdotal information.

At the Smithsonian, the state of collections care is mixed because units are free to interpret their missions, set their own standards, and allocate resources with respect to collections. The SD 600 Implementation Manual will be the definitive authority for Institution-wide standards for collections care, and it is comprehensive and meticulous in its listing of issues that collecting units must consider. However, the emphasis of the Implementation Manual is on individual standards set by each unit, and units still have wide latitude for interpretation.

When directors believe that collections are absolutely central to their mission, or personally feel a strong sense of responsibility and affection toward them, collections

care activities are more likely to receive adequate funding. However, even if a unit's senior management wants to focus on collections care, the priorities and initiatives established by the central administration can make this more difficult. For example, if the central administration stresses the importance of other activities — such as exhibitions, public programs, education, or publications — while remaining relatively silent on collections issues, collections may tend to be neglected as resources are shifted to these other activities.

Until recently, IG collection audits served as last-resort trip-wires with respect to inventory issues to ensure that a line between “reasonable” and “too little” was not crossed. Although these audits, focusing on inventory, were very basic (and could be much more effective if refined and expanded), they served a purpose in setting minimum standards for care, reminding museum managers of their accountability for collections care, and establishing priorities for improvements.

What level of overall collections care is reasonable, given the current state of Smithsonian finances and the pressures of competing needs? What is too little? Smithsonian units need to identify what constitutes a minimum standard for care in a given situation, and to evaluate whether or not this standard is being maintained. Unfortunately, that is not so simple. For example, while it may seem appropriate to give a lower level of care to a collection that is judged to be less significant, judgments of significance often change with time. Should a collection be exposed to the risk of irreversible degradation on the basis of current opinions as to its importance? If it is valued so little by its current owner that it is allowed to deteriorate through neglect, should it not be deaccessioned and given a chance to survive and be useful elsewhere?

Despite the difficulties inherent in the task, the OP&A study team sees a need for NCP, working with representatives of the units, to define minimum standards of care for compliance with SD 600 for particular types of collections, and for NCP to monitor whether the units are maintaining those standards. Those standards would usefully include parameters for inventories, profiling, and significance assessments.

Further, if a unit cannot maintain a collection at the minimum standard, the study team believes it is appropriate to ask whether that collection should be transferred to an organization better able to care for it.

Widespread adoption of a profiling system, such as the one established by NMNH, could take the place of IG audits. In fact, such profiling would go much further by quantitatively documenting the health of collections. By including issues of conservation, documentation, and access along with the basic inventory, collection profiles can provide a thorough, responsible, and standardized assessment of what needs to be done. They can inform management about the state of collections, allow conditions to be tracked, and enable resources to be allocated in the most rational way.

In the current situation, where collections care is markedly understaffed, it might seem difficult to impose the burden of yet another collections care activity, such as profiling. But even when staff resources are extremely tight, it should be possible to adapt the profiling process to focus initially on the “hot spots” — the areas of the collections where problems are known to be most numerous or most severe. In fact, all attempts to improve the state of collections care need to start from an attitude of triage, according to which resources are focused on the areas of greatest urgency.

Among the museums at the Smithsonian, the most serious case with respect to collections care was NMAH. The problems at NMAH were more severe not only because corrective actions have not been taken in a consistent, widespread manner, but also because no targets have been set for pursuing improvements that have been desperately needed for years, and the situation was only getting worse.

The recent shift of resources away from collections care toward other priorities at NMAH was not wrong in itself. Orienting resources to the accomplishment of priority organizational objectives is an excellent management method, provided that competing considerations are weighed and essential needs are met at minimum levels. In the case of NMAH, the OP&A study team believes that the line has been

crossed, and that minimum levels of collections care were not being met. Unfortunately, because it was obligated by contractual exhibition and building renovation agreements, the museum has had little leeway to correct this imbalance by re-allocating resources. In any case, the problems with collections at NMAH were of a magnitude that transcends patchwork solutions.

Broadly considered, there are three possible directions Smithsonian management could take in addressing the problem of underfunded basic collections care. One would be the exercise of greater central authority to hold directors accountable for ensuring that collections get the care they need, even if this means diverting resources from higher-profile activities. The other would be a commitment on the part of the collecting units with the largest problems to reducing their collections to a size consistent with available resources, by disposing of collections that do not fit their primary mission. The third would be an aggressive fundraising effort on behalf of collections care.