



## In Brief

## Collections Stewardship of the National Collections at the National Museum of American History - Inventory Controls Report Number A-10-03-1, February 8, 2011

### Why We Did This Audit

This is the first of two reports covering stewardship of the national collections at the National Museum of American History (NMAH) and one in our series covering collections at the Smithsonian. Our overall audit objectives were to determine whether (1) physical security is adequate to safeguard the collections, (2) inventory controls are in place and working adequately to ensure that the collections are properly accounted for, and (3) collections are properly preserved at NMAH. This report covered the second objective.

### What We Recommended

We recommended that NMAH develop a prioritized plan to conduct and document inventories in accordance with policy as well as convert and reconcile external systems with its official collections information system; include measurable goals for record completeness and a requirement to conduct cyclical inventories in curatorial performance plans; and revise its Collections Management Plan to strengthen collections management guidance. We also recommended that it assess staffing needs and develop a succession plan, as well as ensure that budget requests continue to reflect collection management staffing priorities.

Management generally concurred with our findings and recommendations.

### What We Found

We found that inventory control measures are not in place or are inadequate.

We found that NMAH could strengthen inventory control practices to improve stewardship and broaden access to the collections. Based on our limited tests of the collections inventory, we determined that 212 of the 2,216 objects we sampled, or about 10 percent, were missing. NMAH has not conducted cyclical inventory reviews as required by its policies. NMAH also did not maintain complete inventory records, and those records often contained inaccurate information. NMAH's electronic inventory records accounted for only about half (46 percent) of its accessioned objects. NMAH does not have an accurate count of its collections.

We also found that NMAH has not developed a resource and succession plan for collections management operations. The Office of Curatorial Affairs has an aging staff, most of whom are eligible for retirement. As a result, the museum faces the imminent loss of irreplaceable institutional knowledge.

The similarity between the results of this audit and those of our prior audits of the National Museum of Natural History (NMNH) and National Air and Space Museum collections, where we also found inventory problems, is troubling. The collections issues noted in the 2005 report *Concern at the Core: Managing Smithsonian Collections* persist. Six years have passed since that report and almost five years since we issued our report on NMNH. We remain concerned that the Smithsonian has not undertaken stronger Institution-wide efforts to improve these practices, which are critical to protecting the collections from theft and loss and essential to maintaining access to the collections. Smithsonian and museum management have not allocated sufficient resources to provide adequate stewardship of the national collections.

We continue to hope that the Institution's Strategic Plan objective to strengthen collections stewardship results in increased attention to collections management.

For additional information or a copy of the full report, contact the Office of the Inspector General at (202) 633-7050 or visit <http://www.si.edu/oig>.




# Smithsonian Institution

Office of the Inspector General

Date February 8, 2011

To Brent D. Glass, Director, National Museum of American History (NMAH)

cc Richard Kurin, Under Secretary for History, Art, and Culture  
David K. Allison, Associate Director, Office of Curatorial Affairs, NMAH  
Karen Garlick, Assistant Director, Collections Management Services, NMAH  
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From   
A. Sprightley Ryan, Inspector General

Subject Audit of Collections Stewardship of the National Collections at the National Museum of American History – Inventory Controls, Number A-10-03-1

This report presents the results of our audit of inventory control measures over the collections at the National Museum of American History (NMAH). It is the first of two reports covering stewardship of the national collections at the National Museum of American History and one of our series covering collections at the Smithsonian. The Office of the Inspector General (OIG) initiated this audit to examine collections management, which is essential for safeguarding the collections for public and scholarly use and reducing the risk of loss or theft. Earlier audits covered the National Museum of Natural History (NMNH) (A-05-06, September 29, 2006) and the National Air and Space Museum (NASM) (A-09-04, March 17, 2010); the next audit in the series will cover the Cooper-Hewitt National Design Museum collections.

Collections are at the core of the Smithsonian. The Smithsonian Strategic Plan for fiscal years 2010-2015 states:

The collections are fundamental to our work and to that of countless scholars and many federal agencies; it is our responsibility to preserve them for future generations. To ensure they remain available, we will improve collections storage and management, substantially expand access to collections through digital technologies, and build public/private partnerships that strategically enhance collections care.

The collections drive the mission and the work of the Smithsonian. The museums' collections are constantly growing, and failure to implement controls increases the risk that it will not be able to provide proper stewardship, which diminishes access to the collections and increases vulnerability to loss or theft. Failure to adequately account and care for the collections affects the Institution's ability to share its treasures with the public and scholars now and to broaden its reach to future generations through conversion to digitized formats.

Our objectives in the overall audit were to assess (1) whether physical security is adequate to safeguard the collections, (2) whether inventory controls are in place and working adequately to ensure that the collections are properly accounted for, and (3) whether

collections are properly preserved in compliance with Smithsonian and museum collections management policies and procedures. This report covers the second objective. We describe in detail our audit scope and methodology in Appendix A.

## RESULTS IN BRIEF

We determined that NMAH can strengthen inventory control practices to improve stewardship and broaden access to the collection. Based on our limited tests of the collections inventory, we determined that 212 of 2,216 objects (or about 10 percent) we sampled were missing. We found that NMAH staff have not conducted cyclical inventory reviews as required by their Collections Management Policy (CMP) and did not maintain complete inventory records, including an accurate count of the collections. NMAH also has not developed a resource and succession plan for collections management operations.

As noted in *Concern at the Core: Managing Smithsonian Collections* (April 2005), the Office of Policy and Analysis' (OP&A) comprehensive study of collections management at the Institution, Smithsonian collections are increasingly at risk because of declining resources to perform basic collections management. Our previous collections audits also found significant problems with inventory controls at NMNH and NASM and reaffirmed the fundamental concerns over collections management presented in the *Concern at the Core* report. In those earlier audits, we recommended that NMNH and NASM follow the suggestions of the *Concern at the Core* and, more specifically, develop plans for a prioritized cyclical inventory; make inventory goals and proper record documentation a part of performance plans; and follow the museum's inventory plan. The Directors of NMNH and NASM generally agreed to all the recommendations from our reports and followed through to implement substantially all of them.

The similarity between the results of our prior audits and this one is troubling. We recognize the responsiveness of NMNH and NASM officials to our recommendations and encountered a similar reaction from the officials at NMAH while conducting our test work on the current audit. Yet six years have passed since OP&A issued the *Concern at the Core* report and almost five years have passed since we issued our collections report on NMNH. The concerns that repeatedly surface in the course of our audits illustrate the continued urgency of improving collections management practices. As we mentioned in our NASM collection report last year, we remain concerned that the Smithsonian has not undertaken stronger Institution-wide efforts to improve these practices. We continue to believe the Smithsonian has not allocated sufficient resources to provide adequate stewardship of the collections.

We acknowledge that collections care must compete for scarce resources. Nonetheless, we hope the Smithsonian, including NMAH, will strive to further strengthen its stewardship, by careful planning, setting of priorities, and more targeted allocations of existing resources. These efforts will be especially critical given the Institution's plans to digitize a large portion of the collections. We are concerned that collecting units, such as NMAH, will struggle to reach this goal without improved inventory controls.

To meet the Smithsonian priority of broadening access to the collections, we believe that NMAH needs to improve inventory controls and better ensure continuity of care for its collections, recognizing the constraints of limited and even dwindling resources available for this important work. Accordingly, we recommended that NMAH develop a

prioritized plan to conduct and document inventories in accordance with its CMP as well as convert and reconcile external systems with its official collections information system; include measurable goals for record completeness and a requirement to conduct cyclical inventories in curatorial performance plans; and revise the CMP to strengthen collections management guidance. We also recommended that it assess staffing needs and develop a succession plan, as well as ensure that budget requests continue to reflect collection management staffing priorities.

Management generally concurred with our findings and recommendations and has planned corrective actions that resolve all of our recommendations.

## **BACKGROUND**

### **The National Museum of American History**

The National Museum of American History opened to the public in January 1964 as the Museum of History and Technology. In 1980 the Smithsonian changed the museum's name to the National Museum of American History. The museum holds in trust approximately 3.2 million<sup>1</sup> objects that encompass all aspects of the history of the United States. Approximately 5,000 of these artifacts are on display at the museum. The remaining collections are stored at NMAH on the Mall, the Pennsy Drive Facility in Landover, MD, and the Museum Support Center (MSC) and the Paul E. Garber Facility in Suitland, MD.

NMAH is one of the Smithsonian's more popular museums, with approximately 4 million visitors in 2009. The museum recently completed a two-year, \$85 million renovation of the building's center core. Major highlights of the renovation were the construction of a new Star-Spangled Banner gallery, expanded public space, and improvements to the 44-year-old building's infrastructure. The museum is conducting further renovations in its west wing beginning this year.

At NMAH, care and accountability for the collections is the responsibility of the Office of Curatorial Affairs (OCA) staff. OCA comprises the following departments: Department of History, Department of Affiliations, Department of Collections Management Services, and the Collections Support Office. Our audit focused on two of these departments: Collections Management Services (CMS) and the Department of History. CMS ensures the accountability, preservation, and accessibility of the collections in support of the museum's mission. The Department of History is responsible for collecting, documenting, and managing approximately 1.8 million objects of the NMAH collection. At the time we conducted our audit there were seven divisions within the Department of History: Home and Community Life (H&CL), Information Technology and Communications (IT&C), Medicine and Science (M&S), Military History and Diplomacy (MH&D), Music, Sports, and Entertainment (MSE), Politics and Reform (P&R), and

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<sup>1</sup> Approximately 1.4 million objects are managed by the NMAH Archives. We excluded Archives objects from the scope of this audit.

Work and Industry (W&I).<sup>2</sup> These divisions are responsible for developing exhibitions, public programming, and research based on their collections.

## NMAH Collecting Divisions



### *Music, Sports and Entertainment*

MSE collections and programs focus on music, dance, theater, film, broadcast media, sports, recreation, and popular culture. This division is responsible for four collections (Musical Instruments, Audio/Video, Sports/Entertainment, and Folk Art) encompassing about 140,000 objects, with five curators, two curators emeriti, three associate curators (two of whom are part-time), one museum specialist, and four staff on special projects.

### *Military History and Diplomacy*

MH&D collections and programs spotlight the history of American military technology and its armed forces. This division is responsible for approximately 225,000 objects belonging to one collection, which is managed by three curators and three associate curators.



### *Medicine and Science*

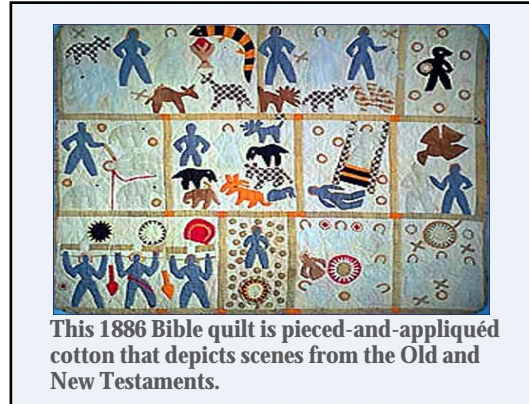
The M&S division is focused on the biological, medical and physical sciences. This division is responsible for four collections (Medical, Physical, and Biological Sciences, and Modern Physics), totaling about 90,000 objects, with six curators and four associate curators caring for the objects.

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<sup>2</sup> Effective February 2010 (after the start of this audit), NMAH reorganized the Department of History and eliminated the Information Technology and Communications Division. NMAH transferred objects and staff to the remaining divisions. The Department of History also renamed several of the remaining divisions: the Military History and Diplomacy is now Armed Forces History; Music, Sports and Entertainment is now Culture and the Arts, and Politics and Reform is now Political History.

## ***Home and Community Life***

H&CL collections highlight domestic and social life in America. This division is responsible for five collections (Costumes, Textiles, Ceramics and Glass, Domestic Life, and Ethnic), totaling about 160,000 objects, with five curators, one curator emeritus, five associate curators, and one museum technician.

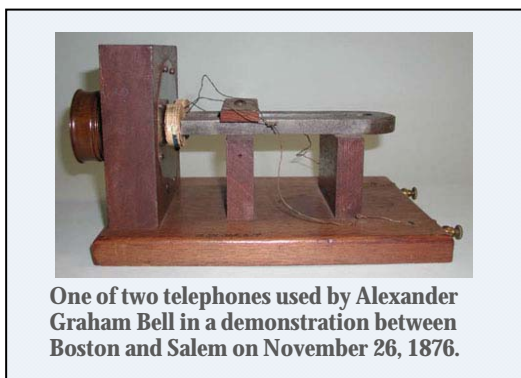
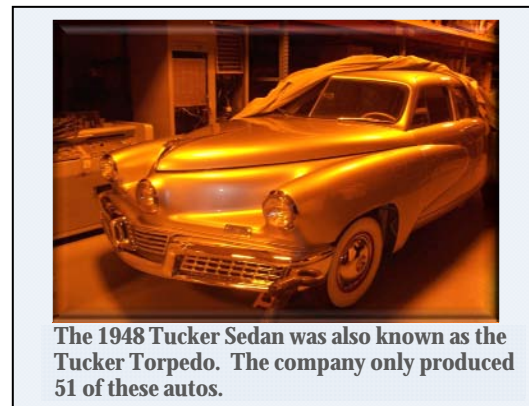


## ***Politics and Reform***

P&R collections document the history of democracy and political culture in America from colonial settlements to the present. This division is responsible for three collections (Presidential Campaign Material, General Political History, and the Reform Movements), totaling 100,000 objects, with five curators, one curator emeritus, two associate curators, and two museum specialists.

## ***Work and Industry***

W&I collections focus on agriculture, natural resources, timekeeping, retail, mining, engineering, industry, and transportation. This division is responsible for seven collection groups (Transportation, Manufacturing, Natural Resources/Energy, Agriculture/Food, Retail/Service, Asian Pacific business, and Hurricane Katrina), totaling about 100,000 objects. The division staff includes eight curators, one associate curator, and one program assistant.



## ***Information Technology and Communication***

IT&C collections, (now distributed among the other collecting divisions, as explained in footnote 2), focused on broadening the understanding of information technologies and their role in American history. This division was responsible for six collecting groups (Computers, Math, Electricity, Graphic Arts,

Photographic History, and Numismatics), totaling about 1,026,500 objects. The division staff included four curators, five associate curators, and three project specialists.

Because of its size and value, we treated the Numismatics collection as a separate division. The Numismatics collection accounts for 860,000 objects and has one curator, as well as three term employees who are project specialists and assistants.



### **Smithsonian Collections Management Policy and Implementation Manual**

SD 600, *Collection Management Policy*, states that effective collections management requires a continuous inventory system to support decisions regarding collections use, growth, storage, and security. Full inventory control requires creating and maintaining reliable information about the identification, location, and accessibility of collection items. Inventory is a critical component of ongoing collections documentation.

The *SD 600 Implementation Manual* requires that a collecting unit accurately and comprehensively document its collection. It also requires collecting units to create and maintain accurate and current inventory records that will identify, locate, and give an account of each object's condition to ensure maximum accessibility consistent with its security.

Accordingly, SD 600 and the *Implementation Manual* state that each unit must implement a continuous inventory system for (1) conducting, supervising, and approving cyclical inventories and reconciliation of collection records; (2) implementing a written cyclical inventory plan that is reviewed by all individuals who will conduct the inventory and approved by the museum director; and (3) ensuring separation of duties and implementation of other internal controls to prevent the unauthorized removal of collection objects.

### **NMAH Collection Management Policy (CMP)**

NMAH's Collections Management Policy and Inventory Guidelines direct the museum's Collection Program. This program includes planning, acquiring, researching, and providing for the preservation, proper use, control, and documentation of the museum's objects.

NMAH's CMP defines an inventory as an itemized listing of collection objects or groups which identifies their current locations. It is also the process of physically locating all or a selection of objects for which the museum is responsible and appropriately documenting the results to facilitate research, collections management, security, and access. The policy defines the type and frequency of inventory counts that the museum should conduct. The procedures advise on how to plan, staff, and conduct inventories, as well as how to

update records and report on inventory results. According to the procedures, all highly sensitive collections must be checked on an annual basis and less-sensitive collections must be spot-checked on an annual basis.

Finally, the policy requires that NMAH maintain current, accurate and complete records to meet the museum's mission for enhanced public access to and use of the collections through scholarly research, exhibitions, and educational programs.

### **NMAH Collection Information System**

NMAH's collection information system has evolved over many years. In 1974 the museum selected SELGEM<sup>3</sup> to implement its first electronic collections information system (CIS), known as the Museum Information Retrieval and Documentation System. Over the next twenty years, the museum migrated from SELGEM to a WANG-based platform and software program developed by the museum. Starting in the early 1990's, NMAH management encouraged division staff to create individual external databases, such as in FileMaker, to manage object information for short-term projects. In 1996, the museum selected MultiMIMSY as its new CIS and upgraded the software several times over the next ten years. In 2006, the museum converted many of the external FileMaker databases into MultiMIMSY. By 2008, NMAH upgraded MultiMIMSY to MIMSY XG (XG), the current CIS.

NMAH's CMP establishes the collection information system as the system of record for electronically maintained collection information. The CMP requires that NMAH staff maintain current and complete collection documentation and that they update object locations when objects are moved.

## **RESULTS OF AUDIT**

### **Inventory Control Measures Are Not in Place or Are Inadequate**

As noted in our audit of NMNH and NASM and ***Concern at the Core***, lack of compliance with inventory plans appears to be an ongoing problem throughout the Institution. We noted in our earlier audits that both NASM and NMNH had not maintained accurate inventory records of all their collections objects, which made it difficult to account for, identify, and locate objects for research and exhibition. In addition, museum staff had not performed cyclical inventory reviews as required by their own department inventory policies; had not updated inventory records, including identifying information and current locations; and had not converted inventory records to a common format. This audit identified the same concerns at NMAH.

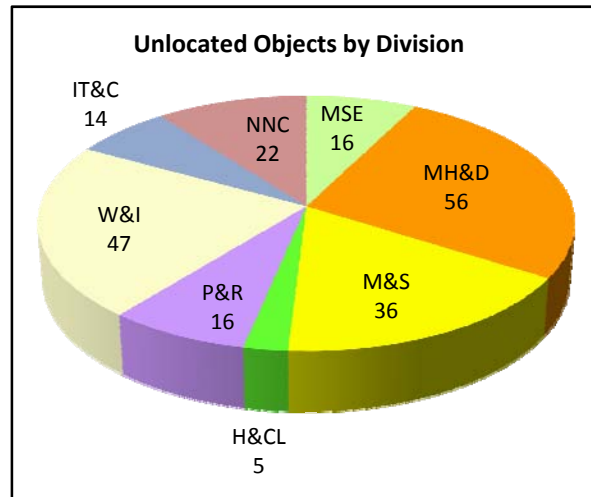
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<sup>3</sup>SELGEM ("Self-Generating Master") was one of the first automated systems software created for museum collections in the early 1960s.



### ***NMAH Unable to Locate 10 Percent of Sampled Objects***

To test the accuracy of the inventory records and to confirm whether objects could be located, we selected a sample of objects from each of the seven curatorial divisions and the National Numismatics Collection. In total, we sampled 2,216 objects at the museum and at offsite locations. Our results, summarized in Appendix C, show that we were able to locate 1,925, or 87 percent of the sample. However, we could not locate 212 objects, or 10 percent of the sample. The remaining 79, or 3 percent of the objects, were either transferred (by NMAH to its Archives Center), deaccessioned, on loan, old loans to the Smithsonian that had been returned, or the result of data entry errors in the system.<sup>4</sup> The divisions with the largest number of missing objects were Military History & Diplomacy, Work & Industry, and Medicine and Science. Missing objects included ancient Greek, Roman, and Arabic coins; silver and bronze medals; gold timepieces and watches; and items from a large collection of coins and tokens featured on national television.<sup>5</sup> Unfortunately, many of the missing objects did not have complete records, so it is difficult to determine their value or historical significance.



Our spot-check inventory included 680 Tier 4 and highly sensitive objects. NMAH uses the Tier 4 designation to identify objects loaned to other museums that are national treasures or valued at greater than \$1 million. The Museum defines its highly sensitive objects as those requiring a higher level of physical security because of their material composition, current market value, historical importance, or other risk factors. The museum's Tier 4 and highly sensitive objects include objects such as Stradivarius violas and cellos; one of George Washington's swords; the Salk polio vaccine; the first pair of nylon hosiery; the top hat worn by Abraham Lincoln the night he was assassinated; a 1948 Tucker sedan; and the original Morse telegraph and the first message sent. We were unable to locate 33 of the Tier 4 and highly sensitive objects (5 percent). As with the overall results, the Military History & Diplomacy and the Medicine & Science divisions had the highest number of missing objects (20 percent and 13 percent respectively). Missing objects included parts of George Washington's bed from his residence in Mount Vernon, which have been missing for decades; gold, silver and bronze military medals; and original works of art and photographs.

<sup>4</sup> NMAH's failure to update these records resulted in the objects being included in exports of accessioned objects that were used to select the sample.

<sup>5</sup> Our sample included an electronic record for a batch of tokens, which included 1,715 coins, tokens, and Presidential campaign medals and buttons. The museum could not locate any of the objects in the batch.

### ***NMAH Staff Has Not Conducted Cyclical Inventories***

NMAH collecting divisions have not consistently conducted cyclical inventories in accordance with NMAH's Collections Management Policy and Cyclical Inventory Guidelines. In the few instances where divisions did conduct inventories, they did not do so in accordance with the museum's guidelines. For example, based upon our discussions with the curatorial staff, we learned that they conducted some of the previous inventories by identifying objects readily available rather than objects recorded in XG. As such, the museum could not have known whether objects were missing.

In addition, divisions have not conducted annual inventories of their highly sensitive items as required by the Guidelines. For example, according to the Registrar's records, NMAH did not conduct an inventory of a jewelry safe from 2002 to 2009. Prior to our audit, the newly assigned curator responsible for this collection had never seen the contents of the safe and is seeking an appraisal of the objects, which include diamond tiaras as well as gold jewelry set with precious gems.

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NMAH was not conducting cyclical inventories for the following reasons:

- There was poor oversight of the inventory process. The Assistant Director for CMS, who is responsible for developing and monitoring the Cyclical Inventory Plan, has no authority to hold the collecting divisions accountable for not completing required inventories.
- CDS has not fully explored the inventory activity function available in XG to develop random object listings for use in conducting cyclical inventories. CDS and CMS management explained that limited staff and competing priorities have prevented them from implementing all of the available features of XG and training staff on how to use them. CMS stated that XG had a feature that would allow the curatorial staff to create an object group listing to pull random samples for inventories. However, NMAH's Cyclical Inventory Guidelines require that CMS, not the curatorial staff, produce the samples used for the inventory. Even if CMS were to use the group feature, we believe that until the CIS is populated with complete and accurate data, the samples will not be representative of the collections.

During the audit, we found that CDS had difficulty exporting data out of XG because CDS was using an old version of the reporting software that could only handle a limited amount of data at a time. CDS indicated that they would use XG rather than the reporting software to select an inventory. However, we observed limitations within XG that restricted the amount of data that can be retrieved. In addition, curatorial staff expressed concern about their difficulties extracting information from XG. Therefore, we believe that CDS needs to export this data for conducting inventories as well as for analyzing record completeness.

- NMAH staff has not properly assessed the collections to identify all highly sensitive objects. During our spot-check inventory, several museum staff told us that there were objects on their highly sensitive and Tier 4 lists that should not

have been, as well as objects that were not included on the highly sensitive lists but should have been. Accordingly, these lists may not accurately represent the museum's most treasured objects.

Two divisions had not identified any additional objects as highly sensitive other than those documented on the Tier 4 list. In addition, the Numismatics collection has identified 200 of its most valuable coins, but has not identified highly sensitive objects from its paper collection.

We also observed that NMAH was not consistently using XG to identify and track highly sensitive objects. Some divisions had identified highly sensitive objects based on their locations (e.g. because they were in a safe). Most of the divisions used a combination of Tier 4 lists and other object lists. We found that one division had multiple highly sensitive lists in XG, with different objects on the various lists.

- The Inventory Guidelines and CMP are contradictory, do not clearly explain how the staff should conduct cyclical inventories and have inconsistent sample size requirements. In addition, both documents allow the staff to consider the constraints on available resources as a reason for not conducting inventories.
- According to NMAH management, the lack of adequate curatorial staff has adversely affected NMAH's ability to conduct inventories. Declining staff levels and competing museum priorities have placed additional responsibilities on remaining staff.

In addition, NMAH followed an altered approach for the FY06 and FY07 cyclical inventories to meet collections preparation requirements for the Public Space Renewal Project. NMAH redirected OCA staff resources to planning and executing exhibit de-installation and object relocations. Although the Renewal Project closed NMAH to the public for two years, we believe that the NMAH staff could have conducted additional inventories at locations unaffected by the renovations. In fact, most divisions have not resumed inventories since the museum reopened more than two years ago.

By not conducting cyclical inventories, NMAH has not exercised adequate control over the collections. In accordance with the SD 600, an ongoing inventory system is an essential security device to deter and detect theft of collection items. Failure to conduct cyclical inventories increases the risk that objects could be missing or stolen and remain undetected. Cyclical inventories also bring attention to objects that may require conservation treatment.

Furthermore, NMAH needs to strengthen its reporting capabilities to ensure that CDS provides the curatorial staff with meaningful data for conducting cyclical inventories. We are concerned that CDS' current reporting capabilities are limited, increasing the risk that reporting errors will occur. Inaccurate or otherwise unreliable reports from CDS will thwart the inventory process.

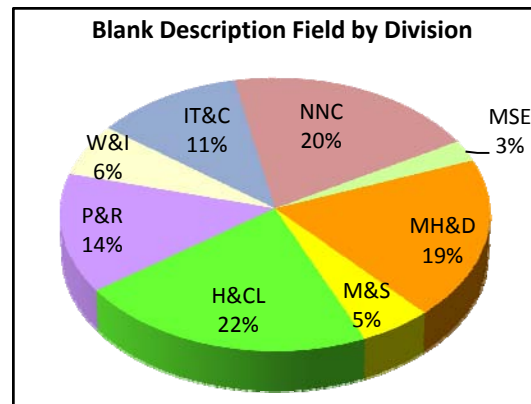
### ***Inventory Records are Incomplete and Inaccurate***

NMAH’s CIS, its official system of record, does not contain complete and accurate information on all objects under the museum’s care. We found that NMAH’s electronic records accounted for only about half (46 percent) of its accessioned objects. A significant portion of these collection records did not contain key identifying information such as accession number, catalog number, title, description, or location. During our spot-checks curatorial staff often referred to secondary records for additional information needed to identify or locate selected objects. These record problems have contributed to the museum’s inability to produce an accurate count of its collections. The museum estimates that it has 3.2 million objects (including 1.4 million from the Archives Center); however, the museum acknowledges that this estimate is incorrect. Through special projects museum staff did inventory objects in specific storage areas. These projects resulted in improved records and more accurate counts of collections in these divisions. However, we believe that much work still remains.

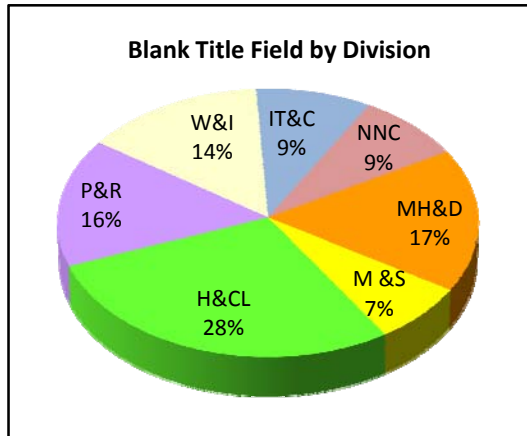
We found three primary causes for the object records being incomplete: museum management’s historical lack of emphasis on complete recordkeeping; the conversion of old electronic records to the current collections information system without proper data clean-up; and the failure to complete a full inventory of the collection, including reconciliation and refinement of the results. Consequently, NMAH cannot provide accurate information for all objects under the museum’s care, reducing the usefulness and accessibility of the objects.

NMAH identifies XG as its centralized electronic CIS; however, we found that staff had recorded less than half of the museum’s 1.8 million objects in XG. In addition, NMAH did not have complete information in the records that were in XG. In our analysis of the 766,003 XG records<sup>6</sup> for accessioned objects, we found:

- Approximately 63 percent, or 480,026 records, had a blank “Description” field. Of these records, 22 percent were for objects in the Home & Community Life Division and 20 percent were from the National Numismatics Collection.

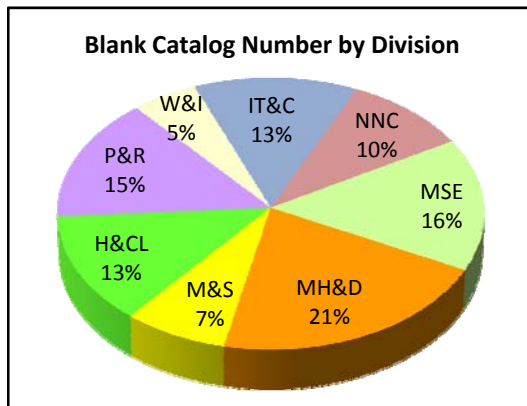
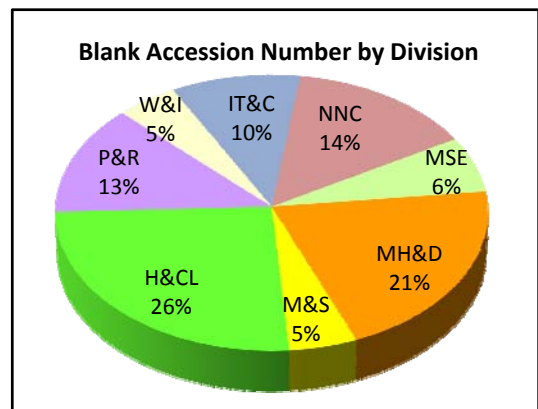


<sup>6</sup> This number is based on database exports provided by NMAH’s Collections Documentation Services (CDS).



- Approximately 66 percent, or 439,778 records, had a blank “Title” field.<sup>7</sup> Titles are used to precisely identify the collection item. For example, an object field may use “medal” but the title field could read “George Washington Presidential Medal”. Of these records, 28 percent were for objects in the Home & Community Life Division and 17 percent were from Military History & Diplomacy.

- Approximately 52 percent (397,906 records) had a blank “Accession Number” field. NMAH assigns both an accession and catalog number to every object. These numbers are attached to every object and are used to identify them. Of the records with blank accession number fields, 101,985 (26 percent) were for objects in the Home & Community Life Division and 82,099 (21 percent) were from Military History & Diplomacy.



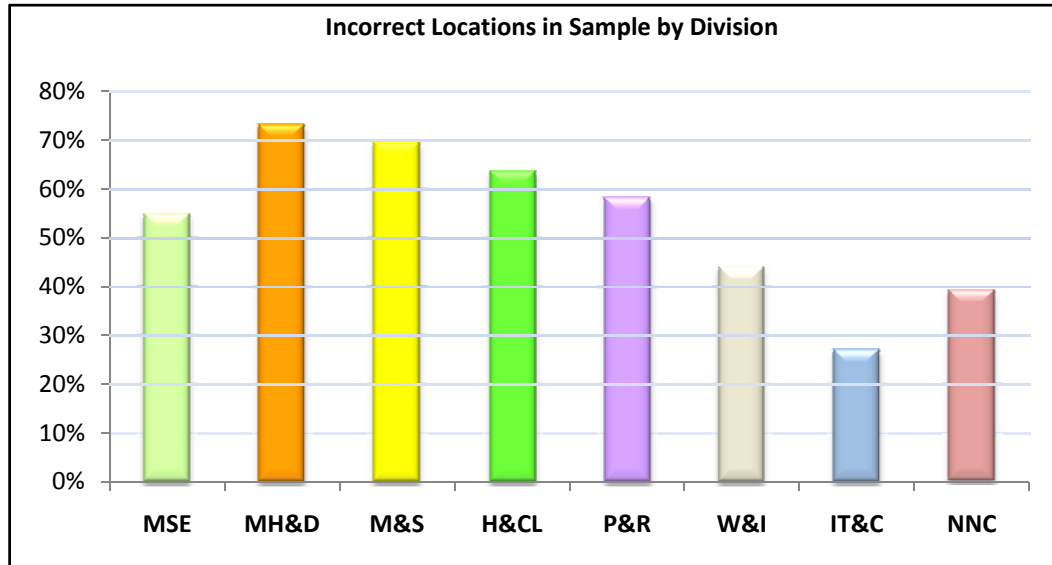
- Approximately 23 percent (175,021 records) had a blank “Catalog Number” field. Of these records, 36,682 (21 percent) were for objects in the Military History & Diplomacy Division and 27,589 (16 percent) were from Music, Sports, and Entertainment.

- Approximately 7 percent, or 51,680 records, had blank location fields. Of these records, 10,256 were for objects in the Home & Community Life Division and 10,220 were from Medicine & Science. Moreover, our spot-check revealed that even when there was information in the location field, it was often incorrect. The lack of complete and accurate location data made it difficult to locate the objects

<sup>7</sup>The analysis of the “Title” field does not include the Music, Sports, and Entertainment Division, as we did not receive this field in our exports from CDS. As a result, 66 percent is taken out of only 664,746 records.

readily. Moreover, of the 1,925 objects we were able to locate, more than half, or 52 percent, were not in the locations recorded in XG.

As depicted in the chart below, the highest percentages of incorrect locations were found in the divisions of Military History & Diplomacy and Medicine and Science.



\* \* \* \*

NMAH's collection records are incomplete and inaccurate because:

- Performance plans for curatorial and museum specialists did not include specific, measurable goals for completing object records. According to NMAH management, there are no standard measurable goals in curatorial performance plans related to collection management and recordkeeping.

Data entry is time-consuming and seen as a non-curatorial task. In fact, CMS believes that senior curators should not be expected to enter or maintain data in the CIS because their primary responsibilities are scholarly research and exhibit planning, not collections management.

- NMAH has no written standards for cataloging objects in XG. CDS expressed concern that the curatorial staff have not received "refresher" training in cataloging objects, and some may not have been trained at all.

A 2006 NMAH-commissioned study of their collections information system reported that a decentralized approach to data entry has contributed to the degradation of the system. NMAH no longer has the staff resources to centrally verify record integrity; records are added without CDS review.

- Although NMAH's CMP establishes XG as the system of record for electronically maintained collection information, it allows the use of non-electronic records and

local record-keeping systems. This permissiveness has contributed to the staff's reluctance to embrace a central electronic system and has resulted in records not being entered into XG. NMAH curatorial staff has little confidence in XG or their ability to locate data in the system. Most of the respondents to an OIG survey of the curatorial staff did not believe that XG was accurate or complete. Staff also expressed frustration with searching for data in XG; many staff thus maintain separate record-keeping systems that they believe provide them with greater accessibility to object information.

During the audit, CDS staff told us that they had requested, and presumably received, all external electronic databases, which they subsequently converted into XG. However, we observed several curatorial and offsite staff who still used and updated their external records instead of updating XG. In fact, management endorses this behavior. For example, one curator's performance plan had a requirement to enter and update over 300 records in a FileMaker database. We also observed that offsite staff had greater success at locating objects because the location information in their external databases was correct. While CDS has attempted to merge three offsite databases with XG, it has succeeded in merging only one of them.

- NMAH management did not completely reconcile and refine the results of a congressionally mandated inventory.<sup>8</sup> There are currently over 100,000 unreconciled records (see Appendix D for an analysis of unreconciled records) in XG. Many of these are skeletal records with little identifying information. Many objects were batched to expedite the timely completion of the inventory and the museum has not fully refined these batches to obtain item-level control.

In addition, according to CMS management, Institution management at the time prohibited the museum from using the inventory results as the official count because it was higher than the pre-inventory count, instead requiring that NMAH base its official object count on the Smithsonian Registrar's pre-inventory count. CMS acknowledges that although the NMAH Registrar consistently recorded yearly accessions and deaccessions to the pre-inventory base, the base was incorrect. Therefore, the official object count is incorrect.

- NMAH did not clean up legacy object records when initially converting to newer systems. Normally, staff should clean up records after each conversion to eliminate duplication and other data errors. The failure to do so has resulted in significant data formatting problems and many duplicate records.

The missing data in XG leaves collection objects more vulnerable to loss or theft, diminishes accountability, and reduces the scholarly value of the objects. It also adversely affects NMAH's ability to fulfill the mission of the Smithsonian by not having the objects accessible for exhibit, research, and public programming purposes. For example, poor object records contributed to NMAH's inability to locate 212 objects from our spot-check.

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<sup>8</sup> In the late 1970s, Congress authorized special appropriations to conduct a Smithsonian-wide inventory.

The Institution currently plans to digitize a large portion of the national collections at all museums. We are concerned that many Smithsonian collecting units will struggle to reach this goal without improved inventory controls. In particular NMAH cannot undertake such a venture without addressing the incomplete and inaccurate data in XG. NMAH management appreciates the nexus between digitization and improving collections management. In light of the Secretary's key strategic priority for digitizing collections, NMAH management has discussed plans to complete the museum's electronic records through digitization projects.

Without a proper inventory, the museum does not know all of what it has and therefore cannot provide proper stewardship of, including access to, its collections. In the absence of accurate and reliable data, management cannot determine how to appropriately staff, store, care for, and exhibit collections. Additionally, without this data management will be unable to develop meaningful collecting plans to enhance and direct the future of the museum. And any resulting negative public perception of the museum's collection stewardship may affect its and the Smithsonian's credibility with the American public and donors.

## **Recommendations**

To strengthen inventory controls over the collections, we recommend that the Director, NMAH:

1. Develop and implement criteria to identify all highly sensitive objects.
2. Develop and implement standards for tracking highly sensitive objects within the CIS.
3. Develop data entry and catalog standards for completing records in the collections information system and provide training to the curatorial staff.
4. Develop and implement a conversion plan to transfer all electronic and paper object records into the CIS to ensure that all objects have a complete and accurate record.
5. Develop and implement a reconciliation plan to identify and resolve discrepancies in object records.
6. Revise the CMP and Inventory Guidelines, as appropriate, to (1) reconcile discrepancies between the CMP and the Inventory Guidelines to provide clear instructions for conducting cyclical inventories, (2) identify the CIS as the official system of record and require staff to record all objects and update locations, and (3) assign responsibility to enforce the elements of the CMP.
7. Strengthen and standardize collections management elements in performance plans for division chairs to include requirements to ensure that CIS records are complete and that cyclical inventories are conducted in accordance with the CMP.
8. Establish and implement a plan to conduct a full inventory of the museum's collections, in accordance with the revised CMP. This plan should prioritize each



division's inventory needs, include standards for counting objects, and establish procedures for reconciliation and refinement of results upon completion.

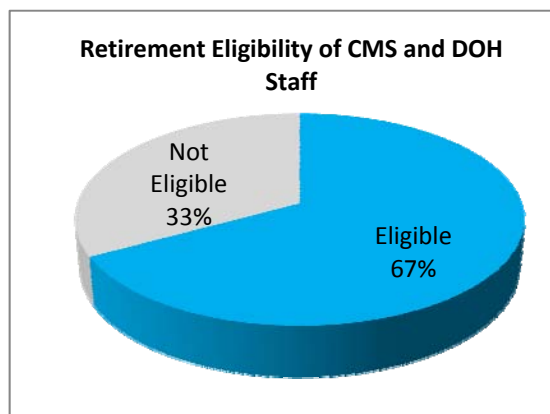
### **The Museum Has Not Properly Assessed Resource Needs for Collections Stewardship**

Staffing levels and funding resources have significantly decreased over the last ten years, resulting in inadequately staffed divisions, orphaned collections, and a compromised CIS. OCA has an aging staff, most of whom are eligible for retirement, and may face the imminent loss of irreplaceable institutional knowledge. Given that federal appropriations are not likely to increase, and will likely decrease, the museum will need to rely on existing staff to support improved collections management, as well as explore alternative ways, such as volunteers, interns, and grants to address the most pressing collection problems.

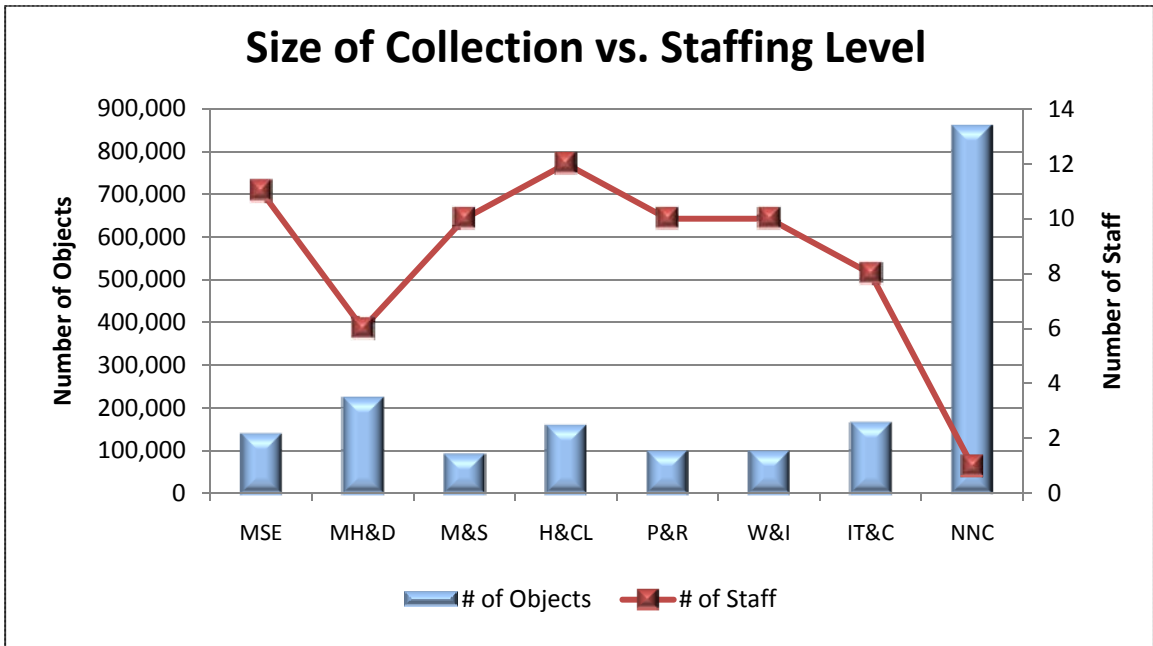
In recent years, NMAH has successfully pursued alternative sources for meeting urgent collection management needs. OCA did negotiate with another Smithsonian organization to obtain the needed funding to maintain the CIS. In addition, NMAH management has used a combination of contractors, interns, fellows, and volunteers to supplement permanent staff. Also, NMAH has received awards from the Collection Care and Preservation Fund enabling the Divisions of Military History and Diplomacy and Work and Industry to address specific collection needs. Staff hired for these projects are temporary, however, and do not solve the long-term problems.

According to SD 600, ***Collection Management Policy***, the acquisition and possession of collections impose legal and ethical obligations to provide proper management, preservation, and use of the collections and their associated information. The Board of Regents, acting through the Secretary, the Under Secretaries, and each collecting unit director, is responsible for assuring that the scope of each collection supports the Smithsonian and collecting unit mission; collections growth is balanced with available resources; personnel, facilities, equipment, and support are reasonably allocated to meet the ongoing needs of the collections; and that prudent collections management policies are established, implemented, and monitored.

The Smithsonian and NMAH have not been able to maintain staffing levels necessary to provide adequate stewardship of the collection. According to NMAH's personnel records, federal staffing levels in OCA have decreased by 55 percent since 1992, from 161 to 88 employees. As staff has left, NMAH has not filled these permanent positions. Additionally, 67 percent of current federal OCA staff are eligible for retirement, and there are no succession plans in place. The museum is aware that it is facing a crisis, but has made no plans to address the problem.



In fact, some divisions already affected by attrition appear to have a disproportionate number of staff compared to their collection size, as presented below.



Further, according to the 2006 NMAH CIS Data Analysis project report, staffing and financial resources necessary to support the CIS have been cut to below the point of sustainability.

\* \* \* \*

The lack of sufficient resources for adequate collections stewardship is the result of numerous causes:

- Collections management is not a priority at NMAH. According to museum staff, management’s focus has been on developing exhibits and research, not on maintaining collections documentation. For example, the museum had not allocated the resources necessary to maintain the CIS, so CMS has had to explore alternative options to fund the system. In 2007, the CIS vendor phased out the prior version of the system, and CDS needed to upgrade the software to continue technical support. In an effort to obtain funding, OCA detailed a staff member to the Office of Chief Information Officer (OCIO), from October 2007 to December 2009. In exchange, OCIO provided the funding to upgrade and maintain the CIS. Without this funding, CDS would have had to shut down the system.

We also found that many of the curatorial performance plans lacked collections management responsibilities. Many senior curators have no collection management responsibilities. More than three-quarters of the respondents to an OIG survey of curatorial staff indicated that less than 20 percent of their time is spent on collections management. In fact, we were told that the museum would have difficulty retaining and recruiting curatorial staff if they were required to do this “menial” work.

- In an effort to remedy a curatorial staff shortage, NMAH management converted most of its museum specialists to curatorial positions in 2005. This effort did not address the need for staff to document and inventory the collections.
- Smithsonian management did not include NMAH's budget requests, for additional OCA staff, in its comprehensive budget submission to Congress.

We are concerned that NMAH's failure to adequately resource and plan for collections management needs puts the collections at risk. Funding shortfalls and staffing attrition present a serious challenge to maintaining appropriate support of collections management functions. NMAH will need to develop plans for how to accomplish the highest priority collections management needs within the limited budget available, and these plans should address using current staff.

With the loss of funding from OCIO, CDS faces a similar challenge to that in FY 2008. If management does not identify and appropriately fund collections management efforts, the museum will be unable to maintain technical support for the CIS, provide training to staff, develop data standards, and fulfill new Institution and museum initiatives. There will be no staff available to clean up legacy object records and prepare records for digitization and Web access. In sum, the museum will not be able to provide proper stewardship of its collections or fulfill the Smithsonian-wide strategic goals of access to collections.

Additionally, with the possibility that 67 percent of the curatorial staff could retire in the near future, NMAH must address how this loss could affect their already inadequately documented and inventoried collections. As discussed in *Concern at the Core*, "those staff are part of the informal collections information system." If staff leave before their collections are properly documented, NMAH loses irreplaceable institutional knowledge. Understaffing places an additional strain on current staff, contributing to a culture where curators do not believe that NMAH management has placed an appropriate value on collections management.

## **Recommendations**

To address resource shortages, we recommend that the Director, NMAH:

9. Conduct staffing assessments for OCA to identify deficiencies and develop a plan to address the deficiencies.
10. Ensure that the budget requests reflect the needs identified in the assessments.
11. Develop a succession plan to address potential staff turnover in OCA. This plan should include specific human capital and training needs that will enhance collection management at the museum and should align with museum and Institution strategic goals.

## MANAGEMENT RESPONSE

The Director of the National Museum of American History (NMAH) provided formal written comments to our December 7, 2010 draft report. In their January 14, 2011 comments, they concurred with all findings and recommendations. They agreed that inventory control practices needed to be strengthened, not only to improve accountability and stewardship, but to improve access to collections. They acknowledged the need for succession planning to sustain collections management operations and agreed to continue to seek additional funding sources for collections management personnel.

NMAH plans to establish work plans in a strategic and prioritized manner that maximizes benefits across the stewardship and public access spectrum. NMAH believes that the current budgetary environment requires that the museum adopt a collections care methodology that focuses on objects at risk and the use of cost-effective strategies that capitalize on economies of scale.

Below, we summarize their comments and then offer our responses to those comments.

### **Inventory Control Measures Are Inadequate**

**Recommendations 1 and 2.** Concur. Management will develop and implement criteria and standards for identifying and tracking highly sensitive objects within the CIS. NMAH has proposed to complete corrective action by Spring 2012.

**Recommendation 3.** Concur. NMAH stated that they already have developed data entry standards and that refresher training is available to staff. NMAH agreed that catalog standards need to be developed and training provided to staff to ensure consistency across curatorial divisions. By Spring 2011, NMAH plans to convene a multi-disciplinary team of NMAH curators and SI archivists and librarians to begin exploring this issue. A completion date will be determined after the team has been identified and a scope of work defined.

**Recommendation 4.** Concur. NMAH has committed to converting all object information from independent databases and paper systems to the CIS. However, according to NMAH management, this work requires additional funding. Therefore, NMAH did not provide a completion date.

**Recommendations 5 & 8.** Concur. NMAH plans to meet its goal of a full inventory of the collections through large-scale projects and will address simple reconciliation issues during those projects. However, the museum expects to follow-up on more complex reconciliation issues at a later date. According to NMAH management, this work requires additional funding. Therefore, NMAH did not provide a completion date.

**Recommendation 6.** Concur. NMAH estimates that by Spring 2012 it will revise its Collections Management Policy (CMP) and collections inventory guidelines to reconcile discrepancies, clarify cyclical inventory procedures, identify CIS as the system of record, and assign responsibility for enforcing the CMP.

**Recommendation 7.** Concur. NMAH management responded that current OCA

division chairs' performance plans already include a collections management element. However, NMAH agreed to update these plans to standardize and strengthen collections management requirements. They expect to incorporate these revisions for the fiscal year 2012 performance plans.

### **The Museum Has Not Properly Assessed Resource Needs for Collections Stewardship**

**Recommendations 9 & 11.** Concur. The Office of Curatorial Affairs will request that a strategic staffing plan be developed and included in the museum's strategic plan. NMAH has projected that the museum's strategic plan will be completed by Spring 2011.

**Recommendation 10.** Concur. NMAH stated that it has consistently requested federal increases in support of collections management work, including staffing, and will continue to do so. NMAH did not provide a completion date.

We include the full text of management's response as Appendix B.

### **OFFICE OF THE INSPECTOR GENERAL COMMENTS**

We are pleased that NMAH agrees that it needs to obtain greater control over its collections. We acknowledge the challenges associated with maintaining one of the Institution's oldest and largest collections in light of the continued reduction of resources.

Below, we address NMAH's general comments on the report and claims of inaccurate statements, as well as clarify the intent of several of our recommendations.

In their general comments, NMAH asserts that the report advocates an "un-prioritized, resource intensive, top to bottom approach." That description mischaracterizes our findings and recommendations as well as our meetings with NMAH staff throughout the audit. We consistently emphasized that management should determine the appropriate methodologies, approaches, and priorities to improve controls. We continue to agree that, considering the current budgetary constraints, collections management work, including conducting inventories, will have to be accomplished in a phased and prioritized approach. And NMAH may have to reallocate resources based on the priorities and interim steps it identifies.

The Smithsonian is stressing its strategic goal of digitizing the collections so as to increase virtual access to the Institution's collections, research, educational materials, and exhibitions. However, we do not believe that the Smithsonian, including NMAH, has placed sufficient emphasis on proper stewardship and accountability for the objects, a key prerequisite to digitization. We remain concerned that NMAH's incomplete and inaccurate object records will adversely affect NMAH's ability to meet its and the Institution's digitization goals.

NMAH claims that we made two factual errors. As to the first, we understand that most of the original pieces of George Washington's bed were missing even before NMAH became a separate museum from the National Museum, and that museum management has known so. However, the inventory records for the bed remain, and they are inaccurate and misleading, because they continue to reflect the original accession and catalog numbers, suggesting that NMAH is in possession of the original bed in its entirety.

As to the second, we amended the report to reflect that the employee detailed to OCIO came from OCA, not CDS. This correction does not alter our finding.

The museum responded that recommendations 4, 5, and 8 required additional funding to complete and thus did not provide expected completion dates for the recommended actions. This response does not address the intent of our recommendations, which was in part to suggest that the museum take steps even without increased resources. We believe that competing priorities at the museum resulted in inadequate resources allocated to collections management. Consequently, the museum has not aggressively maximized existing staff resources to meet collections management needs. For example, the museum responded that it would take at least 5 years, additional funding, and contractor support to transfer all electronic and paper records to the CIS. We agree that additional funding would expedite this project. However, the museum should not refrain from acting to improve its collection management practices while it awaits new funding. We expect museum management to develop plans using current resources that define priorities and establish interim goals, to at least begin this crucial work. In the meantime, in the absence of completion dates, we will revisit these recommendations with NMAH management in the course of our audit follow up.

NMAH appears to agree in principle to recommendation 7. We will be looking for the revised collection management element in division chairs' performance plans to include measurable goals for completing CIS object records and conducting cyclical inventories.

The museum expressed concurrence with recommendation 9, but does not appear committed to conducting the recommended staffing assessment, an essential component of its planned strategic plan. NMAH needs the assessment to ensure that budget requests accurately reflect the needs of OCA and to assist in developing succession plans to satisfy recommendations 10 and 11. In the course of our audit follow up we will look for the staff assessment as evidence of the museum's action on the recommendation.

We appreciate the courtesy and cooperation of NMAH staff during the course of this audit.

## **APPENDIX A. SCOPE AND METHODOLOGY**

This audit includes three objectives. To supply timely and relevant information, this report only addresses the second objective, which was to determine whether inventory controls were in place and adequate to ensure the collections are properly accounted for. The first and third objectives will be addressed in a future report.

We reviewed previous audit reports of inventory control measures safeguarding the Smithsonian's collections. We also reviewed the Smithsonian's policies, procedures, and other documents related to collections inventory controls.

We evaluated the collections management controls and procedures at the museum and performed tests of its records to identify procedural strengths and weaknesses. We reviewed the adequacy of controls over the collections inventory system. We interviewed personnel in NMAH's Collection Management Services, Collections Documentation Services, Department of History, Human Resources, and Budget divisions at the museum's Washington, D.C. Mall location. We conducted an on-line survey of the curatorial staff. We also interviewed the National Collections Coordinator.

We identified approximately 3.2 million objects that encompass all aspects of the history of the United States. We excluded a review of the Archives Center, approximately 1.4 million objects, from our scope because its collection data is maintained within a separate information system and different inventory practices are in effect.

Collection Documentation Services staff provided us with exports of object records for each division from the museum's collections information system. Because of its size and value, we treated the National Numismatics Collection (NNC) as a separate division. We conducted a spot check of objects based on a statistical sample of the records from each division. We selected a random sample of 164 objects from each curatorial division and NNC using a 95 percent confidence level and an expected error and margin of error of 4 percent and 3 percent, respectively. We also conducted a 100 percent review of "Tier 4" objects, which are the objects that have been on loan that are considered "National Treasures" or have a value of over \$1 million, as well as sampled "highly-sensitive" objects from several divisions. In addition, we selected random samples from the sound recording, military insignia, button, and print collections. We selected the additional samples because these collections represented a disproportionate percentage of a division's objects and the samples would not have been representative of the variety of objects in each division. To assess the completeness of the XG database, we judgmentally selected 10 objects for each division (30 for NNC) to verify that records existed in XG. We judgmentally selected 30 catalog cards from each division and verified whether there was a corresponding record in XG. We also performed analytical reviews of the data in XG to assess record completeness.

We conducted this performance audit in Washington, D.C., from September 2009 through July, 2010, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence we obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## APPENDIX B. MANAGEMENT'S RESPONSE

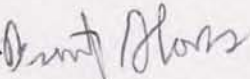


Smithsonian  
National Museum of American History  
Kenneth E. Behring Center

### Memorandum

January 14, 2011

**To:** A. Sprightley Ryan, Inspector General

**From:** Brent Glass, Director 

**Cc:** David K. Allison, Associate Director for Curatorial Affairs  
Karen Garlick, Assistant Director for Collections Management Services  
Steve Hemlin, Deputy Assistant Director for Collections Management Services

**Subject:** Response to the report on the audit of collections stewardship of the National Collections at the National Museum of American History, Number A-10-03-1

NMAH appreciates the opportunity to respond to the audit of collections stewardship...at the National Museum of American History, Number A-10-03-1. Overall, we concur with the findings and recommendations.

This document outlines actions recently taken or planned and target dates for each recommendation. Several start dates reflect the prioritization of staff time towards launching the collections component of the museum's public space renewal plan (PSRP III, west wing renovation). This work must begin and accelerate over the next several months to hit targets that are tied to major OFEO construction contracts already in place. The document also clarifies work that was accomplished in the past within recommendation 3, provides the museum's perspective on one point in the findings, and corrects two minor factual errors. At the end of the document, we are resubmitting the "NMAH General Comments to the OIG Discussion Draft: Audit of Collections Stewardship" to provide a contextual framework for understanding the museum's approach to establishing inventory control over the collection.



## NMAH Response to Audit Recommendations

**Recommendation 1:** Develop and implement criteria to identify all highly sensitive objects.

**Recommendation 2:** Develop and implement standards for tracking highly sensitive objects within the CIS.

We concur with these recommendations. The Associate Director for Curatorial Affairs will direct the OCA curatorial management team to develop criteria for characterizing highly sensitive objects, formulate standards for tracking these objects within the CIS, begin identifying the objects using the criteria developed, and begin implementation across a cross-section of objects to test the procedures for tracking them in the CIS following the standards formulated. In the process, the curatorial team will work with the Collections Documentation Services manager to ensure that the CIS is integrated into the process as needed for effective central accountability over the museum's highly sensitive objects.

*Timeframe:* Start date is after PSRP III launch. (estimate: spring 2011)  
Completion is 1 year after work starts. (estimate: spring 2012)

**Recommendation 3:** Develop data entry and catalog standards for completing records in the collections information system and provide training to the curatorial staff.

This recommendation entails work that the museum completed in the past, as well as work that must still be carried out. We concur with the recommendation on the latter.

### *Work Accomplished in the Past*

We have data entry standards in place for completing records in the CIS and provide initial training to all new users through Collections Documentation Services. Refresher training and user support is available to staff who need additional assistance.

We have defined the fields that constitute a basic catalog record, as well as the fields for a fully catalogued record.

### *Work to be Accomplished*

We concur that content standards for cataloguing need to be developed so that a consistent approach is followed across the curatorial units. We also concur that related training needs to be developed and provided to all curatorial staff, both initially and periodically as a refresher. Before standards and training can be developed, the museum's curatorial community must have a shared understanding of cataloguing principles and consensus around what and how much information (historical and contextual) should be captured for our objects. The curatorial community must also embrace the realities of a wired and connected world and the expectations of the public for integrated access to cultural resources across SI, especially since NMAH is now participating in the Smithsonian Enterprise Digital Asset Network (EDAN) and sharing all its collections information on-line through the common Smithsonian portal collections.si.edu. As we look forward, our process of defining cataloguing content standards must necessarily involve members of SI's library and archives communities and unfold from a common vision throughout SI of cataloguing excellence, consistent practice, shared information, and unprecedented public

access--an ambitious and complex undertaking that is only now gaining traction and momentum at the Institution.

The Associate Director for Curatorial Affairs will begin this process by convening a multi-disciplinary team of NMAH curators and SI archivists and librarians to begin exploring the fundamentals of good descriptive cataloguing in the context of sharing collections information through SI's EDAN project.

*Timeframe:* Start date is after PSRP III launch. (estimate: spring 2011)  
Completion date to be determined after team convened and scope of work defined.

**Recommendation 4:** Develop and implement a conversion plan to transfer all electronic and paper object records into the CIS to ensure that all objects have a complete and accurate record.

We concur with this recommendation. We are committed to converting all object information in independent databases or in paper systems to the CIS. We have made significant progress in converting legacy data (converting all SELGEM records and dozens of FileMaker databases) and are currently addressing relatively straightforward records conversion through prioritized collections care projects (loading any locally managed data into the CIS as a preparatory step for inventory work).

Most remaining conversion work is complex. The work requires substantial additional funding and contractor support and involves identifying all independent databases and paper records, analyzing the data in those systems, mapping the data from each system to the NMAH CIS, determining the most effective and efficient means of accomplishing the conversion for each data group, carrying out the conversion as specified, and verifying that each conversion was successful. Extrapolating from our experiences with SELGEM and FileMaker database conversions, we estimate that the work will take 5 years or longer, depending on the funding available.

Within this landscape, we have set annual conversion goals and priorities for record conversions—the next two being the Offsite/Pennsy FileMaker records and the Political History catalog card file. Start-up of these projects awaits funding.

*Timeframe:* This work is funding based; start/end dates cannot be determined at this time.

**Recommendation 5:** Develop and implement a reconciliation plan to identify and resolve discrepancies in object records.

**Recommendation 8:** Establish and implement a plan to conduct a full inventory of the museum's collections, in accordance with the revised CMP. This plan should prioritize each division's inventory needs, include standards for counting objects, and establish procedures for reconciliation and refinement of results upon completion.

We concur with this recommendation. We work towards the goal of full inventory control through large-scale projects that use the museum's innovative collections care methodology to address prioritized accountability, preservation, and access needs. In the process, reconciliation issues are identified and addressed, if they are relatively straightforward and can be resolved without affecting the critical path for a project. More complex reconciliation is documented in the CIS for follow-up. Work is performed by a project-dedicated team with a mix of staff, contractors, and interns. Substantial external financial support is required.

Since the launch of the first collections care pilot in FY2006, this strategy has established a track record of significant stewardship improvements, as well as positioning collections for wider access to the public, via the web and in more traditional ways. Recent accomplishments include

*Agriculture and Natural Resources Collections Care Project: Phase 1 (1 year)*

- ⇒ 27,118 objects gained inventory control.
- ⇒ 47,186 digital record images created and linked to the CIS record.

*Medical History Tracking (accountability) Pilot Project (6 months)*

- ⇒ 7,451 objects accounted for within the CIS.
- ⇒ 16,256 digital images created and linked to CIS records.

Project work is underway for several collections (e.g., military history), and prioritized collections are at the ready to receive attention (e.g., medical history). Completion of in-process projects depends on securing additional funding. Start-up of pending projects awaits funding.

*Timeframe:* This work is funding based; start and/or end dates cannot be determined at this time.

**Recommendation 6:** Revise the CMP and Inventory Guidelines, as appropriate, to (1) reconcile discrepancies between the CMP and the Inventory Guidelines to provide clear instructions for conducting cyclical inventories, (2) identify the CIS as the official system of record and require staff to record all objects and update locations, and (3) assign responsibility to enforce the elements of the CMP.

We concur with this recommendation. The Associate Director for Curatorial Affairs will direct the Assistant and Deputy Directors for Collections Management Services to revise the collection inventory guidelines and the CMP so that they are consistent and clarify cyclical inventory procedures. He will also direct them to incorporate statements (as relevant) that identify the CIS as the system of record for **permanent** collections information, and require staff to document all objects and their locations in the CIS. He will assign responsibility and authority for enforcing the CMP.

|  |   |
|--|---|
| <i>Timeframe:</i> Responsibility and authority for enforcing the CMS assigned. | May 2011. (on completion of Strategic Plan)                     |
| Revision of CMP and cyclical inventory.  | Start date is after PSRP III launch. (estimate: spring 2011)    |
|  | Completion is 1 year after work starts. (estimate: spring 2012) |

**Recommendation 7:** Strengthen and standardize collections management elements in performance plans for division chairs to include requirements to ensure that CIS records are complete and that cyclical inventories are conducted in accordance with the CMP.

We concur with this recommendation. PAPs with collections management elements are in place for all OCA division chairs. This year, all NMAH Collections plans will be updated to provide an updated and current blueprint for improved collections management. In the 2012 performance year, the Associate Director will ensure that division chair PAPs include the requirement to carry out cyclical inventories in accordance with policy.

Note that in the course of collections care projects, NMAH is conducting complete physical inventories of prioritized collections. Therefore, critical accountability work is continuing (as stated above), pending the revision of the inventory guidelines, the reference to them in the CMP, and their incorporation into division chair PAPs.

*Timeframe:* PAP revision Fall 2011 for FY 2012 plans

**Recommendation 9:** Conduct staffing assessments for OCA to identify deficiencies and develop a plan to address the deficiencies.

**Recommendation 11:** Develop a succession plan to address potential staff turnover in OCA. This plan should include specific human capital and training needs that will enhance collection management at the museum and should align with museum and Institutional strategic goals.

We concur with this recommendation. NMAH will develop a strategic plan in the third quarter of FY 2011. OCA has specifically recommended the inclusion of strategic staffing plan development in the context of the new strategic plan.

*Timeframe:* Spring 2011, projected completion date of NMAH Strategic Plan.

**Recommendation 10:** Ensure that the budget requests reflect the needs identified in the assessments.

We concur with this recommendation. We have consistently requested federal increases in support of collections management work (including staffing) for over 20 years—and will continue to do so. Within the past year we have hired (2) new collection managers (Work and Industry and Home and Community Life) and (1) collections management technician (Science and Medicine). We will continue to seek additional funding for collections management personnel through the SI capital campaign, external granting agencies, and partnerships with other cultural and educational organizations.

*Timeframe:* Ongoing.

## NMAH Comments on Audit Findings

**On page 7**, the audit report states that “Missing objects included parts of George Washington’s bed from his residence in Mount Vernon...” To clarify--the George Washington bed (original pieces and nonaccessioned prop parts) is accounted for and is currently on loan to Mount Vernon. The “missing” parts the report references were never transferred to NMAH when the collections of the US National Museum were divided between NMNH and what is now NMAH. Therefore, they were not “lost” under NMAH’s stewardship. This history is documented in the accession file.

**On page 8**, the audit report states that

During the audit, we found that CDS had difficulty exporting data out of XG due to the use of an old version of the reporting software that could only handle a limited amount of data at a time. CDS indicated that they would use XG rather than the reporting software to select an inventory. However, we observed limitations within XG that restricted the amount of data that can be retrieved. In addition, curatorial staff expressed concern about their difficulties extracting information from XG. Therefore, we believe that CDS needs to export this data for conducting inventories as well as for analyzing record completeness.

We do not believe that it is an efficient or desirable stewardship practice to export data from the CIS to conduct inventories. We plan to use the NMAH CIS (MIMSY XG) for cyclical (and complete) inventories—and specifically, will employ the Audit Activity in XG for the work and the storage of the results. The activity is entirely automated and obviates the need for exports.

In the interim, before the activity is fully implemented, staff can create a group in XG (a group can hold an unlimited number of records) and use XG’s random selection function to generate a random group of records. Several existing reports are readily available to compile the data for conducting cyclical inventories. The process is simple. Some staff have followed it, and we will encourage others to do the same.

It should be noted that few routine collections management activities use exported data, and those that do involve a small number of records and fields. Most collection management activities are documented within the CIS so that all events relating to the objects are captured.

NMAH has purchased the latest version of Crystal Reports, and we understand that it allows exports to Excel 2007 which has no row limits. Should NMAH need to export a massive number of records, Crystal/Excel should be able to handle it.

**On page 17**, the audit report states that “In an effort to obtain funding, CDS detailed a staff member to the Office of Chief Information Officer (OCIO), from October 2007 to December 2009.” The individual detailed was a direct report to the OCA Associate Director, not a member of CDS.

## **NMAH General Comments to the OIG Discussion Draft: Audit of Collections Stewardship**

As was discussed at the NMAH/OIG meeting on September 20, NMAH believes that a broader approach to collections inventory control and attention to collections access should be incorporated into the audit report. These modifications will place the report within the context of the new strategic direction of the Smithsonian and be more reflective of the realities within which we operate. Brief comments on both items follow.

### **Broader Approach to Collections Inventory Control**

We strongly agree with the OIG that NMAH needs to gain greater control of its collections. However we think that in order to accomplish this goal, we must establish our future work plans in a strategic, multi-faceted, and prioritized manner.

The audit report appears to advocate an un-prioritized, resource-intensive, “top to bottom” approach that is no longer supportable in today’s budgetary environment and which does not appear to account for the current strategic emphasis on collections access for the public. We believe the report should reflect a more contemporary, broader perspective and acknowledge the validity of the innovative collections care methodology that the museum has developed in recent years for addressing inventory control issues and other collections management needs. Unless there is a fundamental change in how the Smithsonian allocates personnel and financial resources, we think that this approach is the only viable way for NMAH to proceed towards the ultimate goal of establishing inventory control. Frankly, we do not anticipate such a transformation.

The current NMAH collections care methodology evolved from the collections inventory procedures used during the move of objects to the MSC in the late 1980s and 1990s. It was a radical departure from unsuccessful collections policies at the museum in earlier years. Four principles are at the core of the new methodology:

1. the prioritization of inventory, documentation, storage, and housing needs at the broad collections level.
2. the selection of specific collections for attention that reflect a balance of historical significance, urgency of need, and current and projected use.
3. the adaptation of triage strategies for applying limited financial and human resources towards the remedy of targeted collection needs and assuring that the widest benefits accrue to the greatest number of objects “at risk.”
4. the use of cost-effective strategies that capitalize on economies of scale.

A distinctive aspect of the methodology is that it employs the museum’s collections information system as the technological hub for managing the preservation and accountability work and for tracking follow-up actions. A unique feature is that the methodology integrates standards and best practices for achieving traditional stewardship outcomes with approaches that are oriented toward providing unprecedented access to the collections through web-based and conventional presentations, publications, exhibitions, and interactions with the public. This new approach has been successful in a range of recent initiatives, including all of our recent large-scale collection moves, our military history collections preservation and access project, and our agriculture and natural resources collection inventory control project.

### **Collections Access**

Our primary goal is to hold our collections in trust for the American people, not for the use of our staff. This means that access to the collections is a fundamental strategic objective. However we are only beginning to use the promise of new technologies such as digitization techniques and use of the World Wide Web to make our collections available. We believe that in the 21<sup>st</sup> century, we must look at inventory control not only from the perspective of accountability and stewardship, but also from the perspective of greatly increased collections access. This approach means that inventory work should be accomplished through prioritized projects that maximize benefits across the stewardship and public access spectrum.

The audit report references “access” in two places, but the concept does not factor significantly into the report’s recommendations. We think this new strategic direction of the Smithsonian should be taken more into account. Broadening the framework is especially pertinent in the context of the Secretary’s mandate to increase collections digitization towards the goal of providing “cohesive and unified virtual access to the Institution’s collections, research, educational materials, and exhibitions through digitization.” (SI Digitization Strategic Plan). Further attention to this guidance in the report’s recommendations will provide more effective direction for improving collections care and control at NMAH.

## APPENDIX C. TESTING DETAILS

### 1. Inventory Sample Summary Table

|   | Spot Check Inventory Sample |            |            |            |            |            |            |            | TOTAL       | %    |
|---|-----------------------------|------------|------------|------------|------------|------------|------------|------------|-------------|------|
|   | MSE                         | MH&D       | M&S        | H&CL       | P&R        | W&I        | IT&C       | NNC        |             |      |
| Located   | 343                         | 191        | 164        | 179        | 281        | 132        | 287        | 348        | <b>1925</b> | 87%  |
| Not Located   | 16                          | 56         | 36         | 5          | 16         | 47         | 14         | 22         | <b>212</b>  | 10%  |
| Transferred (within museum)   | 0                           | 6          | 0          | 2          | 0          | 19         | 0          | 0          | <b>27</b>   | 1.2% |
| Deaccessioned   | 0                           | 8          | 1          | 2          | 0          | 1          | 0          | 0          | <b>12</b>   | 0.5% |
| Data entry error: Duplicate record/no object associated with record | 1                           | 1          | 2          | 1          | 4          | 0          | 0          | 0          | <b>9</b>    | 0.4% |
| Currently Out On Loan   | 1                           | 1          | 0          | 0          | 16         | 3          | 3          | 2          | <b>26</b>   | 1.2% |
| Old incoming loan that was returned to the lender                   | 0                           | 0          | 0          | 0          | 3          | 1          | 1          | 0          | <b>5</b>    | 0.2% |
| <b>TOTAL</b>  | <b>361</b>                  | <b>263</b> | <b>203</b> | <b>189</b> | <b>320</b> | <b>203</b> | <b>305</b> | <b>372</b> | <b>2216</b> |      |
| <b>Percent Not Located</b>  | 4%                          | 21%        | 18%        | 3%         | 5%         | 23%        | 5%         | 6%         | 10%         |      |

MSE - Music, Sports, and Entertainment; MH&D - Military History and Diplomacy; M&S - Medicine and Science; H&CL- Home and Community Life; P&R - Politics and Reform; W&I - Work and Industry; IT&C - Information Technology and Communication; NNC - National Numismatics Collection



## APPENDIX C. TESTING DETAILS

### 2. Blank Fields Universe Summary Table

|                       | MSE               |                           | MH&D              |                            | M&S               |                           |
|-----------------------|-------------------|---------------------------|-------------------|----------------------------|-------------------|---------------------------|
| Field                 | # of Blank Fields | % of Total MSE Collection | # of Blank Fields | % of Total MH&D Collection | # of Blank Fields | % of Total M&S Collection |
| Accession Number      | 26,164            | 26%                       | 82,099            | 80%                        | 19,450            | 34%                       |
| Catalog Number        | 27,589            | 27%                       | 36,682            | 36%                        | 13,261            | 23%                       |
| Title                 | - <sup>9</sup>    | -                         | 75,764            | 73%                        | 31,083            | 54%                       |
| Description           | 12,093            | 12%                       | 91,511            | 89%                        | 24,960            | 43%                       |
| Location - all levels | 6,825             | 7%                        | 879               | 1%                         | 10,220            | 18%                       |

|                       | H&CL              |                            | P&R               |                           | W&I               |                           |
|-----------------------|-------------------|----------------------------|-------------------|---------------------------|-------------------|---------------------------|
| Field                 | # of Blank Fields | % of Total H&CL Collection | # of Blank Fields | % of Total P&R Collection | # of Blank Fields | % of Total W&I Collection |
| Accession Number      | 101,985           | 74%                        | 51,570            | 60%                       | 19,055            | 24%                       |
| Catalog Number        | 22,762            | 17%                        | 25,809            | 30%                       | 9,159             | 11%                       |
| Title                 | 124,032           | 90%                        | 68,197            | 80%                       | 63,232            | 79%                       |
| Description           | 103,589           | 75%                        | 67,632            | 79%                       | 29,778            | 37%                       |
| Location - all levels | 10,256            | 7%                         | 2,400             | 3%                        | 9,275             | 12%                       |

|                       | IT&C              |                            | NNC               |                           | TOTAL             |                            |
|-----------------------|-------------------|----------------------------|-------------------|---------------------------|-------------------|----------------------------|
| Field                 | # of Blank Fields | % of Total IT&C Collection | # of Blank Fields | % of Total NNC Collection | # of Blank Fields | % of Total NMAH Collection |
| Accession Number      | 40,042            | 42%                        | 57,541            | 55%                       | 397,906           | 52%                        |
| Catalog Number        | 22,597            | 24%                        | 17,162            | 17%                       | 175,021           | 23%                        |
| Title                 | 40,516            | 42%                        | 36,954            | 36%                       | 439,778           | 66% <sup>10</sup>          |
| Description           | 55,193            | 58%                        | 95,270            | 92%                       | 480,026           | 63%                        |
| Location - all levels | 5,697             | 6%                         | 6,128             | 6%                        | 51,680            | 7%                         |

<sup>9</sup> The "Title" field was not provided in the XG export for the Music, Sports, and Entertainment Division.

<sup>10</sup> This percent is taken out of 664,746 records, since MSE was not included in the "Title" field analysis.

## APPENDIX D. NMAH Unreconciled XG Records

| <b>Unreconciled Records in XG</b><br>(out of a total of 766,003 records) |                                   |
|--|-----------------------------------|
| <b>Division</b>  | <b># of Record Serial Numbers</b> |
| MSE  | 1,794                             |
| MH&D   | 35,173                            |
| P&R  | 13,324                            |
| M&S  | 5,359                             |
| H&CL   | 12,579                            |
| W&I  | 6,322                             |
| IT & C   | 16,067                            |
| NNC  | <u>16,389</u>                     |
| <b>TOTAL</b>   | <b>107,007</b>                    |

## **APPENDIX E.**

***The following individuals from the Smithsonian Office of the Inspector General contributed to this report:***

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