

# APPENDIX A.

## SMITHSONIAN COLLECTIONS: A BRIEF HISTORY

### table of contents

---

Introduction .....	287
Early collections and the emergence of the US National Museum .....	294
Art collections .....	306
History and culture collections .....	316
Science collections .....	325
Archives and libraries .....	334
Collections guidance .....	338
References .....	350

### introduction

---

**T**hroughout its long history, the Smithsonian Institution has been concerned with the acquisition, study, care, and storage of collections.<sup>1</sup> At times, individuals with a passionate commitment to build collections have been at odds with those who did not see collecting as a priority. Debates were

---

<sup>1</sup> This brief history is based on primary source materials held by the Smithsonian Institution Archives (SIA), secondary sources developed by SIA (such as online exhibits and bibliographies, available on SIA's website, <http://www.si.edu/archives/start.htm>), and primary and secondary sources in the Smithsonian Institution Libraries (SIL), including legal documents, committee reports, memoirs, internal records, and histories. The inherent limitations of such sources must be noted. For example, laws passed do not reflect the dissension and compromise that preceded passage, policies are subject to exceptions or may not be adequately implemented, etc.

The Office of Policy and Analysis (OP&A) acknowledges the help, encouragement, and support of Pamela M. Henson, director of the Institutional History Division, SIA. Without her assistance, OP&A could not have completed the work. Any opinions expressed here are, however, those of the OP&A study team.

influenced by the reality of collections arriving despite space, personnel, and other resource constraints, and by the diverging interests of congressional and Smithsonian leadership. The Smithsonian has, at times, struggled to balance its roles as an incubator of scholarly research and leader in scientific discovery, a keeper of national and international treasures, and a key player in preserving and relating the American story.<sup>2</sup>

At the current time, as has happened several times before in the Institution's history, questions about the role and priority of collections are being raised. These questions have plagued many Secretaries, Regents, and advisors. Space to store and preserve collections is nearing maximum capacity, and both the rationale for keeping some present collections and strategies for developing future collections are being debated. Resources — especially personnel — are scarce, with little promise of relief on the horizon. Decisions made in the near term will have an impact on the expectations of scholars, visitors, and the American public.

This appendix provides a brief historic overview of collections and collecting activities at the Smithsonian and identifies some of the key events, decisions, ideas, and documents that have shaped Smithsonian collections. It is written with the assumption that an understanding of the past can inform decisions about the future.

## origins of the Smithsonian Institution

---

Collecting for the public interest antedated the establishment of the Smithsonian Institution in 1846.<sup>3</sup> In 1840, Joel Poinsett, then Secretary of War and an

---

<sup>2</sup> To some extent, the Smithsonian's role as a federal repository contributes to this uncertainty. See the discussion of scientific collections below.

<sup>3</sup> Much of this section is based on an online exhibition, "From Smithson to Smithsonian: The Birth of an Institution," at <http://www.sil.si.edu/Exhibitions/Smithson-to-Smithsonian/>. It is adapted from an exhibition of the same name that was on view from July 1996 to January 1997 in the SIL Exhibition Gallery in the National Museum of American History (NMAH).

accomplished amateur botanist, established the National Institution for the Promotion of Science and the Useful Arts,<sup>4</sup> based in the (Old) Patent Office Building. Poinsett and his supporters planned to create a natural history museum as a vehicle for advancing science. Similarly, as America's founders passed away, concerned citizens made efforts to preserve their memory by collecting objects associated with them. The resulting collection of portraits, military gear, and artifacts of everyday life, called the Historical Relics Collection, was eventually displayed in the gallery of Poinsett's National Institute, where it gained iconic status and became a popular Washington attraction.

Poinsett also helped organize the first US government-sponsored global maritime exploration, the United States Exploring Expedition (1838-42), led by Lt. Charles Wilkes, and was authorized to act as curator for the specimens and artifacts it brought back. These collections eventually entered the Smithsonian collections.

Poinsett and his supporters were well aware of the ongoing debate surrounding the bequest of James Smithson to the United States, and saw control of the bequest as a way of promoting their goals. In 1826, Smithson, a British scientist, had drawn up his last will and testament, naming his nephew as beneficiary. However, Smithson stipulated that, should the nephew die without heirs — as he later would, in 1835 — the estate should go “to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an establishment for the increase and diffusion of knowledge among men (Oehser 1983, 201-04)<sup>5</sup>.”

Before making any decisions about the disbursement of Smithson's gift, and even before transferring the estate's proceeds to the United States, a congressional debate took

---

<sup>4</sup> The Columbian Institute for the Promotion of Arts and Sciences, an outgrowth of the earlier Metropolitan Society, was an even earlier organization promoting a national museum. The Columbian Institute was organized October 16, 1816 and received a congressional charter dated April 20, 1818.

<sup>5</sup> Citations are in the reference section at the end of this appendix.

place about the constitutionality of accepting it.<sup>6</sup> President Andrew Jackson believed that the people of the United States would put opportunities such as Smithson's bequest to good use, but was unsure whether the Constitution gave him the authority to accept it. He therefore asked the Congress to pass legislation allowing him to do so. The ensuing debate between advocates of states' rights and Federalists was resolved in favor of the latter, affirming the constitutional basis for establishing a *national* institution. The Congress authorized acceptance of the Smithson bequest on July 1, 1836 (Smithsonian Institution 1854, 111-17), and President Jackson took immediate steps to secure the bequest by sending diplomat Richard Rush to England.

A decade of discussion over the appropriate use of Smithson's bequest, efforts to divert it to other causes, and mismanagement of the funds ended with the passage of the Act of August 10, 1846 (*Statutes at Large of the United States of America [Stats. at Large of USA]* 9:102-06).<sup>7</sup> The act incorporated nearly all of the suggestions for the use of Smithson's funds — an observatory, scientific research institute, national library, publishing house, art gallery, and museum — that had come from academicians, scientists, educators, congressmen, senators, and others.<sup>8</sup> Only the recommendation to establish a university was omitted, possibly as a result of pressure from existing academic institutions. The Congress also restored the original half million dollars brought from England and the interest that would have accrued since the funds arrived in 1838.

---

<sup>6</sup> For example, Senator John C. Calhoun opposed accepting the Smithson bequest, arguing that to do so on behalf of the entire nation would abridge states' rights. He maintained that the Congress had no authority to accept the gift. He also asserted that it would be "beneath [US] dignity to accept presents from anyone."

<sup>7</sup> Act of August 10, 1846, 29th Cong., 1st Sess., 9 Stat. 106. This legislation began on December 19, 1845, with a bill, H.R. 5, introduced by Mr. Owen and referred to a committee consisting of Mr. Owen and Reps. Quincy Adams, Davis, Jenkins, Marsh, Sims, and Wilmot. The House passed the bill on April 29, 1846 and the Senate on August 10, 1846. President Polk signed it into law the same day.

<sup>8</sup> For example, Congressman John Quincy Adams (formerly US President), the chairman of the congressional select committee to determine what to do about the bequest, advocated applying the money toward scientific research. Believing that societies often misused science and technology for military and other destructive purposes, Francis Wayland, the president of Brown University, suggested an institution that would teach only the classics.

The legislation, a compromise among competing interests, specified that the Institution should respect Smithson's mandate for the "increase and diffusion of knowledge." A Smithsonian Board of Regents was entrusted with the responsibility of interpreting and carrying out the legislation and Smithson's mandate. The legislation (Section 5) directed the Board of Regents, after selecting an appropriate site,

. . . to cause to be erected a suitable building, of plain and durable materials and structure, without unnecessary ornament, and with suitable rooms or halls for the reception and arrangement, upon a liberal scale, of objects of natural history, including a geological and mineralogical cabinet; also a chemical laboratory, a library and a gallery of art.

The Regents' first act was to build a "Norman Castle" on the National Mall in Washington, DC, planned and supervised by architect James Renwick, Jr.<sup>9</sup> The group then appointed Joseph Henry (1846-78),<sup>10</sup> a renowned physicist from the College of New Jersey (now Princeton University), as the first chief operating officer, or Secretary.

## the original collections

---

Section 6 of the enabling legislation clearly transfers collections belonging to the United States to the Smithsonian:

. . . [A]ll objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States, which may be in the city of Washington, in whosoever custody they may be, shall be delivered .

---

<sup>9</sup> The first Smithsonian Board of Regents' meeting was held on September 7, 1846 in a room of the Post Office Building on F Street, NW between 7th and 8th Streets. Thirteen of the 15 appointed members were present (Clark 1996). A history of the Castle, including photographs and biographical sketches of all the Secretaries, is in Field, Stamm, and Ewing (1993).

<sup>10</sup> The dates following the names of Secretaries denote their period of service.

. . . to the board of regents to receive them, and shall be so arranged and classified.

The dilemmas of the diverse, and often conflicting, roles of the Smithsonian began with this language. The last clause summarizes what have been, with varying levels of emphasis, the Smithsonian's key functions: to receive (collect), arrange (exhibit), and classify (study). The Regents were also authorized to accept new collections either by exchange of duplicates or by donation, and also to care for the collections. The Secretary was to "discharge the duties of librarian and keeper of the museum," and was permitted to hire assistants.

With the exception of stipulating an annual sum to be used for the library, "not exceeding an average of \$25,000 a year" of the approximately \$30,000 interest from the bequest, the legislation was remarkably free from constraints or controls on spending. Nor did it impose any particular congressional oversight on the Institution. The leaders of the Institution could spend funds "as they deem best suited for the promotion of the purposes of James Smithson."

### a leader's vision

---

The mission to promote "the increase and diffusion of knowledge," and the responsibility for a national museum, have been interpreted in many ways since the Smithsonian's inception, and such interpretation would relate heavily to the interests of its leaders. Key to the subsequent development of the Smithsonian was Secretary Henry's "Programme of Organization," presented in the first Annual Report of the Secretary and adopted by the Board of Regents.<sup>11</sup> Support for publications and lectures on original research was one essential feature of this document; the other was the accumulation of collections of natural history and art, as well as the formation of a library. In accepting Henry's plan, the Regents also resolved that the

---

<sup>11</sup> A transcript of the programme is at <http://www.sil.si.edu/Exhibitions/Smithson-to-Smithsonian/henry.htm>.

two principal modes of executing the plan would be equally funded out of the accruing interest that remained from the bequest once construction of the Castle was completed. Sections II.1 and II.2 of Henry's Programme read:

1. The act of Congress establishing the Institution contemplated the formation of a library and a museum; and the Board of Regents, including these objects in the plan of organization, resolved to divide the income into two equal parts.

2. One part to be appropriated to increase and diffuse knowledge by means of publications and researches, agreeably to the scheme before given. The other part to be appropriated to the formation of a library and a collection of objects of nature and of art.<sup>12</sup>

Henry, however, did not personally approve of this equal emphasis on the two areas. In his interpretation, the Institution was to "increase" knowledge through scientific research, and "diffuse" knowledge through the publication of *Smithsonian Contribution to Knowledge* and the administration of an active International Exchange Service of publications.<sup>13</sup> Collections were of interest to Henry only to the extent that they furthered research, which he advocated in areas such as physics, meteorological observations, descriptive natural history, "statistical inquiries with reference to physical, moral, and political subjects," historical research, and ethnology (especially with reference to Native Americans). Cognizant of resources, he suggested "appropriations in different years to different objects; so that in course of time each branch of knowledge may receive a share." To this day, it is still largely these areas of scientific research that dominate Smithsonian programs.

Henry's emphasis on scientific research stood in contrast to his lack of interest in the national library, museum, and art gallery prescribed in the enabling legislation.

However, the Regents' interest in a national library was made clear in their

---

<sup>12</sup> In January 1855, the Smithsonian Board of Regents repealed the resolution originally adopted on January 26, 1847, that required an equal division of income between active operations and the library and museum. The Regents passed a resolution stating that hereafter annual appropriations would be related to intrinsic importance in the judgment of the Regents.

<sup>13</sup> The exchange distributed research publications to and from institutions and governments from all over the world. It continued to grow into the 20th century. For example, in 1900 it handled 117,492 packages weighing 418,935 pounds.

appointment, even before a Secretary, of an Assistant Secretary to be in charge of a library. For Henry, the library was a drain on resources and space. He also predicted that the accumulations of a museum or library would consume *for their care alone* more than the small income of the Smithsonian endowment, without contributing effectively to the increase and diffusion of knowledge.

The original 1846 Act also required “that the author or proprietor of any book, map, chart, musical composition, print, cut, or engraving” who wanted a copyright should deposit a copy both with the Librarian of the Smithsonian *and* the Library of Congress. After considerable maneuvering, Henry persuaded the Regents and the Congress to repeal the copyright-depository provision. Both resource and space constraints were alleviated in 1866 when the Smithsonian sent 40,000 volumes to the Library of Congress. As part of the arrangement, Smithsonian staff were granted the same borrowing privileges as congressional staff. The “Smithsonian Deposit” continued as a separate entity in the Library of Congress until the early 1950s, and the Smithsonian continued to add to the deposit throughout that period.<sup>14</sup> The initial transfer marked the first time the Smithsonian made a long-term loan to another institution. The controversy over the library also led the Congress, for the first time, to establish a standing committee to examine the management of the Smithsonian.

## early collections and the emergence of the US National Museum

---

While successful in divesting the Smithsonian of the legislated national library obligation, Henry was far less successful in developing a Smithsonian without a museum. During his tenure, he saw the natural history collections grow to over 250,000 objects and come to include material unrelated to research. He also

---

<sup>14</sup> At the time that it was integrated into the Library of Congress’s rapidly developing science collections, the Smithsonian Deposit had grown to over 600,000 volumes. The present-day library at the Smithsonian is discussed below.



witnessed the problems associated with funding collections' care and storage, and argued against accepting the voluminous collections gathered on expeditions funded by the US government.<sup>15</sup> After the Wilkes collections<sup>16</sup> were transferred to the Smithsonian, Henry wrote to a friend, "Now comes the danger. The appropriations of the Congress for the Museum are fitful." Further,

The answer made to some of these objections has usually been that the government would grant an annual appropriation for the support of the museum of the exploring expedition. But this would be equally objectionable, since it would annually bring the institution before Congress as a supplicant for government patronage, and ultimately subject it to political influence and control (Smithsonian Institution 1849, 20-21).

## the origins of the National Museum

---

By 1849, despite Henry's objections, the Smithsonian had a small museum unit. Its collections were divided into mammals, birds, reptiles and fishes, invertebrates, plants, fossil remains, minerals and geological specimens, and ethnology. Henry saw no reason to collect things found in other encyclopedic museums at the time, like the British Museum. Instead, he wanted to focus on objects of "special character."

---

<sup>15</sup> The volume of these materials was extensive. In January 2004, the Smithsonian Institution Libraries made the catalogue of the US Exploring Expedition's collection of ethnographic and archaeological artifacts available to the public online. According to Viola (1985), the introduction states,

Estimates are that the collections amassed between April 1838 and June 1842 by the United States Exploring Expedition, under the command of Charles Wilkes, weighed nearly 40 tons. The naval officers, crew, and nine civilian scientists, who sailed on six small ships for four years, gathered specimens of natural history at nearly every stop, including several thousand zoological specimens, 50,000 plant specimens, thousands of shells, corals, fossils, and geological specimens, even jars of sea water from different localities. They also collected 2,500 ethnological and archaeological specimens, which they generally referred to as "curiosities," to illustrate the varied cultures with whom they came in contact.

See also *From the Ends of the Earth: The United States Exploring Expedition Collections*, at <http://www.sil.si.edu/DigitalCollections/usexex/learn/Walsh-01.htm>.

<sup>16</sup> That is, the collections from the 1838-42 US Exploring Expedition organized by Poinsett, discussed above and in footnote 15.

In principle, Henry was not against the creation of a national museum — he simply did not want a national museum connected with the Smithsonian Institution.

Familiar with general collections abroad, Henry wrote, “Though the formation of a general collection is neither within the means nor the province of the Institution, it is an object which ought to engage the attention of Congress. A general museum appears to be a necessary establishment at the seat of government of every civilized nation (Smithsonian Institution 1851, 25).”

Henry continued to hope that his view of a national museum separate from the Smithsonian would prevail, even after the museum unit was established within the Institution. In his 1856 *Report of the Secretary*, he wrote:

The adverse effects of the early and consequently imperfect legislation ought, therefore, as far as possible, to be obviated; and this could readily be done, if Congress would relieve the Institution from the care of a large collection of specimens principally belonging to the government, and purchase the [Smithsonian] building to be used as a depository of all the objects of natural history and the fine arts belonging to the nation (Smithsonian Institution 1857, 21-22).

The ambiguity in the original legislation allowed the Board of Regents and the Secretary to shift priorities (Endersby 1998, 7). For at the same time, Henry observed:

...[E]xperience has shown that the [Smithsonian] building will ultimately be filled with objects of natural history belonging to the general government . . . It may be a question whether, in consideration of this fact, it would not be well to offer the use of the large room immediately for a *national museum* [emphasis added] of which the Smithsonian Institution would be the mere curator, and the expense of maintaining which should be paid by the general government.

However, Henry’s point of view was clearly not the only one at the Smithsonian. Ultimately, Henry lost the debate because the Regents, notably George Perkins Marsh, insisted upon a museum within the Institution.

In 1858, when the government's collections of scientific specimens, art works, and historical memorabilia at the National Institute gallery in the Patent Office Building were transferred to the Smithsonian's custody, a national multidisciplinary museum began to emerge.<sup>17</sup> With these collections came a \$4,000 yearly appropriation for their care. The main hall of the Castle became the locus for the biological collections, while the west wing was devoted to geology and fossils, and the large upper center hall to American Indian artifacts and costumes. (The latter evolved into the anthropological collections held by the Smithsonian today.)

To the end of his life, Henry sought a clear separation between a National Museum and the Institution:

The object of the [Museum] is the establishment of a collection of specimens of nature and of art which shall exhibit the natural resources and industry of the country . . . The Smithsonian Institution, on the other hand, does not offer the results of its operation to the physical eye, but presents them to the mind in the form of new discoveries . . . It is the design of the Museum to continually increase its collection of material objects; of the Institution, to extend the bounds of human knowledge (Endersby 1998, 13).

Yet the tide of events continued to flow in the opposite direction from Henry's vision. Beginning in the 1860s, the Institution's Annual Reports made a clear distinction between the "collections of specimens of Natural History," intended for the advancement of knowledge, and the museum collections intended for public exhibitions. By 1866, the Annual Report referred to the "National Museum." For the next decade, Henry continuously appealed to the Congress for increases in appropriations to care for the museum, while at the same time hoping that the

---

<sup>17</sup> On June 10, 1867, Attorney General Jeremiah S. Black ruled on the legality of the collections' transfer, since in 1842 they had been placed in the Patent Office, and an 1854 Act (*Stats. at Large of the USA* 10: 572) puts them in the Patent Office, under the care and management of the Commissioner. The Attorney General reconciled the language of the Smithsonian's enabling legislation (1846) with the other legislative acts saying that one (the 1846 law) called for a permanent arrangement, which was not to take effect until there were "suitable arrangements," and the others called for a temporary disposal.

Congress would remove it from the Institution. Henry’s fears about the financial implications of establishing a national museum within the Smithsonian were largely borne out during his years as Secretary. It was not until 1870 that the government was persuaded to provide substantial support for the museum collections; by that time, the Institution was spending more than half of its income (\$45,000 in 1870) on them (Smithsonian Institution 1927, 14-15).

Two main themes emerge from consideration of the early debate over whether the national museum should be part of the Smithsonian: the struggle to define the priorities of the Institution, and the need to cope with financial pressures and constraints. These issues have continued to generate debate.

### **new leadership, new emphasis**

---

Henry brought Spencer Fullerton Baird to the Smithsonian in 1850 as Assistant Secretary “to take charge of the cabinet and to act as naturalist of the Institution.”<sup>18</sup> In 1878, Baird became the Institution’s second Secretary, serving until 1887. Baird was far more intent on building collections. His vision for the National Museum was that it should include a comprehensive collection of *all* the natural resources of the United States. He supported a system of exchange using duplicate specimens and proposed to furnish travelers with the means of “determining the character of objects collected in various parts of North America.” The collection had a good start with two boxcars — including nearly 3,000 bird and 280 mammal specimens — that Baird brought with him from Reading, Pennsylvania to Washington.

Baird spent his early years at the Smithsonian implementing Henry’s programs, publishing scientific books, and coordinating the international exchange of thousands of publications. At the same time, he quietly but persistently focused on

---

<sup>18</sup> The “cabinet” refers to the assortment of natural specimens received by the federal government, many of which were worthless from Henry’s perspective. In Europe, such collections were referred to as “cabinets of curiosities.”

building a museum collection. In July 1853, Baird wrote to his mentor, Smithsonian Regent George Perkins Marsh, “I expect the accumulation of a mass of matter thus collected (which the Institution cannot or will not ‘curate’ efficiently) to have the effect of forcing our government into establishing a National Museum, of which (let me whisper it) I hope to be director. Still even if this argument don’t weigh now; it will one of these days and I am content to wait.”<sup>19</sup>

Coincident with the establishment of the Smithsonian, as noted, the US government sponsored a number of exploring expeditions into the territories to provide information about their natural resources and inhabitants. In many instances, the Congress specified the type of documentation to be published and the disposition of the collected materials.<sup>20</sup> As Assistant Secretary, Baird saw to it that each journey would have some scientific value, beyond its practical aspects. He trained field workers, prepared field guidebooks, and ensured that the fieldworkers brought back specimens. Beyond working with government expeditions, he established a natural history collecting network across the country, relying on volunteers from all walks of life, including soldiers, trappers, farmers, teachers, and doctors.

## the Centennial Exposition

---

Baird also prepared all of the government exhibits for the International Exhibition of Arts, Manufactures, and Products of the Soil and Mine at the Centennial exposition in Philadelphia in 1876.<sup>21</sup> The Smithsonian exhibits gave the Institution national visibility by showcasing both its *intellectual* accomplishments (publications, international exchanges, meteorological observations, and expeditions) and the *collections* of the National Museum (including mammals, fishes, and manikins of

---

<sup>19</sup> Letter from Spencer Fullerton Baird to George Perkins Marsh, Smithsonian Regent, July 2, 1853.

<sup>20</sup> For example, as early as 1842 (*Stats. at Large of the USA* 5:534) Congress legislated that materials from the Exploring Expedition led by Lt. Charles Wilkes were to be stored in the upper story of the Patent Office Building.

<sup>21</sup> Baird had been involved in earlier exhibition activities (notably at fisheries exhibits).

American Indians). At the close of the exposition, Baird convinced most exhibitors to donate their displays to the Smithsonian, “a quantity far beyond the storage capacity of the Smithsonian building,” he conceded. Subsequently, over 50 freight cars of exhibition materials from 30 countries arrived in Washington. A short-term storage solution was found when the Congress authorized the transfer of the Armory building (now the location of the National Air and Space Museum) to the Institution.

As evidenced by the Centennial exposition shipment, the current dilemma of overcrowding is not new. The 50 freight cars of objects that arrived en masse were boxed and stored without appropriate staff, facilities, or other resources to process them. Fortunately, the Congress’s response was swift: it passed an act to provide a building (what is now the Arts & Industries Building [A&I]) for the growing collection.<sup>22</sup>

## the US National Museum

---

The early Smithsonian leadership modeled the National Museum in the image of similar institutions in Great Britain, Germany, and France. Increasingly, the museum became a visible and important element in the structure of the Smithsonian. In 1874, the names of individuals in charge of various divisions of the National Museum were listed at the beginning of the Annual Report. The Office of Curator was established in 1875, and the same year saw the publication of the *Bulletin of the National Museum* “to illustrate the collections of natural history and ethnology belonging to the United States, and constituting the National Museum (Endersby 1998, 11).” The Institution, according to the 1875 Annual Report, had *two* distinct operations:

---

<sup>22</sup> This building, with 80,000 square feet of exhibit space, was completed by 1881 — on schedule and within budget. Per square foot, it was the cheapest permanent government building ever built.

[F]irst, those relating to the immediate objects of the [Smithson] bequest, vis., the increase and diffusion of knowledge among men, through researches, publication, and exchanges; and second, those which pertain to the management of the Government collections in natural history and ethnology, constituting the *National Museum*, of which the Institution is the custodian (Smithsonian Institution 1875, 78; emphasis in original).

The Smithsonian Institution was the caretaker for the developing government's national museum. But as this quotation suggests, in the eyes of the Smithsonian Institution it was clear that the National Museum and its collections were creations of the Congress with the backing of many of the Regents, and *not* of Smithson and his bequest.

Congressional sanction for use of the name “National Museum” came in an act of the Congress in 1875, when there was an appropriation of \$1,000 for the “official postage stamps for the National Museum of the Smithsonian Institution.” A formal reaffirmation of the Smithsonian as the “National Museum” came in 1879 with the establishment of the US Geological Survey (USGS) (*Stats. at Large of the USA* 1879 20: 377), which designated the National Museum as the repository for natural history materials collected by all branches of the US government:

[A]ll the collections of rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology, made by the Coast and Interior Survey, the Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress shall be deposited in the National Museum.

The division of resources among the many programs of the Institution was a fiscal challenge in the late 19<sup>th</sup> century as it is today. In the same act, the Congress allocated the Smithsonian Institution \$23,000 for the preservation and care of the collections of the National Museum; \$5,000 for the distribution of duplicate scientific specimens; \$2,500 for storage of articles belonging to the United States, including those from the International Exhibition of 1876; \$3,000 for providing security against fire; \$20,000 for completing the Smithsonian contributions to North

American Ethnology and preparing the materials for publication;<sup>23</sup> and \$250,000 for a fire-proof building for use of the National Museum (A&I).

When Baird was appointed Secretary in 1878, he relied heavily on George Brown Goode, then a curator, to develop the National Museum.<sup>24</sup> Goode devised a system of classification for arranging the collections, and he displayed objects in didactic exhibits. Over time, Goode became the leading figure in American museum theory and display. When the National Museum Building opened to the public in 1881 with displays of anthropology, art, geology, history, and natural history, it reflected Goode's philosophy and classification.<sup>25</sup> In Goode's view, the early Smithsonian collections had served research. When the Smithsonian accepted government collections, it became the museum of record, the "official" repository for objects of art, culture, and science. Goode's new museum was also a museum of education, with exhibits to show the place of each object in a world order. The geology and natural history halls were arranged according to their scientific classifications. The anthropology and history of technology halls reflected the prevailing Progressive Era point of view — that is, it started with "primitive" cultures and concluded with the United States. Exhibits traced the history of each industry, such as agriculture,

---

<sup>23</sup> The Congress appropriated the \$20,000 for the publication of contributions relating to North American ethnology, provided that "all the archives, records, and materials relating to the Indians of North America, collected by the Geographical and Geological Survey of the Rocky Mountain Region, shall be turned over to the Smithsonian Institution, that the work may be completed and prepared for publication under its direction." The Secretary of the Interior, on February 28, requested that this appropriation be placed under the direction of the Smithsonian Institution, instead of the Department of the Interior. The Bureau of Ethnology, with Major John Wesley Powell as its head, was established to perform this work.

<sup>24</sup> Baird met Goode in 1872, when Goode worked as a volunteer for the US Fish Commission in Maine. For the next five years, Goode spent his summers doing field work with the US Fish Commission and divided his winters between Wesleyan, where he was in charge of its new natural history museum, and the Smithsonian. In 1877, he left Wesleyan and joined the Smithsonian full time, first as an assistant curator and later as curator. After the National Museum was formally established in 1879, Goode became its assistant director. In 1887 he was appointed Assistant Secretary of the Smithsonian, and he assumed full responsibility for the National Museum following Baird's death in 1887. Goode died of pneumonia in 1896 at the age of 45.

<sup>25</sup> A few exhibits, notably birds, invertebrates, and art, remained in the Smithsonian Castle.



ceramics, music, and nautical navigation. The Historical Relics Collection displayed the possessions of the founding fathers and colonial society.<sup>26</sup>

The name “National Museum” came into general use with the exhibitions that Baird curated at the 1876 International Exhibition in Philadelphia. The subsequent name, the United States National Museum (USNM) came into use in the next decade. In 1884, for the first time, the USNM published its own annual report, separate from that of the Smithsonian Institution itself (Endersby 1998, 13). By the time of Baird’s death in 1887, USNM was firmly established as *the* nation’s museum, signaling that Washington was equal to the capitals of Europe.

### new programs, new space

---

The third Secretary, Samuel Pierpont Langley (1887-1906), like Henry, emphasized research. In addition to expanding existing programs, he created the Smithsonian Astrophysical Observatory (SAO) in 1890, in part to support his own research.<sup>27</sup> When the Congress balked at funding SAO, he raised the money himself.

During Langley’s tenure as Secretary, the idea of a national zoo was advanced as a way of dealing with the growth of collections under the care of the Smithsonian’s Department of Living Animals. An act of the Congress established the National Zoological Park (NZIP) in 1889. In 1891, the 200 animals living and breeding in back of the Castle moved to the current location of NZIP in Rock Creek Park. The basic argument for securing funding for this contentious expansion relied on the

---

<sup>26</sup> In January 1883, the Board of Regents presented a resolution to the Congress requesting an appropriation of \$300,000, to be expended under the direction of the Board of Regents, to enlarge the National Museum by erecting a fire-proof building on the southwest corner of the Smithsonian reservation. This resolution related to a bill introduced in the House that would appropriate \$200,000 for a building to accommodate USGS and for other purposes. At the time, USGS was occupying some 20 rooms in A&I. However, the Congress made no appropriation for the expansion of the National Museum.

<sup>27</sup> SAO is administratively joined with the Harvard College Observatory to create the Harvard-Smithsonian Center for Astrophysics, where nearly 300 astronomers, astrophysicists, and other earth and space scientists undertake major programs of research.

importance of preserving and studying endangered species. The plans for the zoo were drawn up by Secretary Langley, William Temple Hornaday (a noted conservationist and head of the Smithsonian's Vertebrate Division), and Frederick Law Olmstead (a noted landscape architect). Major collecting expeditions during the era of the Great Depression and World War II, exchange programs, purchases, and natural breeding increased the size of the zoo's collection to about 5,000 animals in the 1960s.

As early as the 1880s, not long after the National Museum Building opened, the Regents discussed the overcrowded Smithsonian facilities and need for a third building. To cope with the growing collections, Langley eventually secured funding when the Congress appropriated funds in 1903. The building that now houses the National Museum of Natural History (NMNH) officially opened in 1911 and provided a new home for the natural history and art collections. Yet the spaciousness of the new building was short-lived, as new collections soon arrived. For example, in 1909 an expedition to East Africa organized by President Theodore Roosevelt after he left office contributed 5,000 mammals, 4,500 birds, 2,300 reptiles and amphibians, and large numbers of fishes, invertebrates, shells, and plants. In 1910, the Smithsonian received another 100,000 zoological and botanical specimens.

Secretary Langley clearly recognized that, at the start of the 20<sup>th</sup> century, the USNM that would be led by his successor, Charles D. Walcott (1907-27), was a different organization from the one Langley first encountered. In comments to the Regents, he said,

. . . [H]ere I want to revert to the fact that the Museum as it exists has grown from the parent stem of the Smithsonian Institution, and grown so fast that the child is tending to become larger than the parent . . . With a million dollars or more of annual expenditures, the Museum will be more like other great bureaus of the Government (Smithsonian Institution 1901, xxii-xxiii).

The collections of USNM, as noted, had come from various sources and were of various types: objects of natural history and anthropology from various donors;

objects from government expeditions; objects collected by the officers of surveys such as the Pacific Railroad survey, Mexican boundary survey, Army Corps of Engineers surveys, and USGS surveys; specimens and records from the 1803 Lewis and Clark expedition; objects from the 1876 International Exhibition in Philadelphia; and objects given by various foreign governments. The objects were arranged in a variant of Goode's classification system and organized into divisions and, within these, among departments.<sup>28</sup> The Division of Anthropology included the Department of Arts and Industries (graphic arts; textiles; transportation and engineering; historical collections, coins, and medals; *materia medica*; fisheries and animal products; foods; naval architecture; forestry; Section of Physical Apparatus; and Section of Oriental Antiquities); Department of Ethnology; Department of American Prehistoric Pottery; and Department of Prehistoric Anthropology. There were also Divisions of Zoology, Botany, and Geology. Only the Department of Arts and Industries included materials now associated with history museums; the rest had science or natural history collections.

The 20<sup>th</sup> century saw the Smithsonian add collections in disciplines not previously emphasized and expand the nonscience collections into major holdings in their own right. At the same time, USNM became somewhat unwieldy and began to move away from the model of grouping all collections under a single administrative structure. The next few sections outline these developments.

---

<sup>28</sup> This classification, from the 1900 Annual Report, was a reorganization that occurred after Goode died in 1896 (Endersby, 18). Note that history was subsumed under anthropology.

## ART COLLECTIONS

### the early art collections

---

The original legislation creating the Smithsonian included, albeit in vague language, provision for a “gallery of art.” As was the case for specific scientific fields of study as well as other disciplines, the art collections required either an internal champion or strong external pressure before development took place.

Lacking funds for acquiring art, a patron to donate a major collection, or a strong internal advocate, interest in art languished through the Smithsonian’s first few decades. However, to some, including a number of artists, the fact that the enabling legislation had provided for the centralization of art belonging to the government in Washington at the Smithsonian signaled that a national gallery might yet be developed. The most frequently quoted example of an effort to get this idea off the ground is the 1849 offer by George Catlin of his “Indian Gallery” of 600 paintings for \$65,000. The Smithsonian rejected his offer. (Ironically, in 1879, after Catlin’s death, his widow donated the paintings to the Smithsonian.)

In the early period of the Institution, the few paintings and plaster casts that were part of the art collection did not fare well. In 1865, during the installation of an exhibition of Indian paintings by John Mix Stanley on the second floor of the Castle, a fire broke out and destroyed over 200 paintings. The Smithsonian loaned the surviving prints and drawings temporarily to the Library of the Congress, while it sent the paintings and sculptures to the Corcoran Gallery of Art. In 1895 it recalled the artwork. In 1904, President Roosevelt wrote to the Congress and argued, based on the enabling legislation, that “The collection of objects of art contemplated in section 5586 of the Revised Statutes should be designated and established as a National Gallery of Art; and the Smithsonian Institution should be authorized to

accept any additions to said collection that may be received by gift, bequest, or devise.”<sup>29</sup> The Congress failed to take action on this recommendation.

## the Smithsonian’s National Gallery of Art

---

The revival of art at the Smithsonian came at the turn of the 20<sup>th</sup> century with a bequest to the Corcoran Gallery of Art by Harriet Lane Johnston.<sup>30</sup> The bequest stipulated that the gift, primarily 18<sup>th</sup> century portraits by artists such as Sir Joshua Reynolds and Thomas Gainsborough, should go to the national gallery of art, should one be established. A few years later, in July 1906, the Supreme Court of the District of Columbia decided that the Smithsonian did include “a National Gallery of Art” and directed that the collection be placed under its stewardship.<sup>31</sup> Other gifts of art and the first acquisition fund of \$400,000 followed.

The National Gallery of Art was finally designated as a separate Smithsonian entity in 1920. This designation led to suggestions and designs for a building. For example, Charles A. Platt, whose Freer Gallery of Art had opened that year, submitted plans in 1925. In 1929, the National Gallery received an extensive collection from John Gellatly (1852–1931), which was moved from New York to Washington and installed in the gallery’s space in the expanded USNM building (now the Natural History Building).<sup>32</sup>

---

<sup>29</sup> The sentence is in the President’s Fourth State of the Union message, presented in written form to the Congress on December 6, 1904 (Roosevelt 1904). See the text on <http://www.theodore-roosevelt.com/sotu4.html>.

<sup>30</sup> Harriet Lane Johnston was President James Buchanan’s niece and served as First Lady during his tenure (1857–61).

<sup>31</sup> The Corcoran Gallery of Art sought the ruling. The Smithsonian formally established the National Gallery of Art to receive the collection. As a result of this decree, the collection, consisting of 31 pieces, was delivered to the Smithsonian Institution in August 1906 (see Supreme Court–District of Columbia, 1906).

<sup>32</sup> The Gellatly collection was formally opened to the public for viewing on the evening of June 22, 1933.

The lack of a strong Smithsonian identity for art troubled some leaders. During a discussion about the future of the Institution in 1927, Senator Reed Smoot, a Regent of the Institution, noted,

We are still a very young country, speaking in terms of years. I think I have noticed in the last 10 years a growing sentiment throughout the country that we are behind in our development of art; that our resources are greater than those of any other country but that nearly every other country is ahead of us in the development of art. . . . I have been ashamed of my country (Smithsonian 1927, 83-84).

Smoot explained that in the first days after his appointment as a Regent, he searched every nook of the collections to find “the only National Gallery of Art pinched within a few feet of space in the National Museum Building.” Smoot asserted, “I assure you we are going to have a separate National Gallery, and I am also quite sure an art building will be erected before long without asking an appropriation of the Government (*ibid.*, 84).”

At about the same time, former Secretary of the Treasury Andrew W. Mellon was pursuing his interest in establishing a national art museum in the nation’s capital. In 1935, Mellon commissioned architect John Russell Pope to make the first sketches for his proposed National Gallery of Art at a site on the Mall. About a year later, Mellon wrote President Franklin D. Roosevelt, offering to donate his collection of primarily European art to the nation and to build a building at his expense. Emulating the National Gallery of Art in London, Mellon stipulated that his new museum be named the “National Gallery of Art.” The Congress complied with the Mellon request, passing legislation in 1937 to establish the National Gallery of Art (NGA) as an independent bureau within the Smithsonian Institution. The relationship between the Smithsonian and NGA is, however, different from that of other Smithsonian units, because NGA operates under a separate charter and board of trustees.<sup>33</sup>

---

<sup>33</sup> The members of the Board of Trustees of NGA are the Chief Justice of the United States, Secretary of State, Secretary of the Treasury, Secretary of the Smithsonian Institution, and private citizens.

## National Collection of Fine Arts

---

When the Congress officially designated the institution created by Mellon as the National Gallery of Art, the Smithsonian renamed its own National Gallery of Art collection the National Collection of Fine Arts (NCFA). It gave NCFA a slightly altered mission, reflecting the New Deal philosophy, to include promotion of the work of living artists and development of a national audience. A competition was organized to select a design for a home for NCFA, and legislation in 1938 authorized a site on the Mall for a building (*Stats. at Large of USA* 1938 52:399). However, the building was not built.

In 1958, Secretary Leonard Carmichael (1952-64) negotiated the transfer to the Smithsonian of the Old Patent Office Building on F Street between 7th and 9th Streets, thus saving that building from demolition and providing a home for NCFA. In 1972, NCFA gained additional gallery space when the Renwick Gallery near the White House was turned over to the Smithsonian. The Renwick Gallery was used primarily to house a collection of 20<sup>th</sup> century American crafts.<sup>34</sup> In 1980, by an act of the Congress, NCFA was renamed the National Museum of American Art (NMAA). In 2000, NMAA requested yet another name — the Smithsonian American Art Museum (SAAM), and on October 27, 2000, President Bill Clinton signed into law the bill renaming the museum.

In FY2002 SAAM's collections included over 39,000 works from all periods of American art, from colonial to contemporary, in a range of media, including

---

<sup>34</sup> The Renwick Gallery was originally the Corcoran Gallery of Art, erected between 1859 and 1861 for William Wilson Corcoran's collection of paintings and sculpture. Located at 17th Street and Pennsylvania Avenue, NW, it was designed by architect James Renwick, Jr. In 1861, the US Army seized the building and turned it into a warehouse for records and uniforms. In 1864 it became office space for Quartermaster General Montgomery Meigs. In May 1869, the building was returned to Corcoran, and portions were opened to visitors in 1874. A new Corcoran Gallery building was erected, and in December 1899 the government rented the original building to the US Court of Claims. The court moved out of the building in 1964. In 1965, President Lyndon B. Johnson approved the use of the building as a Smithsonian gallery of arts, crafts, and design.

painting, sculpture, works on paper, and photography.<sup>35</sup> To assist researchers in locating American paintings and sculptures for comparative study, SAAM maintains the Inventories of American Painting (begun in the early 1970s) and Sculpture (begun in 1985). Together, the inventories reference over 360,000 art works in public and private collections worldwide and are complemented by a photographic study file of over 60,000 photographs. SAAM's Slide and Photo Archives had over 250,000 images documenting American art and architecture.<sup>36</sup>

## National Portrait Gallery

---

A Smithsonian exhibition of 20 portraits of American and allied nations' World War I leaders, created by American artists, stimulated interest in expanding what became the National Portrait Gallery (NPG) collections and in creating a separate institution for them. The National Art Commission sponsored the works, which were exhibited in the Natural History Building in May 1921 (and again in 1923) under the auspices of the Smithsonian's then-National Gallery of Art.<sup>37</sup> In response to calls for a national portrait gallery, starting in 1921 the Smithsonian's National Gallery of Art Commission regularly discussed such an entity and accepted donations of portraits for its future opening.

For the next 40 years, the collections of the future NPG were stored with its parent entity, the bureau that evolved into SAAM. The Congress officially established NPG in 1962 as a unit of the Smithsonian Institution, as

---

<sup>35</sup> Unless otherwise stated, the figures used here represent National Collections Program data for FY2002, as presented in the Introduction to this study. In the course of researching this appendix, different estimates of some units' collections sizes were discovered; in most cases, the differences with NCP data were relatively small.

<sup>36</sup> Information on Smithsonian archives is based on descriptions in the Smithsonian Institution Research Information System (SIRIS) and links to individual archives.

<sup>37</sup> The National Art Commission was created to commission American artists to create a pictorial record of World War I. The Smithsonian, the American Federation of the Arts, and the American Mission to Negotiate Peace endorsed it.



. . . a free and public museum for the exhibition and study of portraiture and statuary depicting men and women who have made significant contributions to the history, development, and culture of the people of the United States, and of the artists who created such portraiture and statuary.<sup>38</sup>

In 1963, the first NPG Commission (as its board of directors is called) elaborated on this mandate, defining two main objectives for the gallery: acquisition and exhibition of portraits and statuary of those who have made significant contributions to the history, development, and culture of the United States; and establishment of the gallery as a research center for American biography, iconography, and history. In the 1960s and 1970s, NPG initiated several programs to carry out the second objective. It also established the Catalog of American Portraits and the Charles Willson Peale Papers project. In 1976, legislation authorized NPG to collect portraits in all media, most notably photography. In FY2002, the collection of about 19,000 artworks included prints, paintings, sculptures, and photographs, as well as more than 54,000 glass-plate negatives from the Mathew Brady studio, official portraits of all US presidents, and artwork from more than 1,600 *Time* magazine covers.

In 1968, NPG and NCFA opened in the refurbished Patent Office Building. The building was closed in 2000 for a multiyear renovation and was scheduled to re-open in July 2006.

## Freer Gallery of Art

---

In 1905, before the court ruling on the Harriet Lane Johnston bequest discussed above that led to the recognition of a “National Gallery of Art” at the Smithsonian, Charles Lang Freer, a railroad car manufacturer from Detroit, offered the Regents his private collection. After considerable hesitation, a committee of the Board of Regents (including Alexander Graham Bell) traveled to Freer’s Detroit home. There,

---

<sup>38</sup> See entry for National Portrait Gallery-Agency History at <http://www.si.edu/archives/archives/ah00008npg.html>.

over a period of five days, the objects were displayed one at a time. It took a prod from President Theodore Roosevelt for the Smithsonian to accept the gift. In addition to approximately 7,500 works of Asian and Middle Eastern art, there were about 1,500 American works of art, including one of the most complete collections of etchings and lithographs (and some paintings) by James McNeill Whistler. These objects, funds to construct a building, and an endowment fund to provide for the study and acquisition of “very fine examples of Oriental, Egyptian, and Near Eastern fine arts” led to the establishment of the Smithsonian’s first museum dedicated solely to art, the Freer Gallery of Art (FGA). Freer’s will, however, came with constraints: only objects from the permanent collection could be exhibited in the gallery, and none of the art could be exhibited elsewhere, loaned, or sold. Freer also believed strongly that all of the museum’s holdings should be readily accessible to scholars at all times. Over time, the collection tripled in size to over 28,000 artworks, including paintings, sculptures, metalware, ceramics, manuscripts, and lacquerware from Asia.

### **the more recent art collections**

---

Between 1966 and 1989, the addition of four collections greatly increased the Smithsonian’s holdings in fine and decorative arts. The Smithsonian actively sought two of these — the collections of Joseph H. Hirshhorn and Arthur M. Sackler, which formed the core of two new Smithsonian museums. The other two collections came to the Institution as the result of financial crises and the inability of their owners to care for them. Using the organizations’ former names, these were the collections of the Cooper Union Museum for the Arts and Decoration and the Museum of African Art. For a host of reasons, both practical and philosophical, the Smithsonian had been reluctant to accept these collections, but eventually acceded to external requests and pressures. All four of the collections became separate Smithsonian units; that is, they were not added to USNM or an existing art bureau.

## Hirshhorn Museum and Sculpture Garden

---

In 1964, newly appointed Secretary S. Dillon Ripley (1964-84) contacted Joseph H. Hirshhorn to convey the Smithsonian's interest in acquiring his collection of modern and contemporary art. The idea for a national museum of modern art had first been proposed in 1938, when legislation was passed, ensuring that the Smithsonian's NCFCA would be such a museum. In 1966, Hirshhorn gave his entire collection to the Smithsonian as a gift to the nation, with the proviso that it be housed in a museum named for him and constructed on the Mall by the federal government. In May 1966, the Congress passed legislation enabling the Smithsonian to accept the Hirshhorn collection and to establish and construct a museum to hold it.<sup>39</sup> The Hirshhorn Museum and Sculpture Garden (HMSG) opened to the public in October 1974.<sup>40</sup> In FY2002 the Hirshhorn's collections of 11,500 artworks — paintings, sculptures, and works on paper — included a nucleus of some 9,200 works given or bequeathed by Hirshhorn.<sup>41</sup> The Hirshhorn's Department of Painting and Sculpture maintained a Collection Archive, a research file on the entire permanent art collection. Several special collections of papers and miscellaneous manuscript collections supplemented the more than 12,000 curatorial records.

## Arthur M. Sackler Gallery

---

Some years later, in 1982, Secretary Ripley similarly persuaded Dr. Arthur M. Sackler (1913-87) to donate to the Smithsonian approximately 1,000 works of Asian art and

---

<sup>39</sup> On July 26, 1968 the Congress appropriated \$2 million in construction funds and \$14,197,000 in contract authority to construct HMSG.

<sup>40</sup> The site of the Hirshhorn was formerly occupied by the Army Medical Museum, also known as the Medical Museum of the Armed Forces Institute of Pathology, a structure erected in 1885-87. The building was designated as a National Historic Landmark in 1965. It was demolished to make way for the Hirshhorn in 1969. The contents of AFIP were relocated to the Walter Reed Memorial Center.

<sup>41</sup> The initial gift contained more than 6,000 pieces of art. At his death, Hirshhorn bequeathed to the museum an additional 6,000 items and an endowment of \$5 million. However, as of FY2002, about 23 percent of those works had been disposed of and replaced by new acquisitions.

\$14 million to construct a building for a museum to bear his name. A unique location for the gallery was presented to Sackler as part of the discussions. Secretary Ripley, in the search for more space for art, had begun work on the idea of several underground museums in the area between the Freer Gallery and the Castle that has come to be known as the Quadrangle. The Quadrangle became the home of both the Arthur M. Sackler Gallery (AMSG) and the National Museum of African Art (NMAfA), acquired by the Smithsonian at about the same time. The Congress agreed to appropriate half the funds required for the Quadrangle project, and Secretary Ripley undertook to raise the other half.<sup>42</sup>

Since AMSG opened in 1987, the Sackler collection expanded to include the Vever Collection (Islamic arts of the book from the 11th to the 19th century); 19th and 20th century Japanese prints and contemporary porcelain; Indian, Chinese, Japanese, and Korean paintings; the arts of village India; contemporary Chinese ceramics; and photography. In FY 2002, the collections contained close to 4,000 artworks.

The Sackler Gallery is connected by an underground exhibition space to the neighboring Freer Gallery of Art. Although their collections are stored and exhibited separately, the two museums share a director, administration, and staff. The joint Freer and Sackler Galleries Archives include primary source materials that support the galleries' activities in the study of the cultures and artistic traditions of the peoples of Asia. The archives also acquires original documentation to further the study of the late 19th and early 20th century American art collected by Freer. In FY2002, materials in the Archives amounted to nearly 1,000 cubic feet and were organized into over 140 collections. These materials included the personal and professional papers of preeminent art historians, archaeologists, artists, dealers, and collectors; letters; writings and journals; scrapbooks; clippings; drawings and sketchbooks; financial materials; rubbings and squeezes of inscriptions; photographs; oral history interviews; and films. The archives collections included over 125,000 images.

---

<sup>42</sup> Planning of the Quadrangle project had been underway since 1978 using unrestricted trust funds. In 1981, the first federal appropriation of \$960,000 was set aside for further planning.

## Cooper-Hewitt, National Design Museum

---

At the time of its transfer to the Smithsonian in 1968, the Cooper Union Museum for the Arts of Decoration had existed for over 70 years. Its parent organization, the Cooper Union for the Advancement of Science and Art, was founded in 1859 as a free school for the working classes of New York City. The purpose of the museum was to provide the art students of Cooper Union, students of design, and working designers with study collections of the decorative arts.

In 1963, the Cooper Union considered closing its museum for financial reasons and because of the absence of a close relationship between the programs of the museum and the art school. Public outcry and the findings from several studies instead led to the museum's transfer to the Smithsonian. Secretary Ripley had undertaken the acquisition without any formal consultation with the Regents or the Congress. In 1976, the Smithsonian reopened the collection in its present location, the renovated Carnegie Mansion, which also was transferred to the Institution. The Smithsonian renamed the museum the Cooper-Hewitt Museum of Decorative Arts and Design in 1969 and the Cooper-Hewitt, National Design Museum (C-HNDM) in 1994. In FY2002, C-HNDM's collections contained well over 200,000 objects, including three-dimensional ones from the decorative arts and product design (furniture, ceramics, glass, metalwork, and jewelry, with areas of interest in graphic design, industrial design, and architecture); drawings and prints; textiles, both woven and nonwoven, from ancient to contemporary times; 10,000 examples of wallpaper (the largest collection in the United States); and a 60,000-volume library including books, periodicals, catalogues, and trade literature dating from as far back as the 15<sup>th</sup> century.

## National Museum of African Art

---

The National Museum of African Art (NMAfA) evolved from the privately funded Museum of African Art, located between 1964 and 1987 at the Frederick Douglass house in Washington, DC.<sup>43</sup> The Smithsonian was approached about acquiring it when the museum outgrew its space, expanded its collections, and started incurring mounting expenses. Secretary Ripley favored the acquisition if federal funds would support its maintenance and future acquisitions. In 1979, when the Museum of African Art became part of the Smithsonian, its collections included some 8,000 artworks. In 1981, the Smithsonian renamed the museum the National Museum of African Art. In FY2002, the collections, which had not grown appreciably larger than when they came to the Smithsonian, included examples of African sculpture, costumes, textiles, musical instruments, and jewelry; numerous books on African culture and history; early maps of Africa; and educational materials.

In the 1970s, Eliot Elisofon, an internationally known photographer and founding trustee of the museum, bequeathed to NMAfA his African materials, consisting of more than 50,000 black and white photographs, 30,000 color transparencies, and 120,000 feet of unedited film footage. The bequest became the foundation for the Eliot Elisofon Photographic Archives. Since 1973, the archives' holdings had grown to include more than 180,000 color transparencies and 80,000 black and white photographs.

## HISTORY AND CULTURE COLLECTIONS

With the exception of the collections held by the Anacostia Museum/Center for African American History and Culture (AM/CAAHC) and the National Museum of

---

<sup>43</sup> At 1411 W Street, SE.

the American Indian (NMAI), the core collections of the history- and culture-related collecting units of the Smithsonian were spun off from USNM. The first spinoff was the National Air Museum, created by the Congress as a separate unit in 1946.<sup>44</sup> In 1957, as part of the reorganization of the Smithsonian undertaken by its eighth Secretary, Leonard Carmichael, USNM created two administrative subdivisions: the Museum of History and Technology — renamed the National Museum of American History (NMAH) in 1980 — and the Museum of Natural History, later named the National Museum of Natural History (NMNH). The USNM was eliminated as an administrative entity in 1967, and each of the subdivisions became a separate administrative unit. NMAI came to the Smithsonian in 1989 as a result of the serious financial problems of its predecessor Museum of the American Indian, Heye Foundation in New York City.

## major history and culture collections

---

### National Museum of American History

---

NMAH's collections date from the beginning of the Institution, when Secretary Henry assembled scientific apparatus for historical and demonstration purposes. In 1849, the Institution made a major purchase of fine arts prints, which became the nucleus of the graphic arts collections.<sup>45</sup> In 1858 and 1862, when the National Institute transferred its national collections to the Smithsonian, they included not only specimens from the US Exploring Expedition, but also various gifts to the

---

<sup>44</sup> The National Air Museum, now NASM, acquired the Wright Flyer in December 1948 and put it on display on the 45th anniversary of its flight.

<sup>45</sup> This collection differs from Smithsonian art museum collections in that its objects were chosen to illustrate technical and cultural developments in the history of printmaking, rather than for aesthetic considerations.

government from citizens and foreign heads of state (including the Historical Relics Collection of memorabilia associated with the founders of the republic). In the material that came from the Centennial Exposition of 1876, the Smithsonian received large and small objects celebrating industry and the machine. The history collections included philately, numismatics, political and military memorabilia, costumes, furnishings, technology, medical technology, textiles, graphic arts, photography, objects of everyday life, ceramics, glass, and musical instruments.

The first sharp differentiation among USNM's collections occurred in 1911. When the museum moved from A&I to the building that is now the National Museum of Natural History, it took the art and natural history collections and left the history collections behind. New donations quickly filled the vacated space in A&I. For example, in 1912 Mrs. William Howard Taft donated the gown she wore at the inaugural ball of President Taft, and in two years the exhibition of First Ladies' gowns contained 15 gowns.

American history at the Smithsonian found its champion in Frank A. Taylor, chief of the Department of Engineering and Industry and eventually director of USNM. He persuaded Secretary Carmichael to take up plans, originally proposed by Secretary Charles G. Abbot (1928-44), for two new buildings to house a history museum and a museum of engineering and industry.<sup>46</sup> Carmichael personally appealed to the Congress to fund these new ventures. He based his case in part on the fact that federal appropriations, aside from salaries, had decreased since 1933.<sup>47</sup>

In 1955, President Dwight D. Eisenhower signed a bill authorizing \$36 million for a National Museum of History and Technology, to be the sixth museum on the Mall. Secretary Carmichael viewed the start of construction of the first major building project on the Mall in 32 years as a major step toward meeting Smithson's "diffusion of knowledge" goal. He wrote in the Annual Report, "The strands that have been

---

<sup>46</sup> The plan was the dream of the chief curator of the Smithsonian's technological collections, Carl Mitman, Taylor's mentor.

<sup>47</sup> He also sought funds from the Congress for an expansion of NZP and NASM.



woven together in the making of our modern American civilization will be shown in a way that . . . will be unique and particularly appropriate to the special genius of our country.”<sup>48</sup> The building was completed in 1964. When USNM ceased to be an administrative entity in 1967, the National Museum of History and Technology became an independent museum within the Institution.<sup>49</sup> On October 13, 1980, President Jimmy Carter signed a bill authorizing the museum to change its name to the National Museum of American History.

Among the collections at NMAH, which totaled over 3 million objects in FY2002, the Numismatics Division held the greatest number of items (primarily money and some medals). The History of Science and Technology Division, with 400,000 artifacts, used the most space, as many of its holdings were large. Its collections covered agriculture and natural resources, armed forces history, computers and information technology, electricity and physics, engineering and industry, medical sciences, physical sciences and mathematics, and transportation. Social and cultural history collections included 250,000 items of ceramics and glass, community life, costumes, domestic life, graphic arts, musical history, political history, and textiles. The museum’s Archives Center included personal papers, business records, graphic materials, trade literature, photographs, information and reference files, oral histories and other sound recordings, published and unpublished music, films, and videotapes. The Center’s 850 distinct collections occupied about 12,000 linear feet of shelving in the NMAH building and offsite storage.

## National Air and Space Museum

---

The collections of what became the National Air and Space Museum (NASM) date back to the 1876 Centennial Exposition in Philadelphia, when the Smithsonian

---

<sup>48</sup> Cited in Chapter 9, *Stirrings*, of the online exhibition, *The Smithsonian: 150 Years of Adventure, Discovery, and Wonder*, based on Conaway (1995).

<sup>49</sup> By this time, the National Museum of History and Technology and the Museum of Natural History were already operating as separate entities and setting their own policies, even if reporting officially through the head of USNM.

received a group of kites from the Chinese Imperial Commission. Before the creation of the National Air Museum in 1946, the aeronautical collections were assigned to the custodial care of various divisions in USNM.<sup>50</sup> Major growth of the collections came with advances in space exploration in the 1950s and 1960s. In 1966, when the Congress authorized a separate building for the National Air Museum's collections, it renamed the facility the National Air and Space Museum. Prior to this, many of the collections had been housed in sheds adjacent to A&I known as the Air and Space Building; its outdoor missile display was known as "Rocket Row."

In FY2002, NASM held about 45,000 artifacts that document the history of flight, including planes, engines, rockets, uniforms, spacesuits, balloons, and artwork. NASM's Paul E. Garber Preservation, Restoration, and Storage Facility, which opened in Suitland, Maryland in 1952, housed the bulk of the collections until the Steven F. Udvar-Hazy Center near Dulles International Airport opened on December 15, 2003.<sup>51</sup>

NASM also held a wide range of visual and textual documentary materials that complement the object collections. Many of these materials emphasize the technical aspects of air- and spacecraft. NASM's Archives Division contains approximately 10,000 cubic feet of material, including an estimated 1.7 million photographs, 700,000 feet of film, and 2 million technical drawings.<sup>52</sup>

---

<sup>50</sup> The Department of Anthropology, Division of Mechanical Technology, 1887-1919; Department of Arts and Industries, Division of Mechanical Technology, 1919-31; and Division of Engineering, 1931-46.

<sup>51</sup> The Garber Facility, primarily paid for by the government, consisted of 19 metal buildings for airplanes, spacecraft, and their respective parts. One building was a large restoration shop, and three were used for exhibition production.

<sup>52</sup> Subsequent to the writing of this report, NASM was placed under the Under Secretary for Science.

## National Museum of the American Indian

---

The newest Smithsonian museum, the National Museum of the American Indian (NMAI), was established primarily to collect, preserve, and present the cultures of the indigenous populations of the Western Hemisphere. It is based on the collections of George Gustav Heye (1874-1952). Heye spent most of his life indulging an all-consuming passion for collecting objects from New World cultures. After considering various options for his growing collection, including association with an existing museum in New York, Heye established his own museum in New York City. A Foundation Deed established the Museum of the American Indian, Heye Foundation in May 1916. Article 1 describes the new institution as dedicated to

. . . the study of anthropology, particularly in connection with that of [the] aboriginal people of the Americas and the study of their languages, literature, history, art and life . . . [and the promotion of] the public welfare by actively advancing learning and providing means for encouraging and carrying on the before-mentioned work within the State of New York (Force 1999, 9).

The new museum was to contain objects “of artistic, historic, literary and scientific interest.” At the time, the collection contained about 400,000 items and was growing rapidly. By the time the museum’s building in New York City was completed in 1922, the collection had already outgrown it. In 1926, the museum opened a storage facility in the Bronx, funded by the trustees.

Within a few years of Heye’s death in 1957, the museum was in financial difficulty. Inaccurate accounting, conflicts of interest, and a series of scandals compounded the problems. The scandals, involving the board of trustees, related to objects deaccessioned “in a surreptitious and wasteful way.” A series of court cases, negotiations with various museums and individuals within and outside New York, and the involvement of US senators (and ultimately the whole Congress) eventually

led to enactment of the National Museum of the American Indian Museum Act in 1989 (*Stats. at Large of the USA* 1989 103:1336), which transferred the collections to the Smithsonian Institution.

At the time of the transfer, the collection had grown to about 800,000 items, the largest collection of its kind in the world. As of FY2002, NMAI's artworks and other objects included carvings in wood, horn, and stone from the Northwest coast of North America; dance masks from the American Southwest; textiles from Peru, Mexico, and the United States; basketry from the American Southeast and Southwest and Peru; pre-Columbian goldwork from Mexico and Peru; jade objects made by the Olmec and the Maya; carved Inuit masks; Aztec mosaics; feather work from the Amazon; and painted hides and garments from the North American Plains. In addition, the NMAI Archives, located in NMAI's Cultural Resource Center in Suitland, Maryland, had a photographic collection of 125,000 images; 7,000 films and videos; and texts that document the museum's history and collections.

A set of conditions accompanied the transfer to the Smithsonian, many of which have already been fulfilled. The act sent the assets of the Heye Foundation to the Smithsonian, which assumed responsibility for their housing and care. In addition to the Cultural Resource Center and the museum on the Mall, NMAI maintains, as legally required by the 1989 transfer agreement, a presence in New York City: the George Gustav Heye Center in the US Custom House, where it displays some of the collections. Funding for construction of the Mall museum and the Cultural Resource Center was a joint responsibility of the Congress and the Smithsonian.

## National Postal Museum

---

In 1990, the new National Postal Museum (NPM) took over NMAH's National Philatelic Collection. Several years later, NPM moved into the lower level of the newly renovated Washington City Post Office. NPM has what is for the

Smithsonian a novel financial arrangement: the United States Postal Service paid for the building renovation and contributes more than half of NPM's operating costs. In FY2002, NPM's collections of over 13 million objects consisted primarily of stamps, but also included objects related to postal history, stamp production, and mail delivery, such as postal stationery that predates stamps, vehicles used to transport the mail, mailboxes, meters, covers, greeting cards, and letters.

## **additional history- and culture-related collections**

---

All of the museums and galleries discussed thus far had their origins in collections — either new acquisitions or spinoffs from existing Smithsonian collections that became the core of separate units. However, two Smithsonian organizations with a focus on history and culture arose from ideas about public service, rather than from collections: the Center for Folklife and Cultural Heritage (CFCH) and the Anacostia Museum and Center for African American History and Culture (AM/CAAHC).

### **Center for Folklife and Cultural Heritage**

---

The first annual Festival of American Folklife took place on the National Mall in 1967. The festival was an effort on the part of Secretary Ripley to attract public attention to the Smithsonian and to provide visitors with interesting experiences while teaching them about a variety of cultures. When first discussing the Festival, Ripley told the Regents, “Although it has the world’s largest collections of American folk artifacts, the Smithsonian, like all museums in our nation, fails to present folk culture fully and accurately.” The Festival’s originating organization, the Division of Performing Arts, became the separate Office of Folklife Programs in 1980, and was renamed the Center for Folklife and Cultural Heritage in 1992. CFCH’s annual

festivals on the Mall present some of the fruits of the Center's research to the public, and celebrate national and international folklife.

In FY2002, the center held some object collections, consisting primarily of crafts and artworks donated by festival participants. The Center also maintains the Ralph Rinzler Folklife Archives and Collections, which includes two major components: the Moses and Frances Asch collection of original recordings, business records, correspondence, and photographic materials (which came to the Smithsonian with the purchase of Folkways Records in 1987); and the written, audio, and visual records of projects and exhibits sponsored by the center (in particular the annual Folklife Festival). In addition to millions of documents, these collections included approximately 17,300 commercial discs, 4,000 acetate discs, 45,000 audiotapes, 2,000 CDs, 1,000,000 still images, 2,000 videotapes, and 500,000 feet of film.

### **Anacostia Museum/Center for African American History and Culture**

---

In the fall of 1967, the Smithsonian opened the Anacostia Neighborhood Museum as an “an experimental store-front museum” with an emphasis on public programs and community service, rather than collections and research. When the Smithsonian established the museum, the Anacostia Historical Society undertook to collect oral histories and archival materials, which it subsequently gave to the museum. In 1977, the museum's mission was expanded to encompass national and international African American history and culture; with that change in mandate, it began collecting. The museum first used original artifacts in the 1979 exhibition, *Out of Africa: From West African Kingdoms to Colonization*.

In April 1987 the Museum changed its name to the Anacostia Museum to reflect its broadened mandate to examine, preserve, and interpret African American history and culture not only locally and regionally, but nationally and internationally as well.

In FY1995, the Smithsonian's National African American Museum Project became part of the museum's administrative structure and was renamed the Center for African American History and Culture. The Center mounted about two years of exhibitions at the A&I building. In FY1996, the unit began using the joint name, and is now known as the Anacostia Museum/Center for African American History and Culture. In FY2002 its collection included over 7,700 objects, including decorative arts, textiles, glassware, and anthropological material related to African American history and culture, as well as extensive archival and oral history materials.

## SCIENCE COLLECTIONS

### science museum collections

---

Natural history collections dominated the Smithsonian — in size, scope, and importance — for most of its first century. As of FY2002, natural history collections accounted for about 88 percent of the Institution's object holdings. As discussed, some of the science collections had their origin in the scholarly interests of the early Secretaries or in legislation authorizing their transfer to USNM. The legislation establishing USGS in 1879 reinforced USNM's role as the federal repository for natural history items. Depositing federally-owned collections of rocks, minerals, soils, fossils, biological specimens, and other natural history objects, as well as objects of archaeology, ethnology, and anthropology, at NMNH after the originating federal agency no longer needs them for investigation or research makes them available to the wider research community and the public. The 1879 legislation and subsequent interpretation emphasize that federal agencies were to bring their natural history materials to USNM's (and later, NMNH's) attention — that is, to make it aware of the availability of materials — but the Smithsonian can decide whether to accept them into its collections.

The Smithsonian Institution Archives (SIA) has copies of hundreds of memoranda of understanding and memoranda of agreement between various government agencies and the Secretary of the Smithsonian concerning this repository role. The parties to these agreements review, reissue, and modify them periodically. For example, a memorandum of understanding between the National Park Service (US Department of the Interior) and the Smithsonian relates to archaeological and paleontological surveys within reservoir areas carried out under the Historic Sites Act of August 21, 1935 (*16 USC Sec. 461-67*).<sup>53</sup> The document, reviewed on a three-year cycle, spells out cooperative arrangements between the two organizations in carrying out the work, and specifies materials to be deposited in USNM. Another example is a 1989 memorandum of understanding between the Systematic Entomology Laboratory of the Agricultural Research Service (US Department of Agriculture) and the Department of Entomology at NMNH. The introduction to this document notes that these organizations and their predecessors have worked together since 1881. During that time, they developed one of the largest insect collections in the world, comprising more than 30 million specimens. The memorandum of understanding spells out mutual responsibilities related to space, facilities, collections, budget, supplies and equipment, cooperation and communication, and review and oversight.

## National Museum of Natural History

---

As noted, in 1957 the Smithsonian divided USNM into two administrative subdivisions, one of them being the Museum of Natural History and the other, the Museum of History and Technology. After the completion of a separate building for the latter, the Museum of Natural History took over all of the former USNM facility — the current Natural History Building directly across the Mall from the Castle. In

---

<sup>53</sup> The Historic Sites Act can be viewed at <http://www.cr.nps.gov/local-law/hsact35.htm>.



the first half of the 1960s, the museum added wings to the east and west sides of the building to house laboratories, research collections, and offices for the scientific staff. The new space opened in 1965. In 1967 the Museum of Natural History became an independent unit within the Smithsonian, and in 1969 it was renamed the National Museum of Natural History.

Within NMNH, as of FY2002 more than 125 million specimens and artifacts were under the supervision of four major departments: Anthropology, Mineral Science, Paleobiology, and Systematic Biology. The paleobiology collections included 41.5 million flora and fauna fossil specimens ranging in size and variety from foraminifera (microscopic organisms on slides) to skeletal remains of dinosaurs. The Department of Systematic Biology consisted of Botany, Entomology, Invertebrate Zoology, and Vertebrate Zoology. Of these, the Invertebrate Zoology collections were the largest, consisting of 33 million marine, freshwater, and terrestrial specimens from all major invertebrate groups, including sponges, crayfish, mollusks, and worms. The Entomology collections were next in size, with about 31 million specimens that include all known orders of insects. The Vertebrate Zoology collections contained 9 million mammals, birds, fish, and reptiles, as well as birds' eggs and nests, fur pelts, and elephant skulls. The Botany collections included approximately 5 million algae, flowering plants, pressed specimens, and microscopic plants. The Mineral Science Department collections held, among the 325,000 gems, minerals, rocks, and meteorites, some of the museum's best-known objects, such as the Hope Diamond.

Finally, and somewhat different from the others, in FY2002 the collections of the Department of Anthropology (including Archaeology, Ethnology, and Physical Anthropology) had 2 million specimens, artifacts, documents, photographs, and film records representing cultures from around the world. An ultimately unsuccessful attempt to separate these collections from NMNH was made in August 1968, when Secretary Ripley directed that the Museum of Natural History be known as the Museum of Natural History/Museum of Man to obviate concerns about exhibiting non-Western cultures in a natural history museum. In the April 1974 issue of *Smithsonian* magazine, Ripley advocated an education that teaches "a familial oneness

with the world.” Ripley’s dream was a Museum of Man separate from NMNH. This dream remains unrealized.

In 1975, as part of Ripley’s plan, the Smithsonian set up what is today the Human Studies Film Archives under the name of the National Anthropological Film Center of the Smithsonian’s Museum of Man. In 1981, this became part of NMNH’s Department of Anthropology and was renamed the Human Studies Film Archives. NMNH’s separate National Anthropological Archives collects and preserves historical and contemporary anthropological materials, which included, as of FY2002, manuscripts, field notes, correspondence, photographs, maps, sound recordings, film, and video created by Smithsonian and non-Smithsonian anthropologists and scholars; records of anthropological organizations; about 400,000 photographs, including some of the earliest images of indigenous peoples worldwide; and 20,000 works of native art, mainly from North America, Asia, and Oceania.

While the majority of the museum’s collections were in the Natural History Building on the Mall, NMNH had moved items that required more physical space or better environmental conditions into storage in the Museum Support Center (MSC) in Suitland, Maryland, which was opened in 1983. Both the National Anthropological Archives and the Human Studies Film Archives were also moved to the MSC. The Smithsonian opened this government-funded facility for the storage and maintenance of the vast natural history and technology collections.

## National Zoological Park

---

In 1889 the Congress created the National Zoological Park for “the advancement of science and the instruction and recreation of the people.” In its first half century, NZP, like most of the world’s zoos, focused principally on exhibiting one or two representatives of as many exotic species as possible. But as the fate of the earth’s

animals and plants became a more pressing concern, zoos began to concentrate on the long-term management and conservation of entire species.

In the early 1960s, NZP turned its attention to breeding and studying threatened and endangered species. In 1965 it created a Zoological Research Division to study the reproduction, behavior, and ecology of zoo species. While primarily based in the zoo's 163-acre Rock Creek Park facilities, the zoo also maintained rare and endangered species at its 3,200-acre Front Royal, Virginia breeding preserve, the Conservation and Research Center. The Center came to the Smithsonian as an interagency transfer in 1975, during the tenure of Secretary Ripley.

Decisions about animal exhibitions made by senior managers have led to a major decrease in the collections in the 20 years prior to the beginning of this century. The focus has been on developing a BioPark, a concept for zoo exhibits that is intended to dramatically reveal “whole ecosystems — communities of plants and animals living in harmony with their environments.” At the end of 2002, NZP's animal collections as a whole included 2,650 specimens, representing 419 species from around the world.

## Horticulture Services Division

---

Horticulture appeared quite early in the Smithsonian's history. For example, one of the proposals for the use of Smithson's funds was an institution that would emphasize the “useful sciences” of natural history, chemistry, geology, and astronomy, but above all agricultural science. A bill, introduced in 1845 by Senator Benjamin Tappan of Ohio, called for the creation of professorships and lecturers with expertise in the productive and liberal arts, especially improvements in agriculture, horticulture, and rural economy.

A few years later, in 1848, the Congress passed an Act for the Improvement and Care of the Smithsonian Institution Grounds by the Government (Goode 1897, 834). For the next 125 years, the Smithsonian viewed horticulture as part of its maintenance programs. In 1972 the Smithsonian set up the Office of Horticulture to manage the grounds of Smithsonian buildings near the Mall. The Smithsonian did not, however, recognize horticulture as an official museum program until 1976. In 1991, responsibility for horticulture was moved to a Horticulture Services Division (HSD) within the Office of Plant Services.

As of FY2002, HSD held an orchid collection that numbered about 10,000 specimens, including rare and endangered species, as well as a collection of garden furniture and artifacts. In addition, in 1983, the Office of Horticulture Library was established within the Smithsonian Institution Libraries. In March 1987, the Garden Club of America donated its Slide Library of Notable American Parks and Gardens to the Smithsonian.<sup>54</sup> This collection of over 80,000 images, including more than 3,000 rare, hand-painted glass lantern slides, was the first visual archive of American garden design to be assembled nationwide.

## scientific research centers

---

Several Smithsonian research centers not officially designated as collecting units also have collections, both virtual and physical, that are integral to their work: SAO, Smithsonian Tropical Research Institute (STRI), Smithsonian Environment Research

---

<sup>54</sup> The Garden Club of America, established in 1913, states that its purpose is "...to stimulate the knowledge and love of gardening, to share the advantages of association by means of educational meetings, conferences, correspondence and publications, and to restore, improve, and protect the quality of the environment through educational programs and action in the fields of conservation and civic improvement (<http://www.gcamerica.org/index.php3>)."

Center (SERC), and Smithsonian Center for Materials Research and Education (SCMRE).

## Smithsonian Astrophysical Observatory

---

When Secretary Langley established SAO in 1890, he specified that its research should focus on solar radiation and the solar constant. Langley served as SAO's director until his death in 1906. Secretary Abbot succeeded him, and under his direction SAO established several solar observation stations in the United States, South America, and Africa to continue solar radiation research.

In 1955, SAO moved from Washington, DC, to Cambridge, Massachusetts, to affiliate with the Harvard College Observatory and to expand its staff, facilities, and scientific scope. Fred Whipple, the first director of SAO under this new arrangement, helped create a worldwide satellite-tracking network, a move that established SAO as a pioneer in space science research. In 1973, the Smithsonian and Harvard strengthened and formalized their collaboration by the creation of the joint Harvard-Smithsonian Center for Astrophysics.

SAO collects incoming data streams from ongoing experiments. Its scientists analyze these data and make them available for further research. For example, the HITRAN (high-resolution transmission molecular absorption) database, begun in the 1960s, is a compendium of the spectroscopic absorption frequencies of the known components of the earth's atmosphere. SAO adds new data to HITRAN as they become available from its experiments and those of others. A SAO researcher maintains the database, which can be downloaded from an Internet site.

On behalf of the National Aeronautics and Space Administration (NASA), SAO maintains the Astrophysics Data System, which has an archive of astronomy

literature, available through a searchable interface, that includes more than 3 million abstracts of journal articles, conference proceedings, reports, and theses divided into databases by content (Astronomy, Space Instrumentation, Physics, Geophysics, and Preprints). The system also includes 3 million scanned pages covering all of the major astronomy journals and many smaller ones.

In addition to the Astrophysics Data System, SAO maintains the Einstein Observatory Data Archive and the Chandra Data Archive. The Einstein archive consists of x-ray images obtained by the Einstein Observatory Satellite from November 1978 to April 1981. In FY2002, images and spectra of more than 4,000 astronomical objects were in the database. The Chandra Data Archive contains almost all information and data generated by NASA's Chandra X-ray Observatory (launched on July 23, 1999), as well as observation catalogues, telemetry, processed data, final data products, and calibration data. The Astrophysics Data System links observations to publications in the professional literature. (In general, observations proposed by members of the astronomical community remain proprietary for a year and then are released to the public domain.)

## Smithsonian Tropical Research Institute

---

STRI originated with a research laboratory established in 1923 on Barro Colorado Island in what was then the Panama Canal Zone. Under the auspices of the National Research Council, a group of private foundations and universities, including the Smithsonian, set up the laboratory to investigate the flora and fauna of tropical America. In 1940, an act of the Congress placed the facility under the control of a board composed of prominent scientists and the heads of certain (federal) executive departments. In 1946, the operation was transferred to the Smithsonian and dedicated to conducting long-term studies in tropical biology. In 1966 the Smithsonian renamed the facility the Smithsonian Tropical Research Institute and

expanded its scope by extending its research to other areas in the tropics and by establishing a marine sciences program, with laboratories on both the Atlantic and Pacific coasts of Panama. STRI has continued to expand its work in the tropics and conducts research throughout Latin America, Asia, and Africa.

Research conducted at STRI has led to the establishment of biological collections. For example, STRI has a reference herbaria for the flora of Panama, a dry collection that, as of FY2002, held 13,000 specimens representing approximately 4,000 species of higher plants. STRI's Herpetological Collection Room included approximately 4,700 species preserved in ethanol. Approximately 4,300 of them were from the *Círculo Herpetológico de Panama's* reference collection, which was the biggest and most complete in the country and included the majority of reptile and amphibian families in the Republic of Panama. Individual collections include weevils, bees, beetles, and wasps and their nests.

## Smithsonian Environmental Research Center

---

SERC was established on July 1, 1983, when the Smithsonian merged its Radiation Biology Laboratory with its Chesapeake Bay Center for Environmental Studies. The former was an outgrowth of an older Smithsonian research entity, the Division of Radiation and Organisms, established by Secretary Abbot in 1929. In 1970, the Radiation Biology Laboratory relocated from the old Astrophysical Observatory buildings in the south yard of the Castle to facilities in Rockville, Maryland. The Chesapeake Bay Center for Environmental Studies evolved from the Chesapeake Bay Center for Field Biology, which was established by the Smithsonian in 1965 to conduct research and promote education in ecosystem biology. It was located at the Java Farm, a 368-acre tract of land in Edgewater, Maryland on the western shore of the Chesapeake Bay; Robert Lee Forest had bequeathed the tract to the Smithsonian in 1962. With funds contributed by private foundations, the center grew to 2,900 acres, including 14 miles of shoreline on the Rhode River. In 1969, the center changed its name to the Chesapeake Bay Center for Environmental Studies.

SERC is dedicated to understanding the ecological processes that sustain life at the land/sea margin. Its research focuses on the major environmental challenges in the coastal zone, where human populations — and their environmental impact — will be the most concentrated in the 21st century. SERC maintains important biological collections onsite in relation to its work on invasive biology and animal disease, fisheries, and related science.

### **Smithsonian Center for Materials Research and Education**

---

The Smithsonian established a Conservation Laboratory in 1963 to provide technical support to museums in the analysis and conservation of collections. Renamed the Conservation Analytical Laboratory in 1966, its focus broadened to include the study and treatment of collections, as well as research and education in conservation and scientific studies of collection materials. In 1998, the Board of Regents renamed the laboratory the Smithsonian Center for Materials Research and Education to better reflect its expanded mission.

SCMRE serves national and international professional audiences and has both object and archival collections. In FY2000, SCMRE's object collections consisted of 21,100 items, almost all classified as for professional study; less than 1 percent were for public programs/education. At that time, SCMRE's archival collections consisted of 380,000 items, 89,000 titles, and 427 linear feet of items.

## **ARCHIVES AND LIBRARIES**

Archives — depositories containing historical records and documents — have been part of the Smithsonian since its establishment. The documents, historical records,



and related materials pertaining to the history and operations of the Smithsonian itself are the responsibility of SIA. At present, almost all of the subject-oriented archives are administered by their associated Smithsonian units and have been discussed in that context. The following sections discuss two independent archives, SIA and the Archives of American Art (AAA). The last section looks at the Smithsonian Institution Libraries (SIL).

## archives

---

### Smithsonian Institution Archives

---

Smithsonian archival activities began with the Institution's creation, following the language in the Act of August 10, 1846 (Section 7) that the Secretary of the Board of Regents shall "make a fair and accurate record of all their proceedings, to be preserved in said institution." The Office of the Secretary fulfilled this function, which it delegated to a Chief Clerk. SIA originated in 1891, when the Institution's Chief Clerk was given the title Keeper of the Archives, a position held by William Jones Rhees until his death in 1907. For the next 50 years, administrative staff of the Office of the Secretary cared for both current and historical Institutional records and files. Natural growth of archival records, the employment of archivists, and an increasing separation of functions within the Institution led to the Smithsonian to make SIA a separate entity in 1965. The Archives moved to new space in the Castle in 1970 and then to A&I in 1976. By the late 1980s, when its shelf space in A&I stacks was filled, SIA leased about 6,000 square feet of warehouse space at Fullerton Industrial Park in South Springfield, Virginia.

The last printed *Guide to the Smithsonian Archives*, issued in 1996, describes more than 1,100 record units consisting of 15,500 cubic feet of archival material. In FY2002,

SIA reported over 24,000 cubic feet of materials to the National Collections Program. Almost three fourths of SIA's records were stored at the National Underground Storage facility in western Pennsylvania. The rest remained on the Mall or elsewhere in the Washington, DC area.

SIA consists of four divisions: Archives, Institutional History, National Collections Program (NCP), and Technical Services. The Archives Division collects and maintains official records of the Smithsonian, and papers of associated individuals and organizations.

The Institutional History Division is responsible for research, public programs, publications, and exhibits on the history of the Smithsonian. The Division's Oral History Program documents the careers of Smithsonian staff; its collections include audio, video, and transcripts from interviews with more than 600 people, such as staff, individuals affiliated with the Institution, and volunteers. The Division's Smithsonian Videohistory Collection provides visual information about the history of science and technology. Its Joseph Henry Papers Project has produced nine volumes of the unpublished papers of the first Smithsonian Secretary, and two more volumes are planned.

NCP, which assumed some of the functions of the Office of the Registrar when the latter was abolished, develops policy guidance and standards for care and management of Smithsonian collections. It also gathers and publishes information from the units on the collections and their management.

The Technical Services Division provides support to SIA and other Smithsonian units in the preservation of records in all formats. This includes areas such as the environment and security of archival collections, proper housing and shelving of records, reformatting of selected materials, and training. In recent years, SIA has moved to an electronic records program and launched a website.

## Archives of American Art

---

AAA was founded in 1954 at the Detroit Institute of Arts and transferred to the Smithsonian in 1970, primarily for financial reasons. In its 50-year history, the unit has had regional offices in Detroit, New York, Boston, San Francisco, and San Marino, California. At the time of this writing, it had a central office in Washington and research centers in New York and San Marino.

AAA's collections are the world's largest source of primary materials documenting the history of the visual arts in America from the 18th century to the present. Its collections contain letters, diaries, sketches and sketchbooks, photographs, exhibition catalogues, scrapbooks, business records, art periodicals, and other types of documents, totaling over 15,000 cubic feet of materials.

## libraries

---

### Smithsonian Institution Libraries

---

In 1881, Secretary Baird, frustrated over access issues to the Smithsonian Deposit at the Library of Congress, donated his extensive personal library to establish a USNM Library in A&I. This was the beginning of today's SIL. In addition, Baird created 13 satellite "working" libraries in curatorial areas; these eventually grew to 35. By 1964, when a major reorganization took place, the internal libraries contained over 430,000 volumes in nearly 80 locations spread among seven cities. SIL also houses two rare books libraries. The first of these, the Dibner Library of the History of Science, now located at NMAH, started with a 1975 gift of 10,000 scientific rare books and

manuscripts. The second, the Joseph F. Cullman III Library of Natural History, opened in 2002 in NMNH.

A reorganization of the Smithsonian libraries took place shortly after Secretary Ripley assumed office in 1964. The first incumbent of the newly created position of Director of SIL, Russell Shank (1968-77), reported directly to the Secretary. When he assumed that position, Shank found that more than half of the holdings were not catalogued and large portions were deteriorating and in disarray.

SIL implemented its first online catalog with public access in 1985. Like libraries elsewhere, SIL has incorporated electronic media into its collections and has used the Internet as a vehicle for sharing collections and providing services. Records for 97 percent of SIL holdings are now available on the Internet through the Smithsonian Institution Research Information System (SIRIS).

In FY2002, SIL consisted of 20 libraries in one system supported by a combined online catalog. The library collections included more than 1 million books, 15,000 current journals, and 1,800 manuscripts, totaling almost 1.5 million volumes. Fundamentally different from the original Smithsonian library, the main purpose of SIL is to support the work of Smithsonian researchers and other staff.

## COLLECTIONS GUIDANCE

All Smithsonian units have mechanisms for acquiring materials, maintaining records, and refining collections. This section provides a brief historic overview of collections selection, documentation, and disposal guidance,<sup>55</sup> followed by a summary of past reviews of collections and their management at the Smithsonian.

---

<sup>55</sup> These are elements of “collections management,” defined as “the deliberate development, maintenance, preservation, documentation, use, and disposition of collections (Smithsonian Institution 2003a).”

## managing the Smithsonian's collections

---

### registrarial records and the Office of the Registrar

---

Registrarial records have existed since the Smithsonian's establishment. In fact, the collections transferred by the National Institute came with accession records. However, the information in these records was not uniform, although it was generally based on what were widely considered best practices in the museum and research communities at the time. The provenance information entered in the accession records varied widely in the early years. It is uncertain who was responsible for maintaining those records between 1846 and 1880.

In 1880, just before the opening of the National Museum Building, Stephen C. Brown was appointed registrar of USNM, a position he held until his death in 1919. As registrar, his responsibilities included shipping, accession, storage, and distribution of items. He was also responsible for checking that the Smithsonian had legal title to materials in its collections, reviewing their provenance and condition, and providing information (including the names of donors, accession numbers, and descriptions of specimens accessioned) to be included in the Smithsonian's Annual Report. Upon Brown's death, most functions were assigned to the chief of the Division of Correspondence and Documents, but shipping fell to the Property Clerk. Registrarial functions remained with the Division until 1956, when it was renamed the Office of the Registrar.

In the early 1970s, the Smithsonian reconsidered the role of the Office of the Registrar, and in 1973 created a Registrarial Council (later renamed the Council of Registrars) to study museum registration problems and recommend changes to improve registration and control within the Institution. In 1976, it reconstituted the

Office of the Registrar to give it responsibility for oversight of Institution-wide collections management issues. By this time, each unit had established its own registrar to ensure proper documentation of all accessions and to work with curators to ensure security of and access to collection items. Before this time, as independent units were established within the Smithsonian, documentation accompanied the move of collections.

In 1993 the Smithsonian abolished the Office of the Registrar and transferred some of its functions to NCP, which now coordinates policy reviews and revisions.

### **collections management policies**

---

In developing its collection management policies, the Smithsonian was guided by the American Association of Museums (AAM) and other professional associations. AAM began work on professional guidelines in the 1960s. Before that time, individual museums used internal memoranda based on professional practice to guide collections management. The Freer Gallery's procedures dated back to 1919, while the charters of NPG and HMSG included accession controls. SAAM developed its policy in 1964, and revised it in 1965 and 1970. C-HNDM prepared its policy after it joined the Smithsonian in 1969; NASM did so in the late 1960s.

The two museums that emerged from USMN — NMAH and NMNH — did not have written collections management policies until the 1970s. This was not an oversight, but was based on a philosophical position originating with Secretary Henry that the fundamental mission of the Smithsonian was research, collections existed to support research, and therefore it was the responsibility of individual curators and researchers to make collections-related decisions. Nonetheless, by the 1970s the leadership of both museums recognized that an increase in staff, and the growing costs of maintaining and storing collections, necessitated peer and

administration review of proposed acquisitions. The policies that were developed included management of existing collections.

In 1976, Secretary Ripley appointed a committee to review the Institution's existing policies and procedures with respect to collections growth, as part of preparing a response to an inquiry by the Office of Management and Budget (OMB). OMB's questions arose from its review of the Institution's request for funding of a new collections facility, which was expected to cost \$21.5 million. In its report, the committee stated that existing policies lacked "collecting objectives, a periodic review of the status of collections and impact that collections have on space allocation and staffing, and lastly, Institutional coordination (Smithsonian Institution 1977)." It recommended that the Smithsonian develop Institution-wide procedures. The reconstituted Office of the Registrar assumed responsibility for the review of policies developed by the museums and for compliance. The incumbent registrar served as permanent chair for the Council of Registrars, and also chaired the Collections Policy and Management Committee created in spring of 1976 by Secretary Ripley to carry out a study of collections policy and management.

The Smithsonian issued the first Institution-wide collections management policy — Office Memorandum (OM) 808: Collections Management Policy — in 1980. In 1999 the Board of Regents approved an umbrella statement on collections management. Two years later, in 2001 the Secretary issued a revised Smithsonian Directive 600 Collections Management (SD 600) that establishes collections management policy intended to ensure operations consistent with the Regents' statement. It replaced OM 808. In October 2003, NCP issued a draft implementation manual for SD 600 (Smithsonian Institution, Smithsonian Institution Archives, National Collections Program 2003).

## refused collections

---

It is generally agreed that rejecting items or collections — that is, not acquiring them in the first place — is preferable to subsequently having to dispose of them. The Smithsonian's history includes many instances of rejections of major donations, although evidence on the extent to which Smithsonian units have rejected materials on offer is largely anecdotal.<sup>56</sup> For example, in 1927, then Assistant Secretary Alexander Wetmore, in discussing USNM, stated that

new materials come at the average rate of 200,000 specimens per year, with a refusal of an equal or greater number that are not judged to be of permanent value, or that have to be refused for other reasons (i.e., because of stipulations that cannot be met) (Smithsonian Institution 1927).

Studies conducted for the 1976 review committee established by Secretary Ripley found rejection rates of about 50 percent in NMNH's Anthropology Department, and even higher rates (84-94 percent, depending on the object type) in NASM's Aeronautics Department.

In January 1969, Marjorie Merriweather Post, the owner of Hillwood, a 25-acre estate in northwest Washington, bequeathed it to the Smithsonian. Hillwood houses the finest collection of Imperial Russian art of the 18<sup>th</sup> and 19<sup>th</sup> centuries outside of Russia. Over the next several years, Smithsonian management determined that it lacked the financial resources to operate a Hillwood museum in accordance with the terms of the bequest. In 1976, Secretary Ripley announced that the Smithsonian would transfer ownership of Hillwood to the Marjorie Merriweather Post Foundation.

---

<sup>56</sup> A list of the dozens of small museums that have been offered to the Smithsonian does not exist, but in principle such a list could be created from SIA and congressional records (Pamela Henson, personal communication to Z.D. Doering, September 29, 2003).



As a final example, in August 1961, Public Law 87-186 established the National Armed Forces Museum Advisory Board to assist and advise the Board of Regents, and to recommend the acquisition of land and buildings for this purpose. In January 1965, the Board recommended to the Regents that the Institution create a National Armed Forces Museum on a 340-acre tract bordering the Potomac River in Fort Washington, Maryland. The Regents approved the recommendation to establish the museum, but follow-up during and after the war in Vietnam did not take place.

### transfers to outside organizations

---

The early history of the Smithsonian includes examples of research and operations that the Smithsonian transferred to other government agencies, but where collaborative relationships remained. For example, in 1847, under the direction of Secretary Henry, the Smithsonian began collecting records of meteorological observations and developed a system of obtaining weather data from voluntary observers throughout the country. In 1873, the Smithsonian transferred the services of these observers to the weather service of the Signal Corps, and subsequently to the US Department of Agriculture (USDA).<sup>57</sup>

The Smithsonian's second secretary, Spencer Baird, aware of concerns about the decline of coastal fisheries off the southern New England states and northwest coast, perceived an opportunity to "bring science directly into the service of the nation by improving its food resources." In 1871, he persuaded the Congress to create the US Commission of Fish and Fisheries, with himself as its unsalaried head. In its early years, the commission operated almost as a *de facto* bureau of the Smithsonian. Upon Baird's death in 1887, Goode became acting commissioner until a permanent successor could be named. Shortly thereafter, the commission became an independent agency with salaried positions. Then, in 1903, it became the Bureau of

---

<sup>57</sup> While there, the US Weather Bureau became a civilian-operated meteorological service. It was transferred to the Department of Commerce in 1940, and its name changed to the National Weather Service in 1970.

Fisheries in the Department of Commerce and Labor, and in 1940 it was incorporated into the newly formed Fish and Wildlife Service.

In 1869 the Smithsonian sent its fungus collections to the Department of Agriculture as the foundation of what was first known as the Pathological Collections. Later these collections were renamed the Mycological Collections and finally, the US National Fungus Collections.<sup>58</sup> These are now split between Smithsonian and the Agriculture Research Service and contain over 1 million specimens of agriculturally important fungi.

As a final example, in 1870 John Wesley Powell, professor of geology and curator of the museum of the Illinois Wesleyan University at Bloomington, was put in charge of a congressionally mandated survey that in 1876 became known as the Geographical and Geological Survey of the Rocky Mountain Region. For a time associated with the Smithsonian and located in the USNM building, in 1874 it was transferred to the Department of the Interior, ultimately becoming USGS.<sup>59</sup>

In each of these cases, as well as others that could be cited, “mission-oriented” work was moved to a separate government agency, while basic research remained at the Smithsonian, with collaboration continuing to this day.

## reviews of the Smithsonian collections program

---

Aside from regular meetings of the Board of Regents, the Smithsonian Institution has periodically undertaken reviews of its activities and future directions that, to varying degrees, have addressed collections. These reviews discussed many of the

---

<sup>58</sup> These changes in title reflected a broadened role. Several years ago, USDA’s Agricultural Research Service made available a new database compiled by its mycologists that contains records for 650,000 specimens.

<sup>59</sup> Powell also served as director of the Smithsonian’s Bureau of Ethnology from 1880 until his death in 1902.

same challenges the Smithsonian faces today, such as those dealing with collections preservation, personnel, and space. The need for clear policies on future collections acquisitions was also at the forefront of these discussions. These reviews stressed research as the priority of USNM and contemplated the role of government funding in the future of the Smithsonian. Three reviews of particular relevance are discussed here.

### the 1927 review

---

Eighty years after the establishment of the Smithsonian, in February 1927, a conference on the future of the Smithsonian was held “to advise with reference to the future policy and field of service of the Smithsonian Institution (Smithsonian Institution 1927, 3).” Attendees included President Calvin Coolidge, the Board of Regents (with William Howard Taft, chief justice of the United States), officers of the Institution, and 40 conferees (primarily scientists and university presidents). At the time, Abbot was the Smithsonian’s Acting Secretary and Wetmore was the Assistant Secretary. In enumerating the achievements of the Institution, the proceedings listed the seven “government bureaus” that the Smithsonian had established and was then administering: USNM, Bureau of Ethnology, NZP, SAO, Bureau of International Exchanges, Bureau of the International Catalogue of Scientific Literature, and (Smithsonian) National Gallery of Art. Also noted were the Weather Bureau and US Fish Commission, which the Smithsonian originated but no longer administered.

Presentations by the Chancellor and Smithsonian staff summarized the history of the Institution and emphasized its independence from the government, as well as the need for additional funds with which to carry out its work. The presentations also outlined the Institution’s proposed plans with respect to research. Acting Secretary Abbot saw the resource demands for the collections as competing with the very value and purpose of such collections:

A great parent of [scientific research] in America has been the Smithsonian Institution, and with the great and constant increase of its collections the duty of pushing on this basic research becomes more and more pressing. Yet in the enormous collections of the United States National Museum, built up by and now under the direction of the Smithsonian, repose millions of specimens unexamined, unclassified, undescribed and so useless because the Smithsonian has no means to devote thereto (*ibid.*, 29).

It was also warned that a lack of funds threatened the Institution's ability to attract talented scientists who might benefit from the collections and extend their usefulness. In Abbot's words, "We have among us the world's acknowledged leaders of several branches of science who have never achieved a compensation exceeding \$5,200 per annum. Had they been equally eminent in other activities, industrial, commercial, artistic or even in sports, they would have achieved fortunes (*ibid.*, 36)."

In the comments made by conferees, there was complete support for encouraging the Institution to seek additional funds, both private and public. For example, William Henry Welch, a noted physician and former president of the National Research Council, pointed out that, as he understood it, "the Government undertakes the maintenance . . . I am told not adequately of these collections. Why should it not be appealed to also to support the study of the scientific material which is gathered here (*ibid.*, 67)?" The then-president of the American Museum of Natural History supported a tenfold increase in private funds, as well as an increase in government funding. Unanimously, the conferees endorsed the programs proposed by the Institution and its need for additional funding.

## the 1946 review

---

Near the time of the Institution's 100th anniversary, the Regents established a Committee on Future Policies for the Institution. With the advice of the president of the National Academy of Sciences, the Smithsonian appointed a committee of

seven individuals in January 1946. William J. Robbins, director of the New York Botanical Garden, served as chairman.<sup>60</sup>

Robbins presented his interpretation of committee discussions and discussions with others (such as staff members) at a meeting of the Regents on January 17, 1947. For its use, the committee had requested and received from Secretary Wetmore (1945-52) a statement on “The Smithsonian Institution: The History of Its First Hundred Years, Present Status and Philosophy for the Future.” Wetmore’s statement included a justification for the importance of collections, and noted that USNM collections in all fields “now include more than 18 million catalogue entries.” In describing the various collections and plans for the future, Wetmore’s emphasis was on continued research and collecting, and the need for additional resources. The statement described the collections in a way that reinforced the Institution’s emphasis on research, noting that only about 5 percent of collections was on public exhibition, while the remainder was for scientific study and investigation. The Secretary noted, “The output of research work is limited only by the size of the professional staff, as there is no lack of material in the collections waiting [for], and indeed requiring study (Smithsonian Institution 1946b, 18).”

At the Regents’ meeting, Robbins endorsed the Secretary’s statement and made specific comments on three areas: USNM, NZP, and the art collections. His comments on USNM included the following view of its purpose:

The National Museum . . . has functioned in the past largely as a working or reference collection analogous in its fields to the Library of Congress in its field, and this would appear to be its proper and greatest usefulness. There is a need for great reference collections in each of the sectors represented by the Museum, and the National Museum would appear to be a natural and logical place to locate such essential collections. Display is a desirable function for a Museum but in the National Museum it should be secondary and not primary.

---

<sup>60</sup> The other members were from the Mount Wilson Observatory (Pasadena, California), American Philosophical Society (Philadelphia, Pennsylvania), General Electric (Pittsfield, Massachusetts), Carnegie Institution of Washington (Cambridge, Massachusetts), US Weather Bureau (Washington, DC), and American Museum of Natural History (New York, New York) (Smithsonian Institution 1946a).

The main purpose of the Museum should be to obtain and to maintain reference or type materials which would be available (as they are now) for study by its own staff and students in other institutions where such extensive collections cannot be maintained. The Museum should not be a 'National Cabinet of Curiosities' nor become 'the attic of the United States.' (Smithsonian Institution 1947, 125-6).

Robbins went on to suggest that the Smithsonian consider a reorganization of its collections to create more or less autonomous units under the Smithsonian:

A firm stated policy, implemented by adequate financial support, would help in defining the proper division of functions between Museum departments and between the Museum and other organizations, both within and without the government. Collections are expensive to obtain and still more expensive to maintain. It is obvious that duplication is to be avoided whenever possible (*ibid.*, 125).

On the issue of NZP, the committee believed the zoo functioned effectively as a means of "entertainment, recreation and, to some extent, instruction for residents of Washington and visitors to Washington." Robbins questioned, however, whether it should come under the Smithsonian, and indicated that to develop it into a "national institution and . . . a scientific institution would require far greater funds than it now has." Comments on the art collections were primarily organizational and included the suggestion that the Smithsonian should have a gallery of modern art to complement the more traditional art of the National Gallery of Art.

Finally, Robbins said:

In concluding this report, may I emphasize in the strongest possible terms the burden borne by the Secretary of the Smithsonian and his staff. The work load measured on the basis of floor space occupied, number of visitors, or number of specimens and activities has increased during the last 20 years, but the permanent personnel has

remained stationary. This situation can only be corrected by limiting the activities of the Institution or increasing the personnel or both. Even a devoted staff is limited in what it can accomplish (*ibid.*, 126).<sup>61</sup>

## the 1993 review

---

As part of the activities surrounding the Smithsonian's 150th anniversary, in September 1993 the Board of Regents established the Commission for the Future of the Smithsonian Institution, charging it with “. . . an examination of the Smithsonian, its mandate and its roles and an examination of the cultural, societal and technological factors that influence its capacity to act (Smithsonian Institution 1995, iii).”

The commission considered how the Institution might evolve and what solutions might address the gap between current activity levels and expected financial support. It also weighed an appropriate size for the Institution and how to obtain resources for investment in technologies that might expand the reach of the Smithsonian to more Americans.

The commission's report in 1995 shifted some of the earlier emphasis on basic research to a more earnest consideration of education, both on the Mall and through electronic means, traveling exhibitions, and public programs. However, the commission also stressed the importance of research: “Without research, objects and specimens are of little educational, cultural or scientific significance (Smithsonian Institution 1995, 9).” It asserted that the Institution should pursue certain distinct, even unique, research objectives by stressing carefully articulated, pertinent themes.

---

<sup>61</sup> Appended to the committee's report is a chart summarizing a workload analysis. It shows increases in personnel, specimens, floor space, and visitors between 1905 and 1945. The major changes were from 1915 to 1945: staff grew from 391 to 399, while specimens doubled from 9.2 million to 18.0 million; floor space went from 690,000 to 846,000 square feet; and the number of visitors tripled from 579,000 to 1,717,000.

Collections storage, exhibition space, and personnel issues were still, as they had been in past reviews, relevant subjects at the commission's meetings. The commission raised many questions about collections: "Can collections be moved to other institutions outside Washington? Will such removal have an impact on the expectations of tourists, the planning of educational programs, the character of scholarly research, and the duties of curators (Smithsonian Institution 199, 7)?" The commission, however, drew no strong conclusions.

## REFERENCES

- Ashton, J. Hubley, ed. 1866. *Official opinions of the attorneys general of the United States, advising the president and heads of departments in relation to their official duties, and expounding the constitution, treaties with foreign governments and with Indian tribes, and the public laws of the country.* Vol. 9. Washington, DC: W. H. & O. H. Morrison.
- Bud, Robert. 1996. Research at the science museum. In *Clio in museum garb: The National Museum of American History, the Science Museum and the History of Technology.* Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.
- Carmichael, Leonard. 1957. Organization of the United States National Museum. (RU50, box 132, folder office memorandum, 176-200.) Smithsonian Institution Archives. Washington, DC. (Photocopy.)
- Clark, Jeannine S. 1996. "Some Reflections on the Board of Regents' First Meeting, on September 7, 1846." In *Museums for the New Millennium: Proceedings of a Symposium, September 5-7, 1996.* <http://museumstudies.si.edu/millennium/proceed.htm>.
- Commission on the Future of the Smithsonian Institution. 1995. *E pluribus unum: This divine paradox.* Washington, DC: Smithsonian Institution.
- Conaway, James. 1995. *The Smithsonian: 150 Years of Adventure, Discovery, and Wonder.* New York: Alfred A. Knopf.
- Crockett, John. 1990. Memorandum of understanding with US Park Police. Office of General Counsel, General Legal Counseling Records, 1971-1995. (Acc. 98-081, box 4, folder 1.) Smithsonian Institution Archives. Washington, DC. (Photocopy.)
- Davis, Dexter P. 1986. Office of General Counsel, General Legal and Counsel Files, 1971-1995. (Acc. 98-079, box 3, folder 40.) Smithsonian Institution Archives. Washington, DC. (Photocopy.)



- Endersby, Linda E. 1998. *One hundred years of history in objects*. Presented at the Missouri Conference on History, Columbia, Missouri, April 16-18.
- Field, Cynthia R., Richard E. Stamm, and Heather P. Ewing. 1993. *The castle: An illustrated history of the Smithsonian building*. Washington, DC: Smithsonian Institution Press.
- Fitzhugh, Bill. 1991. Draft interagency agreement with National Park Service. Office of the General Counsel, General Legal Advisory and Counsel Files, 1971-1995. (Acc. 09-079, box 3, folder 5). Smithsonian Institution Archives. Washington, DC. (Photocopy.)
- Fleckner, John, and Carlene Stephens. 1996. Evidence of technology's past: The collections of the National Museum of American History. In *Clio in Museum Garb: The National Museum of American History, the Science Museum and the History of Technology*. Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.
- Force, Roland W. 1999. *Politics & the Museum of the American Indian: The Heys & the Mighty*. Honolulu, HI: Mechas Press, LLC.
- Gardner, James B., and Elizabeth Merritt. 2002. Collections planning: Pinning down a strategy. *Museum News* (July/August): 30-33, 60-61.
- Goode, G. B., ed. 1897. *The Smithsonian Institution, 1846-1896, the history of its first half century*. Washington, DC: De Vinne Press.
- Memorandum of understanding between the Bureau of Land Management, Department of the Interior, and National Museum of Natural History, Smithsonian Institution. Office of General Counsel, General Legal Advice and Counsel Files, 1971-1995. (Acc. 98-061, box 4, folder 5.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding between the Smithsonian Institution and the National Park Service. 1945. Smithsonian Institution Archives, Office of the Secretary, Washington, DC. (Photocopy.)
- Memorandum of understanding between the Smithsonian Institution and the National Park Service. 1961. Office of the Secretary, Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding of April 1965 between the National Park Service and the Smithsonian Institution relating to archeological and paleontological surveys with reservoir areas. 1965. Office of the Secretary Records. Smithsonian Institution Archives. Washington, DC. (Photocopy.)
- Memorandum of understanding between the Smithsonian Institution and the National Park Service. 1969. Office of the Secretary, Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding between the US Department of the Interior National Park Service Southwest Region and the Smithsonian Institution. 1989. Smithsonian Institution Archives, Office of the Secretary. Washington, DC. (Photocopy.)

- Memorandum of understanding between the Museum of the American Indian, Heye Foundation and the Smithsonian Institution. 1989. Smithsonian Institution Archives, Office of the Secretary. Washington, DC. (Photocopy.)
- Memorandum of understanding between the US Department of Agriculture, Agricultural Research Service and the National Museum of Natural History, Smithsonian Institution. 1989. Office of the General Counsel, General Legal Counseling Records, 1971-1995. (Acc. 98-081, box 4, folder 6.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding between Smithsonian Institution, National Air and Space Museum and Atomic Library and Technology Foundation. 1989. Office of General Counsel, General Legal Advice and Counsel Files, 1971-1995. (Acc. 98-079, box 3, folder 15.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of Understanding between the Smithsonian Institution and US Department of Agriculture-Forest Service. 1993. Smithsonian Institution Archives, Office of the Secretary, Washington, DC. (Photocopy.)
- Memorandum of understanding between the USGS Patuxent Wildlife Research Center and the National Museum of Natural History, Smithsonian Institution. 2001. Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding between the Walter Reed Army Institute of Research, United States Army Medical Research and Materiel Command, and the National Museum of Natural History, Smithsonian Institution. 2001. Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Memorandum of understanding: Migratory birds – “Partners in Flight” (1991-1993). Office of General Counsel, General Legal Counseling Records, 1971-1995. (Acc. 98-081, box 4, folder 14.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Molella, Arthur. 1996. The research agenda. In *Clio in Museum Garb: The National Museum of American History, the Science Museum and the History of Technology*. Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.
- Neufeld, Michael J. 1992. Bomb MOU with Energy Department. Office of the General Counsel, General Legal Advice and Counsel Files, 1971-1995. (Acc. 98-079, box 1, folder 22.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Oehser, Paul H. 1983. An act to establish the “Smithsonian Institution” for the increase and diffusion of knowledge among men. In *The Smithsonian*. 2d ed. Boulder: Westview Press.
- Office of the Secretary’s Files. 1964-1967. (RU99, box 127, folder National Park Service.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Ripley, S. Dillon. 1967. United States National Museum. (RU 190, box 24, Folder USNM program.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)

- Robinson, Derek. 1996. Exhibitions. In *Clio in Museum Garb: The National Museum of American History, the Science Museum and the History of Technology*. Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.
- Robinson, George S. 1986. Redraft of proposed NPS/SI cooperative agreement for international research. Office of General Counsel, General Legal Counseling Records, 1971-1995. (Acc. 98-081, box 4, folder 11.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- . 1991a. MOA for Migratory Bird Committee. Office of General Counsel, General Legal Counseling Records, 1971-1995. (Acc. 98-081, box 4, folder 6.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- . 1991b. Membership issue: Federal interagency neotropical migratory bird committee. Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Roosevelt, Theodore R. 1904. *President's Fourth State of the Union* message to the Congress, December 6, 1904. See the text on <http://www.theodore-roosevelt.com/sotu4.html>.
- Smithsonian Archives. 1966. *Guide to the Smithsonian Archives*. Washington, DC: Smithsonian Institution Press.
- Smithsonian Institution. 1846. Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution held January 18, 1946. Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- . 1847. Joseph Henry's 'Programme of Organization' for the Smithsonian Institution. In *First annual report of the Secretary to the Board of Regents* and adopted by the Board of Regents, December 13, 1847. Washington, DC: Tippen and Streeper, Printers, 1848. (A transcript is at <http://www.sil.si.edu/Exhibitions/Smithson-to-Smithsonian/henry.htm>.)
- . 1849. *Fourth annual report of the Board of Regents of the Smithsonian Institution to the Senate and House of Representatives, showing the Operations, Expenditures, and Condition of the Institution during the Year 1849*. Washington, DC: Printers to the Senate, 1850.
- . 1851. *Sixth annual report of the Secretary to the Board of Regents*. In *Sixth annual report of the Board of Regents of the Smithsonian Institution to the Senate and House of Representatives, showing the Operations, Expenditures, and Condition of the Institution during the Year 1851*. Washington, DC: A. Boyd Hamilton, 1852.
- . 1854. *Act of Congress accepting bequest*. In *Eighth Annual Report of the Board of Regents of the Smithsonian Institution showing the Operations, Expenditures, and Condition of the Institution up to January 1, 1854, and the proceeding of the Board up to July 8, 1854*. Washington, DC: Beverley Tucker, Senate Printer, 1854.
- . 1857. *Annual Report of the Board of Regents of the Smithsonian Institution showing the Operations, Expenditures, and Condition of the Institution, for the Year 1856, and the proceeding of the Board up to January 28, 1857*. Washington, DC: Cornelius Wendell, Printer 1857.

- . 1875. *Annual Report of the Board of Regents of the Smithsonian Institution showing the Operations, Expenditures, and Condition of the Institution, for the Year 1875*. Washington, DC: Government Printing Office, 1876.
- . 1883. *Annual report of the Board of Regents of the Smithsonian Institution, showing the operations, expenditures, and condition of the Institution for the year 1881*. Washington, DC: Government Printing Office.
- . 1901. “Special Statement - Smithsonian Fund and Museum.” In Proceedings of the Board of Regents at the annual meeting, January 23, 1901. *Annual report of the Board of Regents of the Smithsonian Institution, showing the operations, expenditures, and condition of the Institution for the year ending January 30, 1901*, xxii-xxiii. Washington, DC: Government Printing Office, 1902.
- . 1927. *Proceedings of the conference on the future of the Smithsonian, 11 February, 1927*. Baltimore, MD: The Lord Baltimore Press.
- . 1945. *Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution, 12 January, 1946*. Washington, DC: Smithsonian Institution.
- . 1946a. *Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution, 18 January, 1946*. Washington, DC: Smithsonian Institution.
- . 1946b. The Smithsonian Institution: The history of its first hundred years, present status, and philosophy for the future. In *Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution, 18 January, 1946*. Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- . 1947. *Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution, 17 January, 1947*. Washington, DC: Smithsonian Institution.
- . 1965. Narrative by Walter Karp. *The Smithsonian Institution*. Washington, DC: Smithsonian Institution in association with the editors of American Heritage Magazine.
- . 1976. *The United States National Entomological Collections*. Washington, DC: Smithsonian Institution.
- . 1977. *Report on the management of collections in the museums of the Smithsonian*. Washington, DC: Smithsonian Institution.
- . 2001. Smithsonian Directive 600 collections management. Washington, DC: Smithsonian Institution. October 26.
- . 2003. *Bylaws of the Board of Regents and charter provisions of the Smithsonian Institution*. Washington, DC: Smithsonian Institution Press.
- Smithsonian Institution. Smithsonian Institution Archives. National Collections Program. 2003. *2002 collection statistics*. Washington, DC: National Collections Program.
- . 2003a. *Collections management assessment report*. Washington, DC: National Collections Program, May.

- . 2003b. Smithsonian Directive (SD) 600 collections management. Implementation manual. Smithsonian Institution, Washington, DC. (Draft.) October 22.
- Statutes at Large of the United States of America*. 1879. Vol. 20, ch. 182, 377, 394-95, 397. *An act making appropriations for sundry civil expenses of the government for the fiscal year ending June thirtieth, eighteen hundred and eighty, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1889. Vol. 25, 793, 808-9. *An act making appropriations to provide for the expense of the government of the District of Columbia for the fiscal year ending June thirtieth, eighteen hundred and ninety, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1921. Vol. 41, 1438-39. *An act to authorize the Secretary of War to furnish to the National Museum certain articles of the arms, material, equipment, or clothing heretofore issued or produced for the United States Army, and to dispose of colors, standards, and guidons of demobilized organizations of the United States Army, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1923. Vol. 42, 399. *Joint resolution transferring to the custody of the Secretary of the Smithsonian Institution certain relics now in the possession of the Department of State*. Washington, DC: US Government Printing Office.
- . 1929. Vol. 46, 5. *Joint resolution authorizing the Smithsonian Institution to convey suitable acknowledgement to John Gellatly for his offer to the nation of his art collection and to include in its estimates of appropriations such sums as may be needful for the preservation and maintenance of the collection*. Washington, DC: Government Printing Office.
- . 1938. Vol. 52, 399-401. *Joint resolution to set apart public ground for the Smithsonian Gallery of Art, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1947. Vol. 60, 997-98. *An act to establish a national air museum, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1950a. Vol. 63, 377-403. *An act to simplify the procurement, utilization, and disposal of government property, to reorganize certain agencies of the government, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1950b. Vol. 63, 623. *An act to amend the act entitled "An act to provide for cooperation by the Smithsonian Institution with state, educational, and scientific organizations in the United States for continuing ethnological researches on the American Indians," approved April 10, 1928, and for other purposes*. Washington, DC: US Government Printing Office.
- . 1950c. Vol. 63, 606. *An act to provide for cooperation by the Smithsonian Institution with state, educational, and scientific organizations in the United States for continuing paleontological investigations in areas which will be flooded by the construction of government dams*. Washington, DC: US Government Printing Office.
- . 1952. Vol. 65, 701, 703, 708. *An act to amend or repeal certain government property laws, and for other purposes*. Washington, DC: US Government Printing Office.

- . 1961. Vol. 75, 414-15. *An act to establish a National Armed Forces Museum Advisory Board of the Smithsonian Institution, to authorize expansion of the Smithsonian Institution's facilities for portraying the contributions of the Armed Forces of the United States, and for other purposes.* Washington, DC: US Government Printing Office.
- . 1963. Vol. 76, 62-63. *An act to provide for a National Portrait Gallery as a bureau of the Smithsonian Institution.* Washington, DC: US Government Printing Office.
- . 1967. Vol. 80, 310-12. *An act to amend Public Law 722 of the seventy-ninth Congress and Public Law 85-935, relating to the National Air Museum of the Smithsonian Institution.* Washington, DC: US Government Printing Office.
- . 1989. Vol. 103, 1336-47. *An act to establish the National Museum of the American Indian within the Smithsonian Institution, and for other purposes.* Washington, DC: US Government Printing Office.
- . 1999. Vol. 112, 1294-95, 1422. *Patriotic and national observances (Title 36) codification.* Washington, DC: US Government Printing Office.
- Statutes at Large of the United States of America, 1789-1873.* 1850-73. Vol. 5, 534. *An act to provide for publishing an account of the discoveries made by the exploring expedition, under the command of Lieutenant Wilkes, of the U.S. Navy.* 17 vols. Boston: Little, Brown and Co.
- . 1850-73. Vol. 9, 102-06. *An act to establish the "Smithsonian Institution," for the increase and diffusion of knowledge among men.* 17 vols. Boston: Little, Brown and Co.
- . 1850-73. Vol. 14, 13. *An act to provide for the transfer of custody of the library of the Smithsonian Institution to the Library of Congress.* 17 vols. Boston: Little, Brown and Co.
- Supreme Court – District of Columbia (1906). Court Case: *D. K. Este Fisher, et al., vs. Harriet Lane Home for Invalid Children of Baltimore City, et al.*, Office of the Secretary, 1907-1924 (Charles D. Walcott) (Record Unit 45, Box 78, Folder 15 (Documents.) Smithsonian Institution Archives, Washington, DC.
- Transfer of Ownership ("Shuttle Enterprise"). 1985. Office of General Counsel, General Legal Advice and Counsel Files, 1971-1995. (Acc. 98-079, box 3, folder 40.) Smithsonian Institution Archives, Washington, DC. (Photocopy.)
- Viola, Herman J. 1985. *The Story of the U.S. Exploring Expedition in Magnificent Voyagers. The U.S. Exploring Expedition, 1838-1842.* Washington, DC: Smithsonian Institution Press.
- Wright, Helena. 1996. The exhibition program. In *Clio in Museum Garb: The National Museum of American History, the Science Museum and the History of Technology.* Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.
- Wright, Thomas. 1996. Collections and attractions: Whence collections in the age of the "experience." In *Clio in Museum Garb: The National Museum of American History, the Science Museum and the History of Technology.* Science Museum Papers in the History of Technology No. 4. Session given at SHOT '96. London.

## APPENDIX B.

# ORGANIZATIONAL STRUCTURE

The Office of Policy and Analysis (OP&A) study team examined the organizational structure of collections management at the Smithsonian to consider whether it supports or detracts from sound collections management. Overall, the collecting units have primary responsibility for carrying out collections management functions, but how they do so is strongly influenced by the central Smithsonian administration and external professional associations. The Board of Regents, Office of Management and Budget, and the Congress are also strong influences.

The study team looked at current organizational charts to see where the different collections management responsibilities are located and which offices and positions are involved. Interviews probed decision making; the linkages between collections management and other programs; cross-unit and pan-Institutional interactions; and the structure of accountability. The findings describe the organizational structure of collections management at the unit, central administration, and pan-Institutional and external organization levels, and then present some issues that emerged from the interviews and the literature.

### unit-level findings

---

Title to Smithsonian collections resides with the individual collecting units. At most of the museums, the curatorial/scientific research office has overall responsibility for collections management functions, and the collections themselves are organized

according to the specializations of the curatorial/scientific research divisions, such as a scientific discipline (vertebrate zoology); topic (military history); historical period (19<sup>th</sup> century); or medium (photography).<sup>1</sup> At the time the research phase of this study was being completed, at least one Smithsonian museum was looking at an intellectual reorganization along thematic or story lines (for example, immigration into the United States), which would require collaborative collecting by multiple divisions, but the museum would retain its current structure for other collections management functions. A few non-Smithsonian museums have already adopted a cross-disciplinary approach for all or parts of their collections, examples being the thematic structure at the Henry Ford Museum and the centers for biodiversity conservation at several natural history museums.

At the Smithsonian Institution Libraries (SIL), collections management responsibilities come under the Division of Management and Technical Services and the Division of Research Services, both reporting directly to the head of SIL. The bulk of SIL's collections are managed by branches located in the various museum and research units. These branches, along with other central SIL ones, are under the Research Services Division, which reports to the director.

At the Archives of American Art (AAA), collections management responsibilities fall to both the assistant director for archival programs and the curator of manuscripts, both of whom report to the director. At the Smithsonian Institution Archives (SIA), the split is across the Technical Services Division and Archives Division, both reporting to the director.

How the specific functions of acquisitions and disposals, stewardship, and access are handled within the overall organizational structures described above is discussed in the next sections. Accountability for those functions at the unit level is also addressed.

---

<sup>1</sup> This information derives in part from organization charts the collecting units provided to OP&A prior to the writing of this report. The report does not reflect changes that collecting units have made since completion of the data gathering.



## acquisitions and disposals

---

As discussed in Chapter 5, proposals for acquisitions and disposals typically originate with curators/scientists. Depending on the nature of the acquisition or disposal, proposals are reviewed and approved at different levels of the collecting unit and, in some cases, by the central Smithsonian administration and Board of Regents. Factors that trigger the need for review at higher levels include the cost of the transaction and exceptional circumstances (such as special maintenance or space requirements, political sensitivity, or questionable provenance).

A key player at the unit level is the collections committee, composed largely of curators/scientists, but also including the museum director (or another senior manager) and often the head or a representative of the collections management staff. In general, a collecting unit has only one collections committee; however, the individual scientific research departments at the National Museum of Natural History (NMNH) all have their own collections committees. Proposed disposals generally go before the collections committee, although NMNH waives that requirement where disposal is necessitated by destructive analysis of specimens. Some collecting units, such as the National Museum of the American Indian (NMAI), Hirshhorn Museum and Sculpture Garden (HMSG), and AAA must get approval from their advisory board of directors for both disposals and acquisitions, and the boards of most collecting units require that their units report annually on their collections development activities.

Archival offices within a collecting unit follow more or less the same organizational pattern for acquisition and disposal decisions. One difference is that much archival material originates with an acquiring curator as part of an object acquisition and is subsequently given to the archives. The stand-alone AAA has an added category of staff: regional collectors (either staff or contract) who identify and solicit collections, working in consultation with the curator of manuscripts and the director. SIA uses a

strict set of criteria for the Institutional archival materials that it collects from Smithsonian units.

In the case of SIL, most requests for acquisitions originate with curators/scientists or other users from the various units, who submit these requests to their branch librarians. The central library administration makes the final decisions on what to acquire and handles the purchases. Because some library materials, such as standard texts, routinely deteriorate from heavy use and have to be replaced, their disposal does not follow special procedures, but exceptional materials such as rare books are subject to the same procedures as museums use for objects.

## stewardship

---

At over half the museums, responsibility for all stewardship functions comes under the curatorial/research office, within which specific subunits and staff carry out the various collections care activities. At the National Museum of American History (NMAH), National Air and Space Museum (NASM), and National Portrait Gallery (NPG), umbrella entities such as a collections management division or department of collections management services report to the head of the curatorial department. Within those entities, separate offices (for example, conservation and registrar) carry out specific functions, with staff assigned to the curatorial departments.

By contrast, the National Postal Museum (NPM), Smithsonian American Art Museum (SAAM), and NMAI have separate deputy/associate/assistant directors for research/curatorial and for registration/collections management. At NPM, separate collections and curatorial units both report to the director. At NMAI, distinct offices for registration, conservation, archives, and curatorial/research all come under an umbrella entity, the Division of Cultural Resources, which reports to the museum director.

Where the conservation function is located appears to relate to the size of the collecting unit and type of collection. The art museums, which tend to have homogeneous collections, often have a single conservation office. The conservation office at the National Museum of African Art (NMAfA) and SAAM's conservation laboratory, for example, are both under the curatorial office. At the larger museums, individual curatorial/scientific departments might have their own conservation specialists; this is necessary because of the differences in their collections. At NMNH, for example, many scientific departments have their own collections management staffs, who report to a departmental collections manager. Those collections managers and a collections information system (CIS) unit report to a single collections services manager, who in turn reports to the associate director for research and collections. Under consideration at NMNH is a proposal to establish a new position of senior collections manager.

Because its collections are living, the structure at the National Zoological Park (NZIP) is somewhat different. Under the Animal Programs Directorate are a separate Office of the Registrar and two animal departments whose responsibilities include collections management activities other than registration and conservation. Conservation — which at the Zoo means animal health — comes under the Animal Health Department, which reports directly to the director.

Information technology (IT) offices, which provide technical support for CISs, tend to come under the administrative operations side of the collecting units.

In all cases, an office of the registrar is responsible for managing the flow of information concerning collections, the movement of collections, and the official records of ownership. The registrar is responsible for monitoring and enforcing both the Institution's and the unit's collections policies and procedures. In some Smithsonian units, the registrar reports directly to a curatorial officer; in others, reporting is through another layer, the head of a collections management unit.

## access

---

Most information on collections — whether basic catalogue documentation or enriched documentation for public or scholarly use — comes from the curatorial/scientific research staff, although in some units volunteers have played a significant role in cataloguing materials. The curatorial/scientific research staff also has had the lead role in exhibitions (and access to open storage areas), in consultation with collections management staff on the condition of materials and related conservation requirements.

For outgoing loans, curators/scientists typically communicate with borrowers regarding what is available for lending, while the collections management and conservation staff, in consultation with curators, assess the condition of requested loan items and the physical and security conditions at the requesting facility, to determine if these permit lending. For loans to affiliates, coordinators in the Office of Affiliations are assigned to each museum to facilitate transactions. Some large museums designate a collections staff member as the point person for affiliate loans. The Smithsonian Institution Traveling Exhibition Service (SITES) negotiates directly with the units for loans for its exhibitions, and assumes collections management responsibilities once it receives the items; both SITES and the lending units verify the suitability of conditions at the venues taking the exhibitions.

## accountability

---

According to Smithsonian Directive 600 Collections Management (SD 600) (Smithsonian Institution 2001), accountability for collections management performance rests with the collecting unit directors. Day-to-day accountability is delegated to those senior managers with collections responsibilities who report directly to the director. However, collections-related policy and planning documents

provided to OP&A for the most part did not indicate a clear structure for accountability or provide indicators that could be used to measure performance.

The draft SD 600 Implementation Manual (Smithsonian Institution, Smithsonian Institution Archives, National Collections Program 2003b) calls on collecting unit directors to designate, in writing, a staff person to monitor compliance with collections management policy and to recommend policy changes to the director. This person is also to determine when the unit should conduct a formal review of collections management (at intervals of no more than five years) and recommend policy changes to the director.

## central administration

---

The central administration and certain pan-Institutional programs, offices, and committees carry out a variety of collections management functions and responsibilities, as described below.

The central administration is involved in collections management in five primary areas: issuing Smithsonian-wide policy; defining collections-related strategic objectives and performance indicators; approving certain acquisitions or disposals; reviewing collections activities and related financial information; and holding units and senior management accountable for sound collections management.

The Board of Regents, which has ultimate responsibility for collections management, has delegated its oversight responsibility to the Secretary. An important responsibility of the Secretary is the *formulation of overall Institutional policy* on collections management, through documents such as SD 600. In addition to setting policy, the Secretary *establishes collections-related strategic objectives and related performance indicators* in a five-year strategic plan and an annual performance plan, which go to

the Office of Management and Budget. Collecting units must align their individual strategic and operating plans with those at the Institutional level.

As noted, *decisions about acquisitions and disposals* that exceed a certain value or have other unusual features are reviewed by the Under Secretaries, the Secretary, and Board of Regents as required. On such matters, senior management typically consults with the National Collections Program (NCP) for information on relevant policies, procedures, and laws.

With respect to Smithsonian-wide *reporting on collections*, the central administration requires that the official collecting units submit certain data to NCP annually. The units report on the status of their collections and collections transactions over the fiscal year; on their compliance with SD 600 and unit collections management policies; and on problems with policy implementation. Each year NCP issues two reports based on the information provided by the units: a statistical summary of the size, growth, and use of the national collections (which also discusses key collections developments); and a report on the status of collections management that reviews accomplishments and problems. One issue that came up in interviews was the inconsistency — in terms of both definitions used and collections covered — in the various units' reports to NCP.

The Smithsonian must also account for expenditures on collections management and collections transactions in its annual financial reports, which are subject to audit. NCP collects financial data on acquisitions and disposals and provides it to the Office of the Chief Financial Officer (OCFO); the collecting units report their overall collections-related expenditures directly to OCFO through the Smithsonian's new Enterprise Resource Planning (ERP) financial reporting system. In the past, there were significant differences in how the units reported their financial data, a problem ERP is intended to address.

*Accountability for performance* against Smithsonian policy, standards, strategic objectives, and performance indicators rests with the central administration, as well as the unit

directors.<sup>2</sup> The Under Secretaries are responsible for providing budget support; ensuring that unit collections planning is consistent with Institutional strategic and performance plans; monitoring collections management activities against SD 600 and the units' own policies; following up on noncompliance; and measuring progress against targets and milestones. The Under Secretaries are accountable to the Secretary. NCP supports the central administration's oversight role by reviewing the data that the units self-report, and communicating its observations on compliance and other issues to both the Under Secretaries and the unit directors. However, it has no responsibility for following up on reported deficiencies. For the most part, monitoring and accountability are based on the units' self-reported data.<sup>3</sup>

The Office of the General Counsel reviews and makes recommendations on the legal aspects of collections management issues, such as disposals and bequests. Collecting unit policies must have the approval of the General Counsel.

## pan-Institutional entities

---

A number of pan-Institutional entities at the Smithsonian provide consultative or support services to the collecting units and central administration, or facilitate networking and information exchange.

In addition to **NCP's** responsibilities described above, it has several others, including:

---

<sup>2</sup> From 1880 to 1975, the Smithsonian central administration included the Office of the Registrar. As the National Museum of the Smithsonian's early years was divided into different units, and other units were added to the Smithsonian, collections management functions devolved to the units holding collections. Because of this shift in responsibilities, in 1976 the Office of the Registrar was reconstituted as an oversight unit with responsibility to review unit collection management policies and assure compliance. The registrar served as permanent chair of the pan-Institutional Council of Registrars and the Collections Policy and Management Committee (the latter group offered advice). In 1993 the Office of the Registrar was abolished because its diminished functions did not justify the staffing, and NCP was set up under SIA.

<sup>3</sup> As noted in Chapter 4, the Smithsonian Office of the Inspector General used to audit limited aspects of collections management, but has not done so for several years.

- Supporting the units in developing and implementing collections management policies and procedures, and consulting with them on specific issues and projects;<sup>4</sup>
- Reviewing unit collections management policies for consistency with SD 600 (collecting units must get NCP approval of their policies);
- Disseminating collections management information from Institutional and external sources (the NCP coordinator is very active in the major professional associations and other organizations involved with collections matters);
- Conducting collections management training for both Smithsonian and external collecting unit staff; and
- Advocating for Institutional support of collections management.

The mission of the **Smithsonian Center for Materials Research and Education (SCMRE)**, another pan-Institutional support organization, is, according to its website, “research and education in the conservation, preservation, technical study, and analysis of museum collection items and related materials.” Its work encompasses all types of collections. SCMRE’s primary constituencies are Smithsonian staff and units, but it also works with other national and international collecting units and has partnerships with international organizations such as the Conservation Information Network.

Within SCMRE is the Research, Libraries, and Archives Collections Conservation Task Force (RELECT), a collaboration of SCMRE, SIA, and SIL. RELECT educates Smithsonian staff on the preservation of paper-based collections. Its activities include training staff on issues relating to paper-based materials; assisting

---

<sup>4</sup> For example, NPM included NCP as part of a working group on the disposal of revenue stamps; NCP took on specific tasks to support the project and advised the central administration on it.



with conservation projects; and providing access to SCMRE's paper-related laboratory facilities. RELACT regularly exchanges information with the Library of Congress, National Archives, and National Park Service.

The **Collections Information System Management Committee (CISMC)**

advocates on CIS matters to Smithsonian central and unit management. Among CISMC's other functions are advising and making recommendations to senior Smithsonian management on CIS issues. It also tracks present and future CIS needs; promotes cooperation and information sharing on CIS issues across the Smithsonian; and promotes interoperability across CISs within and outside the Institution. All collecting units have representatives on the CISMC, which was meeting monthly.

The **ArtCIS Committee** consists of representatives of the art museums, all of which use the same CIS software package, The Museum System (TMS), and thus face similar technical issues.<sup>5</sup>

The **Office of the Chief Information Officer (OCIO)** has been the focal point for the planning and development of IT systems at the Smithsonian — including collecting unit CISs, with respect to which it works closely with CISMC. OCIO develops Institutional policy relating to IT (such as Smithsonian Directive [SD] 910, Information Technology Planning; and SD 940, Acquisition of Information Technology Products). However, while OCIO sets guidelines for IT equipment and software (in the interests of efficiency in support functions and interoperability), it mainly relies on voluntary cooperation of the units. OCIO provides technical support for SIRIS and for units that use TMS as their CIS software.<sup>6</sup> The collecting units using other systems contract for technical support through the software

---

<sup>5</sup> TMS is a database designed specifically for museums, although it is also used for corporate and other collections. Nine fully integrated modules maintain all aspects of collections management in one comprehensive, relational database. TMS manages exhibitions, catalogues, events, shipments, and records and publishes complete information on cataloguing, conservation, location, documentation, provenance, and more. The program provides an intuitive interface for querying any field in the database.

<sup>6</sup> Except NASM, which contracts for technical support through the software provider.

provider. OCIO makes annual awards to collecting units for CIS projects from a pool of funds that in FY2003 came to slightly under \$1 million. It sets the criteria for awards and makes the final decision on projects reviewed and recommended by a subcommittee of CISM.

Under OCIO is the **Information Technology Review Board (TRB)**. TRB's main objectives are to "improve the overall level of project success, system quality, productivity" and to minimize risk to an acceptable level (Smithsonian Institution, Office of the Chief Information Officer 2003b). To these ends, it reviews all major information technology projects on a quarterly basis.

The goal of the **Smithsonian Institution Capital Planning Board (CPB)** (formerly the Capital Program Planning Board) is integrated planning, approval, and implementation of capital initiatives, particularly in the areas of facilities and IT. The board's primary objectives are to provide strategic direction and set priorities for all capital programs; monitor progress against approved budgets and schedules; and standardize management of capital projects. In reviewing proposed projects, the board looks at compatibility with strategic plans and resource availability. Among the collections-related projects that have come before CPB are collections information systems such as ArtCIS and SIRIS, and the Suitland Collection Center Interim Master Plan of April 2003.

Among other functions, the **Office of Facilities Engineering and Operations (OFEO)** is responsible for operations and maintenance of most Smithsonian facilities; renovation of existing facilities; and construction of new ones, including all space for collections-related activities. OFEO also handles some rented space, although units may lease space on their own. (OFEO is discussed in greater detail in Chapter 6.)

Two pan-Institutional offices — the **Smithsonian Center for Latino Initiatives** and the **Smithsonian Asian Pacific American Program** — occasionally provide

advice to collecting units on acquisitions relating to ethnic populations in the United States, and may refer donated materials to the appropriate collecting unit.

The draft SD 600 Implementation Manual calls for a Smithsonian Institution Collections Advisory Committee that would advise on and assist NCP and the central administration in coordinating collections-related planning and priority setting. Other functions would include recommending “long-term collections priorities, funding, policies, plans, and practices.” This committee, which would consist of senior staff representing collections management, research, education, and administration, had not been established as of this writing.

## external organizations

---

Collections and their management are also significantly influenced by external organizations, particularly the Congress and professional associations. As noted in Appendix A, periodically the size of Smithsonian collections has jumped significantly when the **Congress** has enacted legislation adding new museums to the Institution. It has also occasionally designated a Smithsonian unit as the national collecting agent for a particular purpose — for example, NMAH for 9/11 artifacts. In addition, congressional appropriations make up the bulk of the funding for collections management activities, although trust funds account for most purchased acquisitions.

As described in earlier chapters, Smithsonian policy and standards on collections management draw significantly on the guidance and standards issued by **professional museum, library, and archives associations** — as well as the standards of the **Financial Accounting Standards Board (FASB)** in the area of financial reporting. In addition, some museums have chosen to participate in the American Association of Museums’ (AAM) accreditation program, one requirement of which is that museums either meet, or have firm plans to meet, AAM’s collections

management standards. Failure to meet those standards or to carry out plans to address noncompliance may result in a museum not receiving full accreditation.

NZP is a member of the American Zoo and Aquarium Association (AZA), which in 2003 gave it a provisional one-year accreditation and subsequently fully accredited it. The US Department of the Interior's Fish and Wildlife Service (FWS) and agencies of the US Departments of Commerce and Agriculture regulate and enforce laws intended to protect wildlife and their habitats. FWS also issues permits that allow zoos to acquire and hold endangered species. Largely because of concerns about the recent deaths of some endangered species at the Zoo, FWS in 2003 issued NZP only a one-year permit, rather than the usual three-year permit.

SIL is a member of the American Library Association (ALA) and follows that organization's collections management guidelines; SIA does the same with the Society of American Archivists (SAA).

From time to time, the Smithsonian administration or the Congress has asked outside organizations or groups to study major problems at the Institution and provide recommendations. Examples are the recent study of animal care issues at NZP by the National Academy of Sciences; a study of facilities maintenance by the National Academy of Public Administration in 2001; and the ongoing efforts of the Smithsonian Institution Council, which in 2003 focused on collections.

## **organizational issues**

---

One conspicuous organizational issue raised by interviewees and in some of the literature on collections management is the dominant voice of curators/scientists in collections management. The point being made was that curators and scientists tend to have a greater interest in acquisitions and research than in collections care, and

this often leads to a lack of emphasis on, and deferral of, long-term maintenance of collections. Julian Spalding, a museum director and noted museum expert, recognizes this division between curators and conservators and offers one solution: give conservators total control over the physical collections, and encourage curators to view the collections not as their “property,” but as means of communicating with the public (Keene 2002, 27).

A second organizational issue described by Smithsonian interviewees was that the Smithsonian’s stovepiped organizational structure contributed to insularity on three fronts:

- Weak communications and collaboration across curatorial departments in some units, with each department operating largely autonomously when it comes to acquisitions and access. Proposed acquisitions appear to move along a departmental track — they tend to be reviewed against a department’s needs or interests, rather than those of the collecting unit and its programs as a whole. One reason posited at some units was that funding for acquisitions went through the departments rather than the unit’s central administration. (This point did not seem to apply as much to scientific research departments, where collaboration was more the norm.)
- Interviewees described weak linkages among collections, research, and exhibitions at some units — despite the primary role of curators/scientists in all three. An interviewee at one unit commented, for example, that curatorial staff did little or no research on the collections. Another commented that collections sometimes lay untouched for decades after the person who brought them in left the museum.
- A number of interviewees described intra-Smithsonian borrowing by museums as more difficult than with external museums. One interviewee commented that a Smithsonian museum had declined a loan request from another Smithsonian museum because of concerns that the standard of

care at the borrowing unit was insufficient. Outside borrowing units, especially affiliates, were said to experience problems with requested loans, particularly lengthy delays in processing them.

A third observation made by a number of interviewees concerned the blurring of the distinct responsibilities of collections managers and curatorial/scientific research personnel (see also Chapter 6). A typical comment was that “Because of the way [the museum] had to bring in people, some curators are actually collections managers, and some collections specialists are actually doing curatorial work.” Another interviewee said,

The way curators and specialists work together used to be different. In the past, curators made the decisions about the collections and the specialists took care of the collection management. Specialist offices were actually inside the collection rooms, and they took care of the objects but did not do acquisitions or research. But since we lost so many curators, specialists are now involved in the subject. They have to have an understanding of everything. They are answering all the inquiries in many cases, and they have to have . . . knowledge.

The concern raised by this situation is that stewardship requires special skills that curatorial/scientific research staff might not have.

## APPENDIX C.

### LIST OF MUSEUMS AND ORGANIZATIONS

The OP&A study team conducted in-person or telephone interviews with staff of these museums and organizations (\* means that the study team both visited the organization and interviewed staff):

- Agricultural Research Service, US Department of Agriculture (Beltsville, Maryland)\*
- American Museum of Natural History (New York, New York)\*
- Anacostia Museum/Center for African American History and Culture (Smithsonian Institution)\*
- Archives of American Art (Smithsonian Institution)\*
- Association of Art Museum Directors (New York, New York)
- British Museum (London, Great Britain)\*
- Canadian Conservation Institute (Ottawa, Ontario)\*
- Canadian Heritage Information Network (Gatineau, Quebec)
- Canadian Museum of Civilization (Gatineau, Quebec)\*
- Canadian Museum of Nature (Ottawa, Ontario)\*
- Center for Folklife and Cultural Heritage (Smithsonian Institution)\*
- Cooper-Hewitt, National Design Museum (Smithsonian Institution)\*
- Experience Music Project (Seattle, Washington)\*
- Freer Gallery of Art and Arthur M. Sackler Gallery (Smithsonian Institution)\*
- Glenbow Museum (Calgary, Alberta, Canada)
- Henry Ford Museum & Greenfield Village (Dearborn, Michigan)\*
- Henry R. Luce Foundation (New York, New York)
- Hirshhorn Museum and Sculpture Garden (Smithsonian Institution)\*
- Historical Society of Washington, D.C. and City Museum of Washington, D.C. \*
- Horticulture Services Division (Smithsonian Institution)\*
- International Art Museum Division (Smithsonian Institution)\*
- Library of Congress (Washington, DC)\*
- Los Angeles Zoo (Los Angeles, California)\*
- Mingei International Museum (San Diego, California)
- Monterey Bay Aquarium (Monterey, California)\*
- Museum of Anthropology at the University of British Columbia (Vancouver, British Columbia, Canada)
- Museum of Contemporary Art San Diego (San Diego, California)\*
- Museum of Flying (Santa Monica, California)\*
- Museum of Jurassic Technology (Los Angeles, California)\*

- Museum Program, US Department of the Interior (Washington, DC)\*
  - National Air and Space Museum (Smithsonian Institution)\*
  - National Archives and Records Administration (Washington, DC)\*
    - National Collections Program (Smithsonian Institution)\*
    - National Gallery of Art (Washington, DC)\*
    - National Museum of African Art (Smithsonian Institution)\*
    - National Museum of American History (Smithsonian Institution)\*
      - National Museum of Australia (Canberra, Australia)\*
      - National Museum of Natural History (Smithsonian Institution)\*
    - National Museum of the American Indian (Smithsonian Institution)\*
      - National Museums of Scotland (Edinburgh, Scotland)\*
      - National Museum of Women in the Arts (Washington, DC)\*
  - National Park Service Biological Resource Management Division (Washington, DC)\*
    - National Portrait Gallery (Smithsonian Institution)\*
    - National Postal Museum (Smithsonian Institution)\*
    - National Zoological Park (Smithsonian Institution)\*
  - Natural History Museum of Los Angeles County (Los Angeles, California)\*
    - Natural History Museum (London, Great Britain)\*
      - Office of Affiliations (Smithsonian Institution)\*
      - Office of Facilities Engineering (Smithsonian Institution)\*
      - Office of the General Counsel (Smithsonian Institution)\*
      - Patuxent Wildlife Research Center, US Geological Survey, US Department of the Interior (Beltsville, Maryland)\*
        - Powerhouse Museum (Sydney, Australia) \*
    - Re:Source — The Council for Museums, Archives, and Libraries (London, Great Britain)
  - Royal British Columbia Museum (Victoria, British Columbia, Canada)\*
  - Royal Museum, Museum of Scotland, and Granton Centre (Edinburgh, Scotland)
    - Royal Ontario Museum (Toronto, Ontario, Canada)\*
    - Ruben H. Fleet Science Center (San Diego, California)\*
      - Samdok (Stockholm, Sweden)
      - San Diego Museum of Man (San Diego, California)\*
        - San Diego Zoo (San Diego, California)\*
    - San Francisco Museum of Modern Art (San Francisco, California)\*
      - Seattle Art Museum (Seattle, Washington)\*
  - Smithsonian Institution Traveling Exhibition Services (Smithsonian Institution)\*
    - Smithsonian American Art Museum (Smithsonian Institution)\*
    - Smithsonian Business Ventures (Smithsonian Institution)\*
  - Smithsonian Center for Materials Research and Education (Smithsonian Institution)\*
    - Smithsonian Institution Archives (Smithsonian Institution)\*
    - Smithsonian Institution Libraries (Smithsonian Institution)\*
      - Space Telescope Science Institute (Baltimore, Maryland)\*
  - Te Papa, National Museum of New Zealand (Wellington, New Zealand)\*
    - Texas Memorial Museum (Austin, Texas)
  - Visitor Information and Associates' Reception Center (Smithsonian Institution)\*
    - Wing Luke Asian Museum (Seattle, Washington)\*



## APPENDIX D.

# BIBLIOGRAPHY

- Ainslie, Patricia. 1997. The deaccessioning strategy at Glenbow, 1992-97. In *A deaccession reader*, 125-42. ed. Stephen Weil. Washington, DC: American Association of Museums.
- . 1999. Deaccessioning as a collections management tool. In *Museums and the future of collecting*. ed. Simon Knell. Brookfield, VT: Ashgate Publishing Co.
- American Association of Museums. 2000. Collections. In *Code of ethics for museums 2000*. Washington, DC: American Association of Museums.
- . 2001a. The accreditation commission's expectations regarding collections stewardship. <http://www.aam-us.org>.
- . 2001b. American Association of Museums guidelines concerning the unlawful appropriation of objects during the Nazi era. Washington, DC. Issued November 1999 and amended April 2001.
- . 2003a. AAM launches online collections exchange center. Press release. Washington, DC. October 23.
- . 2003b. Collections planning: Strategies for planning & implementation. Information Center fact sheet (American Association of Museums-National Museum of American History Collections Planning Colloquium, November 15-16, 2002). Washington, DC.
- . 2003c. Considerations for AAM accredited museums facing retrenchment or downsizing. AAM Accreditation Commission. Washington, DC. August 28.
- . 2003d. Creating an intellectual framework for collections planning. Information Center fact sheet (American Association of Museums-National Museum of American History Collections Planning Colloquium, November 15-16, 2002). Washington, DC.
- . 2003e. Outline for a collections plan. Information Center fact sheet (American Association of Museums-National Museum of American History Collections Planning Colloquium, November 15-16, 2002). Washington, DC.
- . 2003f. University natural history museums and collections. AAM position statement. Washington, DC. November.

- Art museums appoint renowned conservator. 2001. *Harvard University Gazette* (January 24). <http://www.news.harvard.edu/gazette/2001/01.24/12-conservator.html>.
- Association of Art Museum Directors. 2001a. Professional practices in art museums. New York.
- . 2001b. *Salary survey*. New York: AAMD.
- Babbidge, Adrian. 2000. UK museums: Safe and sound? *Cultural trends* (London, Policy Studies Institute) 10:37.
- Baca, Murtha, Tony Gill, and Anne Gilliland-Swetland. 2000. Introduction to metadata: Pathways to digital information. Getty Research Institute. [http://www.getty.edu/research/conducting\\_research/standards/intrometadata/index.html](http://www.getty.edu/research/conducting_research/standards/intrometadata/index.html).
- Bank, Gretchen G. 1988. Determining the cost: Architect George Hartman's formula. *Museum News* (May/June):74.
- Barnard, Matt. 2002. The fire escape. News analysis. *Museums Journal* (July):14-15.
- Barr, David W. 1997. Legacies and heresies: Some alternatives in disposing of museum collections. In *A deaccession reader*, 99-106. ed. Stephen Weil. Washington, DC: American Association of Museums.
- Behind the scenes access, photography, or filming of museum objects. Museum of Anthropology, University of British Columbia. n.d. [www.moa.ubc.ca/pdf/Behind\\_the\\_scenes.pdf](http://www.moa.ubc.ca/pdf/Behind_the_scenes.pdf).
- Behind the scenes at the museum. 2000/2001. Science and Technology. *The Economist* 357 (8202)(23 December 2000-5 January 2001):115-16.
- Bell, Steven J. 2003. Is more always better? *American Libraries* 34 (1)(January):44-46.
- Bensard, Éva. n.d. France moves towards the devolution of cultural heritage. *TheArtNewspaper.com*. (Accessed January 20, 2004.)
- Bergevoet, Frank. n.d. Guide to the deaccessioning of museum objects in the Netherlands. Netherlands Institute for Cultural Heritage. Amsterdam. (Photocopy.)
- Besterman, Tristram. 1991. The ethics of emasculation. *Museums Journal* (September):25-28.
- . 1992. Disposals from museum collections. Ethics and practicalities. *Museum Management and Curatorship* 11:29-44.

- Björklund, Anders, and Éva Silvén-Garnert, eds. 1996. *Adressat okänd. Framtidens museiföremål* [Addressee Unknown. Tomorrow's Museum Artefacts]. Stockholm: Carlsson.
- Blumenstyk, Goldie. 1999. Matchmaker to the art world. *Chronicle of Higher Education*. May 21.
- Borg, Alan. 1991. Confronting disposal. *Museums Journal* (September):29-31.
- British Library. n.d. *Adopt a book*.  
<http://www.bl.uk/about/cooperation/adopt.html>.
- Butts, David. n.d. Fellowships in museum practice. Washington, DC: Smithsonian Institution. <http://museumstudies.si.edu/Fellowships/DavidButts.htm>.
- Cameron, Fiona. The next generation — 'knowledge environments' and digital collections. Museums and the Web 2003. Papers. University of Sydney, Australia.  
<http://www.archimuse.com/mw2003/papers/cameron/cameron.html>.
- Canadian Museums Association. 1999. CMA ethical guidelines 1999.  
<http://www.museums.ca/cma1/about/cma/ethics/ethicstoc.htm>.
- . 2001. Wired collections: The next generation. *Museum Management and Curatorship* 19 (3):309-15.
- Commission on the Future of the Smithsonian Institution. 1995. *E pluribus unum: This divine paradox*. Washington, DC: Smithsonian Institution.
- Conforti, Michael. 1997. Deaccessioning in American museums: II — some thoughts for England. In *A deaccession reader*. ed. Stephen Weil. Washington, DC: American Association of Museums.
- Cunliffe, Danielle, et al. 2001. Tell me what you want, what you really, really want. Usability evaluation for museum websites. *Museum Management and Curatorship* 19 (3):229-52.
- Dunkin, Zach. 2003. Museum boom resounds in city. *Indianapolis Star*. December 14.
- Dunn, Richard. 1999. The future of collecting: Lessons from the past. In *Museums and the future of collecting*. ed. Simon Knell. Brookfield VT: Ashgate Publishing Company.
- Fenton, Alexander. 1995. Collections research: Local, national and international perspectives. In *Collections management* (Leicester Readers in Museum Studies). ed. Anne Fahy. New York: Routledge.

- Financial Accounting Standards Board. 1993a. Statement of financial accounting standards no. 116: Accounting for contributions received and contributions made. *Financial Accounting Series* (June).
- . 1993b. Statement of financial accounting standards no. 117: Financial statements of not-for-profit organizations. *Financial Accounting Series* (June).
- Financial Accounting Standards Advisory Board. 2003. Heritage assets and stewardship land: Reclassification from required supplementary stewardship information, proposed statement of federal financial accounting standards. (Exposure draft.) August 20.
- Fleming, David. Changing the disposals culture. *Museums Journal* (UK) (September):36-37.
- Gardner, James B., and Elizabeth Merritt. 2002. Collections planning: Pinning down a strategy. *Museum News* (July/August): 31-33, 60, 61.
- Garfield, Donald. 1990. Unusual obstacles: Natural history museums and keepers of living collections face deaccessioning dilemmas distinct from those of other institutions. *Museum News* (March/April):52-54.
- Gilboe, Roberta Frey. 1997. Report to the Deaccessioning Task Force of the Registrars Committee of AAM. In *A deaccession reader*, 205-44. ed. Stephen Weil. Washington, DC: American Association of Museums.
- Greenaway, Frank. 1983. National museums. *Museums Journal* 82 (4) (March):7-12.
- Greene, Mark. 2000. "The surest proof": A utilitarian approach to appraisal. *American archival studies: Readings in theory and practice*, 301-42. ed. Randall C. Jimerson. Chicago: The Society of American Archivists.
- Greene, Mark A., and Todd J. Daniels-Howell. 1997. Documentation with an attitude: A pragmatist's guide to the selection and acquisition of modern business records. *The records of American business*, 161-229. ed. James M. O'Toole. Chicago: The Society of American Archivists.
- Hallett, Martin. 2003. The objects of science and technology — working with "things." Proceedings of the "Recovering Science" Conference. <http://www.asap.unimelb.edu.au/>.
- Hayes, Seay, Mattern, and Mattern, Inc. 1997. Smithsonian Institution History and Art Center: Facility prospectus and back-up documentation. November.
- Henry Ford Museum & Greenfield Village. 1999. Collections 21 Task Force report. Dearborn, MI.

- . 2001. Henry Ford & Greenfield Village policy and procedure memorandum no. 10c. Collections policy. Dearborn, MI. January.
- . 2002a. Henry Ford, quoted in the *New York Times Magazine*. April 5, 1931. As quoted in History principles for Henry Ford Museum & Greenfield Village. October 16.
- . 2002b. Themes for rural life after World War II. Dearborn, MI. (Draft.)
- Heritage Collections Council (Australia). 1998. *Managing collections. reCollections: Caring for collections across Australia*. Canberra: Heritage Collections Council.
- . 2001. (*significance*) *A guide to assessing the significance of cultural heritage objects and collections*. Canberra: Heritage Collections Council.
- Heritage Preservation. 2003. *Heritage health index*.  
<http://www.heritagepreservation.org/PROGRAMS/HHIhome.HTM>.
- Higgins, Charlotte. 2003. Behind the scenes at the museum. *The Guardian*. November 27.
- Hilberry, John D. 2002. Behind the scenes: Strategies for visible storage. *Museum News* (July/August):34-40.
- History of museums. 2002. *Encyclopedia britannica*.  
<http://search.eb.com/eb/article?eu=127668>.
- Holo, Selma Reuben. 1999. *Beyond the Prado: Museums and identity in democratic Spain*. Washington, DC: Smithsonian Institution Press.
- Hooper-Greenhill, Eilean, ed. 1995. *Museum, media, message*. New York: Routledge.
- Hull, C. Bryson. 2002. Enron ethics manual to be enshrined at Smithsonian. Yahoo!Finance, February 26. <http://biz.yahoo.com/>.
- Institute of Museum and Library Services. 2002. Status of technology and digitization in the nation's museums and libraries 2002 report. May.  
<http://www.ims.gov/reports/techreports/intro02.htm>.
- International Council of Museums. 2001. ICOM code of ethics for museums.  
<http://icom.museum/ethics.html>.
- Janes, Robert R. 1995. *Museums and the paradox of change: A case study in urgent adaptation*. Alberta, Calgary, Canada: Glenbow Museum.
- Jha, Alok. 2003. Welcome to the real Natural History Museum. *The Guardian*. October 9, 2003.

- Kavanagh, Gaynor. 1999. Collecting from the era of memory, myth and delusion. In *Museums and the future of collecting*, 79-87. ed. Simon Knell. Brookfield, VT: Ashgate Publishing Company.
- Keene, Suzanne. 1994. Less is more. *Museums Journal* (November):34-37.
- . 2002. Museums, collections, and people. *Managing conservation in museums*, chapter 2. 2d ed. Oxford: Butterworth Heinemann.
- Kelly, Lynda. 1999. Developing access to collections through assessing user needs. Paper presented at Museums Australia Conference, Albury, Australia, May.
- Kennard, Desmond. 2002. Contemporary collecting. *Newsbrief* (Museums and Galleries Foundation of New South Wales) 4 (4)(September):2.
- Kinzer, Stephen. 2002. Museum's goal: Save the world's wild places. *New York Times*. November 5.
- Knell, Simon J., ed. 1999a. *Museums and the future of collecting*. Brookfield, VT: Ashgate Publishing Company.
- . 1999b. What future collecting? In *Museums and the future of collecting*, 3-35. ed. Simon Knell. Brookfield, VT: Ashgate Publishing Company.
- LeBlanc, F. 2003. Field trip report. The Getty Conservation Institute. [http://www.icomos.org/~fleblanc/projects/p\\_gci\\_ftr\\_2003chile-argentina.pdf](http://www.icomos.org/~fleblanc/projects/p_gci_ftr_2003chile-argentina.pdf).
- Levin, Miriam R. 2002. Museums and the democratic order. *Wilson Quarterly* 26 (1) (Winter). <http://web18.epnet.com/citation>.
- Lord, Barry, Gail Dexter Lord, and John Nicks. 1989. *The cost of collecting*. London: Her Majesty's Stationery Office.
- Lubar, Steven, and Kathleen M. Kendrick. 2001. *Legacies: Collecting America's history at the Smithsonian*. Washington DC: Smithsonian Institution Press.
- Madden, Mary. 2003. America's online pursuits: The changing picture of who's online and what they do. Pew Internet & American Life Project. December 22. <http://www.pewinternet.org/index.asp>.
- Malaro, Marie C. 1997. Deaccessioning — the American perspective. In *A deaccession reader*, 39-49. ed. Stephen Weil. Washington, DC: American Association of Museums.
- . 1998. *A legal primer on managing museum collections*. Washington, DC: Smithsonian Institution Press.

- Mangerie, Tony A. 2003. Digital asset management presentation to the Office of the Chief Information Officer and others. Smithsonian Institution, Washington, DC. September 22.
- Mayo, Edith. 1981. In *Twentieth-century popular culture in museums and libraries*. ed. Fred E. H. Schroeder. Bowling Green: Bowling Green University Popular Press.
- Miller, Steven H. 1997. Selling items from museum collections. In *A deaccession reader*, 51-61. ed. Stephen Weil. Washington, DC: American Association of Museums.
- Müller, Klaus. 2002. Going global: Reaching out for the online visitor. *Museum News* (September/October):46-53.
- Munday, Val. 2002. Guidelines for establishing, managing, and using handling collections and hands on exhibits in museums, galleries and children's centres. <http://www.mla.gov.uk/action/stewardship/00stew.asp>.
- Muse*. 1990. Issue on the great deaccessioning debate. 8 (2)(August.)
- Museums Journal* (UK). 1991. Issue on disposal. (September.)
- . 1996. Issue with several articles on disposal. (July.)
- Museum News*. 1990. Issue on the debate over deaccessioning. (March/April.)
- Nairne, Sandy. 2002. Collaboration and rationalisation. Submitted to Re:Source, June 10, 2001. London. [www.mla.gov.uk](http://www.mla.gov.uk).
- NASA seeks advice about displaying pieces of Columbia. 2003. DallasNews.com from Associated Press. August 26.
- National Academy of Public Administration. 2001. Study of the Smithsonian Institution's Repair, Restoration, and Alteration of Facilities Program. Washington, DC: National Academy of Public Administration.
- National Museum Directors' Conference (NMDC). 2002. *International dimensions*. London: National Museum Directors' Conference.
- . 2003. *Too much stuff? Disposal from museums*. London: National Museum Directors' Conference.
- National Museum of Australia. 1996. Collections development framework. Canberra, September. (Photocopy.)
- Natural Science Collections Alliance. 2003. *Alliance Gazette* (Spring):2-4.

- Neal, Arminta. 1980. Collecting for history museums: Reassembling our splintered existence. *Museum News* (May/June):24-27, 29.
- Niemeyer, Alex, Minsok H. Pak, and Sanjay E. Ramaswamy. 2003. Smart tags for your supply chain. *The McKinsey Quarterly* (4).
- Pearce, M. Susan. 1992. *Museums, objects, and collections: A cultural study*. Washington, DC: Smithsonian Institution Press.
- Perry, Richard L. 1988. Dipping into the current: Collecting artifacts of the recent past. In my opinion. *History News* 43 (1)(January/February):31, 33-34.
- Pes, Javier. 2002. Open storage special: Reserve judgement. *Museum Practice* 19 (7):50-55.
- Pew Internet and American Life Project. 2003. *Internet use by region in the United States*. August 27. <http://www.pewinternet.org/reports/>.
- Price, Laura, and Abby Smith. 2000. *Managing cultural assets from a business perspective*. Washington, DC: Council on Library and Information Resources.
- Re:Source [formerly Museums and Galleries Commission, and as of 2004 The Museums, Libraries, and Archives Council, [www.mla.gov.uk](http://www.mla.gov.uk)]. 1995. Registration scheme for museums and galleries in the United Kingdom. Registration guidelines. 1.2: Use of the title “national” museum. London.
- . 2003a. The designation scheme for museums, archives and libraries. Draft for consultation. London.
- . 2003b. Registration scheme for museums and galleries: Registration standard. Draft for consultation. London. March.
- Rewald, John. 1997. Should Hoving be deaccessioned? In *A deaccession reader*. ed. Stephen Weil. Washington, DC: American Association of Museums.
- Rubenstein, Harry. 1985. Collecting for tomorrow: Sweden’s contemporary documentation program. *Museum News* (August).
- Ruiz, Cristina. 2003. Profile of Andrew Lloyd-Webber, as his collection goes on show. News section. <http://www.theartnewspaper.com/>.
- Saffo, Paul. 1994. It’s the context, stupid. *Wired* 2.03 (March). <http://www.wired.com/wired/archive/2.03/context.html>.
- Scoble, Malcolm J. 1997. Natural history museums and the biodiversity crisis: The case for a global taxonomic facility. *Museum International* 49 (4).



- Shelton, Sally. 2000. Report of FY2000 collections profiling project. National Museum of Natural History, Smithsonian Institution. Washington DC.
- Silvén, Éva. 1998. Samdok. Contemporary research in Swedish museums. Samdok. Stockholm. April 1.
- Silvén-Garnert, Éva. 1995. Objects in the world and objects in museums. *Nordisk Museologi* 2:123-30. <http://www.umu.se/nordic.museology/NM/952/ESGarnert.html>.
- Simmons, John. 1993. Natural history collections management in North America. *Journal of Biological Curation* 1 (N3/4, 1991-92):1-17.
- Smithsonian Institution. 1947. *Proceedings of the annual meeting of the Board of Regents of the Smithsonian Institution, 17 January, 1947*. Washington, DC: Smithsonian Institution.
- . 1977a. CPM report. Vol. 1 Findings and recommendations. Report on a collections policy and management study. Smithsonian Institution. Washington, DC. August 31.
- . 1977b. CPM report. Vol. 2 Background information. Report on a collections policy and management study. Smithsonian Institution. Washington, DC. August 31.
- . 1977c. A report on the management of collections in the museums of the Smithsonian Institution. Smithsonian Institution. Washington, DC. September 26.
- . 2001. Smithsonian Directive 600 collections management. Washington, DC: Smithsonian Institution. October 26.
- . 2003a. *Building a Smithsonian for the future. Smithsonian Institution strategic plan 2004-2008*. Washington, DC: Smithsonian Institution, March.
- . 2003b. Smithsonian Institution performance plan fiscal year 2005. Washington, DC. September. (Draft.)
- Smithsonian Institution. Authorized collecting units. Various dates. Collections management policies.
- Smithsonian Institution. Committee on Compensation and Human Resources. n.d. *The Smithsonian workforce: Challenges for the 21<sup>st</sup> century*. Washington, DC.
- Smithsonian Institution. Cooper-Hewitt, National Design Museum. 2001. Strategic plan for collections 2001-2005. New York. November 29.

- Smithsonian Institution. National Museum of American History. 2003. Collections analysis—phase I draft of June 12, 2003. Washington, DC. (Photocopy.)
- Smithsonian Institution. National Museum of Natural History. 1984. Collections management policy. Washington, DC. February 15.
- Smithsonian Institution. Office of the Chief Information Officer. 2003. Smithsonian information technology plan FY2003-FY2008. Washington, DC. April. <http://prism.si.edu/ocio/sitp.htm>.
- Smithsonian Institution. Office of Equal Employment and Minority Affairs. Various years. *Equal employment reports*. Washington, DC.
- Smithsonian Institution. Office of Facilities Engineering and Operations. Office of Facilities Services. 2000. Smithsonian space use by category and building. Washington, DC. September.
- Smithsonian Institution. Office of Policy and Analysis. 2002. *21<sup>st</sup> century roles of national museums: A conversation in progress*. Washington, DC: OP&A.
- Smithsonian Institution. Smithsonian Center for Materials Research and Education. 2002. RELACT reference materials. <http://www.si.edu/scmre/relact/relact2.htm>.
- Smithsonian Institution. Smithsonian Institution Archives. National Collections Program. 2003a. *Collections management assessment report*. Washington, DC: National Collections Program. May.
- . 2003b. Smithsonian Directive (SD) 600 Collections management. Implementation manual. Washington, DC. October 22. (Draft.)
- . 2003c. *2002 collections statistics*. Washington, DC: National Collections Program.
- Smithsonian Institution Council. 1997. 1996 Smithsonian Institution Council report. Smithsonian Institution Archives, Washington, DC. January 28. (Photocopy.)
- . 2003. Office of Policy and Analysis staff notes from Smithsonian Institution Council meeting of October 30-31, 2003. Washington, DC.
- Sola, Tomislav. 1999. Redefining collecting. In *Museums and the future of collecting*, 187-96. ed. Simon Knell. Brookfield, VT: Ashgate Publishing Company.
- Statutes at large of the United States of America, 1789-1873. 17 vols. Vol. 9, 102-06. *An act to establish the "Smithsonian Institution," for increase and diffusion of knowledge among men*. Boston: Little, Brown and Co.

- Stone, Ann. 2002. *Treasures in the basement? An analysis of collection utilization in art museums*. Diss. Santa Monica, CA: RAND Graduate School.
- Suarez, Andrew V., and Neil D. Tsutsui. The value of museum collections for research and society. *BioScience* 54 (1)(January).
- Suchanic, Angela C. 1993. *Smithsonian Institution initial needs assessment: Collections management*. Prepared for the Office of Planning and Budget. December 29. (Photocopy.)
- Tait, Simon. 2003. Maritime museum floats the idea of tactical dispersal. *Times* (London), August 25. <http://80-Web.lexis-lexis.com.proxygw.wrlc.org/universe/printdoc>.
- Talley, M. Kirby, Jr. 1999. The delta plan: A nationwide rescue operation. *Museum International* (1) (January-March):11-15.
- Taylor, Lonn W., ed. 1987. *A common agenda for history museums*. Conference proceedings. February 19-20. American Association for State and Local History and the Smithsonian Institution. Nashville, TN: American Association for State and Local History.
- Thomson, Keith S. 2001. Collections and research. Submitted to Re:Source May 15, 2001. <http://www.resource.gov.uk/information/policy/collectionrsch.asp>.
- Today for tomorrow. Museum documentation of contemporary society in Sweden by acquisition of objects*. 1980. Samdok. Stockholm: Nordiska Museet.
- United Kingdom. Department for Culture, Media and Sport. 1999. *Collection storage excellence study*. Efficiency and effectiveness of government-sponsored museums and galleries. Measurement and improvement. London: DCMS. September.
- United Kingdom Maritime Collections Strategy (UKMCS). 2002. UKMCS Working Group Minutes. [http://www.ukmcs.org.uk/directors/16.01.2002\\_ukmcs\\_working\\_group\\_minutes.htm](http://www.ukmcs.org.uk/directors/16.01.2002_ukmcs_working_group_minutes.htm).
- United States. Department of the Interior. 2003. *FY 2002 Performance and accountability report*. <http://www.doi.gov/pfm/par2002>.
- . 2004. *FY 2003 performance and accountability report*. <http://www.doi.gov/pfm/par2003>.
- United States Congress. House of Representatives. 2004. H.R. 2691. An act making appropriations for the Department of the Interior and related agencies for the fiscal year ending September 30, 2004 and for other purposes. 108<sup>th</sup> Congress, 1<sup>st</sup> sess.

- University of Nebraska State Museum. n.d. Mission statement. [www.museum.unl.edu/mission/html](http://www.museum.unl.edu/mission/html).
- van der Weiden, Wim. 2003. Opinion. *Museum Practice* (Summer):11.
- Villano, Matt. 2003. Dewey goes digital. *Digital Libraries* (June 2003). <http://www.universitybusiness.com>.
- Vogel, Carol. 2002. Museums team up to foot the bill and find the space. *New York Times*. October 17. <http://www.nytimes.com/>.
- Wadum, Jørgen. 2003. Conservation at the crossroads. *Focus* (2).
- Washburn, Wilcomb. 1968. Are museums necessary? Opinion. *Museum News* (October):9-10.
- Weil, Stephen E. 1990. Rethinking the museum. *Museum News* (March/April):57-61.
- . 1995. Introduction. In *A cabinet of curiosities: Inquiries into museums and their prospects*, xiii-xxii. Washington, DC: Smithsonian Institution Press.
- . 1997a. Deaccessioning in American museums: I. In *A deaccession reader*, 63-70. ed. Stephen E. Weil. Washington, DC: American Association of Museums.
- . 1997b. The deaccession cookie jar. In *A deaccession reader*, 87-91. ed. Stephen E. Weil. Washington, DC: American Association of Museums.
- , ed. 1997c. *A deaccession reader*. Washington, DC: American Association of Museums.
- Wheeler, Quentin D., Peter H. Raven, and Edward O. Wilson. 2004. Taxonomy: Impediment or expedient? *Science* 303 (January 16).
- Whiting, Rick. 2002. Museums exhibit sharing tendencies. *Information Week*. March 11. <http://www.informationweek.com/story/IWK20020307S0010>.
- Wilson, David M. 1984. National museums. In *Manual of curatorship: A guide to museum practice*. London: Butterworths.
- Wright, David. 2002. On the right track. *Museum Practice* 19 (March):52-55.
- Wright, Thomas. 1996. Collections and attractions: Whence collections in the age of the “experience.” In *Clio in museum garb: The National Museum of American History, the Science Museum and the History of Technology*. Science museum papers in the history of technology No. 4. Session given at SHOT '96. London.

## APPENDIX E.

# AN INTERAGENCY NATURAL HISTORY FACILITY

The idea of building a federal interagency natural history facility has been discussed, off and on, for over 30 years. Such a facility would bring together the collections and scientific personnel of the Smithsonian's National Museum of Natural History (NMNH) — and possibly other science units at the Smithsonian — with other federal research organizations that maintain natural history collections. The idea has re-emerged with renewed force in the past few years, propelled by two main factors. The first is an interest in achieving financial, intellectual, and operational synergies from integrating federal natural history research activities. The second and more pressing factor is concern at both NMNH and its federal partners about the physical limitations of their respective facilities.

### **a national natural history capability**

---

One question that drives interest in an interagency natural history facility, particularly since the terrorist attacks of September 11, 2001, is whether the United States needs a national plan and a stable, coordinated national program for natural history research and collecting. While this question has emerged with particular attention in relation to bioterrorism — as, for example, in the introduction of pernicious exotic species by terrorists — the value of a coordinated national approach to natural science also potentially touches on other areas of national interest such as agriculture, recreation, medicine, and biodiversity conservation.

Natural history research in the United States already benefits greatly from NMNH's partnerships with other federal agencies. Partners include the National Biological Information Infrastructure (NBII)<sup>1</sup>; National Institutes of Health; Agricultural Research Service of the US Department of Agriculture (ARS/USDA); Patuxent Wildlife Research Center of the US Geological Survey (USGS) of the US Department of the Interior<sup>2</sup>; National Oceanic and Atmospheric Administration (NOAA) of the US Department of Commerce; and US Department of Defense. Many of NMNH's partners provide onsite staff who assist with the curation of collections.

However, the United States lacks a high-level national strategic plan for the management and research use of natural history collections. Some of the individuals interviewed for this study explicitly noted that it is *not* necessarily national or global scientific needs that dictate which fields of research receive the most attention, so much as the interests of the entities that provide funding. Widespread reliance upon research grants does not, they suggested, support a systematic approach to the development and use of national collections.

Overall, interviewees from both the Smithsonian and other federal natural history research organizations expressed some concern that if the *status quo* is allowed to continue, federal collections will continue to grow in a fragmented, haphazard way. One interviewee pointed out that in part because of the current "fractionated" system, over the last 200 years only an estimated 5-7 percent of the world's biodiversity has been described. Interviewees also stressed that federal agencies conducting natural history research often were not capitalizing on the opportunities for greater synergy — for example, in the area of bioinformatics. There appeared to be a strong consensus about the benefits of introducing a higher level of coordination into federal natural science activities.

---

<sup>1</sup> Including the Integrated Taxonomic Information System (ITIS).

<sup>2</sup> Other Interior partners include the Fish and Wildlife Service and Bureau of Land Management. NMNH is currently negotiating with Interior's National Park Service regarding the disposition of some of the latter's collections.

## limitations of existing facilities

---

Another, more immediate issue underlying the interest in an interagency facility arises from problems with existing facilities at both NMNH and its federal partners. NMNH has experienced difficulties managing its collections in recent years, partly because of the limitations of its physical plant. Such difficulties translate directly into inefficiencies in the conduct of research — especially in the field of biology, which functions best with a high level of interaction among researchers and collections. As one interviewee noted, “most biology collections are in constant use in one way or another — if not NMNH researchers, there is the constant flow of visitors and loan requests.”

NMNH’s collections long ago outgrew the Natural History Building (NHB) on the Mall. Relocating some collections to the Smithsonian’s Museum Support Center (MSC) in Suitland, Maryland, provided a partial solution to this problem, but space is still insufficient. Further, the resulting physical separation of collections, sometimes even within the same discipline, has created inefficiencies, as researchers and support staff are forced to shuttle between the Mall and Suitland. One interviewee complained that “the staff time lost to inefficiency and the opportunity cost of having collections separated are considerable.” Another commented on the difficulty the dual storage situation causes visiting researchers: “A researcher comes to NMNH for, say, three days, and doesn’t want to spend them going back and forth to Suitland.” Further, the storage of collections at different locations hampers scientific collaboration and cooperation among colleagues.

While acknowledging that MSC offers high quality storage space, interviewees noted that, in contrast, storage space in NHB is often not conducive to proper collections care. According to one interviewee, NMNH’s Mall facilities are “woefully inadequate” relative to its needs: “The collection is getting great curatorial care, but it is more of an effort because storage is not up to par. There is tremendous

inefficiency in maintaining the collections.” Problems with pests and environmental control at the NHB are examples of issues that came up in the interviews. According to one person, “The physical condition of many of the collections is atrocious. . . . Getting decent humidity control in the National History Building would be a start.” Another stated, “An incredible amount of time is spent combating [insect] infestation.” Research and storage areas in the west wing basement are subject to flooding during heavy rains. Concerns about storage conditions at NHB may even be undermining NMNH’s role as a repository for the natural history collections of other federal agencies. Some interviewees, for example, thought that such concerns were one reason the National Park Service (NPS) has been reluctant to send its considerable natural history collections to the Smithsonian.<sup>3</sup>

The safety and security of collections are also a concern at NHB. NMNH has been addressing the storage of the highly flammable alcohol collections. The Pod 5 facility at MSC, due to be completed in September 2005, is explicitly designed to provide a safe environment for these collections, and is currently the Smithsonian’s highest priority safety and security project. But some of these collections will remain on the Mall. Although they are stored in reinforced rooms, some interviewees continued to be concerned about terrorism on the Mall and the possibility of losing unique reference and type collections of inestimable value to science.<sup>4</sup>

Concerns about the inadequacy of existing facilities are by no means unique to the Smithsonian. In fact, most of NMNH’s partner agencies with collections face significant problems of their own. According to interviewees, ARS/USDA facilities in Beltsville, Maryland, house many collections in suboptimal buildings constructed for other purposes, and the deferred maintenance on storage facilities will cost about

---

<sup>3</sup> Other reasons also pertain. NPS maintains that it cannot legally transfer its collections to the Smithsonian, because it interprets recent legislation as superseding the 1879 legislation establishing the Smithsonian as the federal repository for natural history collections. However, one non-Smithsonian interviewee disputed this interpretation of the law, implying that NPS was holding out for other reasons. Another interviewee observed that “There are some people [at NPS] who want the collection to always be in the parks — they don’t want to lose control.”

<sup>4</sup> Type specimens are the first specimen used to describe a species; as the original, they are crucial to classification. They are the basis upon which species identifications are made.



\$60-\$75 million to resolve. Collections and research space are not well integrated. Storage facilities do not provide adequate security; according to one interviewee, sheer luck prevented the destruction of valuable entomology collections when a tornado hit Beltsville a few years ago and did \$2 million in damage. The situation of the Patuxent Wildlife Research Center in Laurel, Maryland, is even worse. Recently the roof of one facility caved in, and the center has had to move into temporary quarters belonging to ARS. Maryland's US Senators, Paul Sarbanes and Barbara Mikulski, have both said they would press for new facilities for the Center. As for NPS, its significant natural history collections are dispersed across the nation at a large number of locations, and therefore are not easily accessible to researchers.

A final point made by interviewees is the potential for significant growth in federal natural history collections in the near future, at a time when space is already tight. One part of the new NPS Natural Resources Challenge program involves exhaustive collection and documentation of biological specimens from America's parklands; this will result in substantial growth in NPS collections. Increased attention is also being paid to collecting rapidly vanishing species before they are gone. The current crisis in state government budgets is affecting natural history collections supported by state universities and museums. For example, funding strains have led a number of state university natural history departments and museums to scale back, leaving the fate of their collections uncertain.<sup>5</sup> One question these cutbacks pose is whether NMNH, as the nation's natural history museum, should be the repository of last resort for such collections.

---

<sup>5</sup> Ironically, one of the rationales advanced for such retrenchment has been that the affected collections are of national scope, and thus inappropriate for parent organizations with a mandated state or regional focus. Concern about the fate of these collections has reached the point where the American Association of Museums issued a statement, dated November 2003, urging "university administrators, trustees, state legislators, and alumni to do everything in their power to preserve, protect, and support their collections of natural and cultural history (American Association of Museums 2003f)."

## two solutions

---

What options are available to the Smithsonian and other federal agencies to address these issues of research coordination and suboptimal facilities? One is for each agency to develop its own facilities independently, and to continue research collaboration on an essentially *ad hoc* basis. At the Smithsonian, this option is currently being pursued at NMNH through planned renovations of NHB and the construction of the Pod 5 facility at MSC for alcohol collections. A second option is the construction of a new purpose-build interagency natural history facility.<sup>6</sup> The advantages and disadvantages of these options are discussed below.

### renovation and expansion of existing facilities

---

One pragmatic argument in favor of current plans to renovate NHB and expand MSC is that it may not be possible to find funding for a more ambitious program of new construction. The \$30 million Pod 5 project has been forced by security concerns that have arisen since September 11; otherwise, current plans for upgrades to NMNH facilities are limited to incremental renovations at NHB. In a time of budget stringency, such renovations have the virtue of avoiding large upfront costs. However, both interviewees and the documentation relating to NMNH's renovation plans raise questions with respect to the efficiency and adequacy of this option.

With respect to cost, renovating an old scientific building is not necessarily cheaper than constructing a new facility with similar or better features. In fact, interviewees from the Smithsonian Office of Facilities Engineering and Operations (OFEO) suggested that the square-foot costs of building a new state-of-the-art storage and

---

<sup>6</sup> "Purpose-build" means a facility designed and constructed for a specific use.

research facility could be roughly comparable to the square-foot costs of renovating NHB.<sup>7</sup> Of course, every construction project is unique, and costs turn on factors such as the ratio of laboratory space to storage and office space; the type and quality of laboratory facilities; and special features. The point is simply that there can be no presumption that on a square-foot basis renovations to NHB would be less expensive than new construction.

More importantly, some interviewees questioned whether the investment in renovating NHB will in the end yield adequate results, as the nature of the building imposes limitations on any redesign. Because of these limitations, even the best renovations may not result in an optimal facility. As one interviewee noted, “Even if money was no object and you could make it state-of-the-art at NMNH, it would still not be ideal. . . . We have 21<sup>st</sup> century scientists in a 19<sup>th</sup> century facility.” One interviewee, for example, questioned whether pest control systems in NHB could be brought up to a high standard through renovations:

[It] is extremely difficult, if not impossible, to exclude pests from an old, complex building where integrated pest management has not been in operation on an ongoing basis. The Smithsonian natural history museum buildings are old, [and] have various types of connections where additions and modifications were made to the original structures. . . . I am sure there are various types of pests in walls, under floors, under finishings, along electrical wire runs, in mechanical systems, and so forth. Although the building could be renovated, this usually involves cosmetic changes, whether major or minor, but seldom involves getting down to the basic structure and rebuilding.

---

<sup>7</sup> For a rough comparison, construction costs for the Pod 5 facility are currently estimated at \$118 per square foot (sq ft) for storage space (61,500 sq ft), and \$259 per square foot for adjoining laboratory facilities (42,500 sq ft), averaging about \$175 per square foot for all construction. Figures obtained from the architect responsible for renovations to the sixth floor of NHB put the square-foot construction cost of that job at approximately \$155-\$160. (Note that these are *construction* costs, not estimates of Smithsonian *program* costs, which include such factors as design, project management, contingency funds, and equipment and furniture. These typically add about 35-40 percent to construction costs.)

Some interviewees voiced concern that MSC will not offer sufficient lab space to complement transplanted NHB collections, although the final configuration of MSC's NMNH space had not been finalized at the time the research for this study was completed.<sup>8</sup>

On the other hand, an interviewee familiar with the NHB renovations believed that complaints about pests, environmental controls, and security could be effectively addressed through renovations. According to this individual, the two main problems that could not be renovated away arise from the overall configuration of the building. First, most of the laboratory and working space in NHB is divided between the two wings of the building, with the main building and exhibition space between them. This is not conducive to efficient research, as it creates two "islands" of scientific activity within the facility that cannot be brought into close proximity. This impairs the informal transfer of information among research staff.

Second, as molecular research becomes more important at NMNH, the physical limitations of NHB will become more evident. Molecular research labs require sophisticated exhaust and ventilation systems that in the case of NHB must go through the roof, and space on top of NHB for such systems is limited. According to the interviewee, NHB could literally "run out of air before we get to bottom of the building," depending on the extent and intensity of laboratory space in the renovated areas. Should this happen, no cheap or simple solutions would be available.

Shortcomings are evident with respect to Pod 5 as well. The original plan was to create a facility with adequate storage space to accommodate all NMNH alcohol collections currently housed at both NHB and Pod 3 at MSC, with adequate capacity to handle 20 years of projected collections growth. However, budget issues required that the amount of storage space be scaled back. Present plans envision storage

---

<sup>8</sup> The NMNH renovation is proceeding in two phases, with Phase I involving NHB and Phase II involving MSC. However, there is inevitable overlap between the two phases, as determinations about what is possible at each location will partly determine how collections and research space are divided between them.

space sufficient to accommodate all alcohol collections currently at NHB and some of those currently at MSC Pod 3, without any allowance for collections growth.<sup>9</sup>

Another important consideration is that current plans cannot address one of the interviewees' foremost concerns — the division of research staff and collections between two locations. Even interviewees who had high praise for storage conditions at MSC worried about the implications of dividing collections between the Mall and Suitland. For example, one interviewee noted that, while moving alcohol collections to the Pod 5 facility will relieve pressure on storage in NHB and address safety concerns, it will only worsen the problem of split collections:

Under the current scenario, most of the alcohol collections for herpetology, ichthyology, and invertebrate zoology, along with the respective collection management staff, will move to Pod 5 in 2006 or 2007. However, all of the curators and scientific research staff in herpetology and ichthyology are remaining at NHB. For invertebrate zoology, half of the curators are moving to Pod 5 and the other half are remaining at NHB. . . . This will without a doubt be the most divisive event in the history of collections storage and research at NMNH. There is much speculation among the staff that the move of collections and personnel to Pod 5 will eventually result in two separate Departments of Zoology — at least in practice, if not on paper. . . . I believe scientific oversight for collection care and directed development will become considerably diminished by physically separating the curators from their collections.

There is also considerable resistance from NMNH staff regarding a transfer to Suitland. Many see Suitland as a seedy, crime-ridden area. Some biology staff believe it is “intellectually remote,” as it lacks an adequate library and critical mass of researchers with whom to interact. (This is less of a concern to anthropologists, given MSC's proximity to the Cultural Resource Center of the National Museum of the American Indian.) Comments from staff included the observations that Suitland

---

<sup>9</sup> These plans are subject to change. At the time the research for this study was concluded, OFEO was looking at various projects to see whether cost-cutting might be able to free up the funds needed for compressed shelving on more than one of the three floors of the Pod 5 facility, as envisioned in current plans.

is “not a nice place to be,” an “intellectual wasteland,” and a “warehouse in the middle of nowhere.”

The renovation plan does not fully address concerns that the Mall location leaves critical collections at risk of destruction in the event of a terrorist attack — although, as noted, the move of alcohol collections to Pod 5 is largely the result of heightened concerns about safety. Perhaps most important, however, current plans will not bring NMNH researchers into closer contact with their counterparts at other federal natural history units and support systematic coordination of research at such units.

The bottom line for many of the interviewees was that no amount of renovating and shifting functions within existing Mall and Suitland facilities would likely result in a state-of-the-art facility that could support NMNH research and collections well into the 21<sup>st</sup> century. Instead, current plans were widely viewed as a “band-aid” solution that continues to defer a more comprehensive response to the research and storage needs of NMNH, its federal agency partners, and the nation’s natural history research community.

### **a federal interagency natural history facility**

---

An alternative that has been proposed at various times since the 1960s is a federal interagency natural history facility. This option envisions a built-to-order, state-of-the-art facility that provides integrated research and storage space for NMNH and other federal agencies, and perhaps other Smithsonian natural history research units (for example, STRI). Interviewees indicated that there is widespread agreement that the core discipline in such a facility would be biology. Whether it would be advantageous to include other natural history disciplines, such as mineral sciences and anthropology, is an open question, but many interviewees did seem to feel there is potential interdisciplinary synergy to be gained from drawing in other disciplines.

Interviewees pointed to a number of advantages to this option in the area of physical facilities. Because the facility would be purpose-build, it should have a far longer lifetime, providing a physical plant that will offer value well into the 21<sup>st</sup> century. While no facility can provide a *permanent* solution to the challenges raised by constantly growing collections, the interagency facility could be designed to accommodate the collections growth anticipated for at least the medium term. More integrated and efficient research and storage spaces could be developed. A purpose-build facility could also be constructed to provide the high degree of security that many research collections require — especially the type collections that are the baselines for defining species.

More importantly, an interagency facility would build upon and institutionalize cooperative efforts among leading federal natural history agencies. The integration of agencies in an environment where collections were always within easy reach would promote efficiency and synergies in research, and would facilitate coordination of collecting. Such a facility could become the lead organization for natural history research at the national level, as well as a world center for systematics and other areas of biology.<sup>10</sup> As a logical “first stop” for those doing research in many areas of natural history nationwide, such a facility would spur the integration of the nation’s natural history databases. It could also serve as a national training center at a variety of levels, including professional internships, undergraduate and graduate education, and post-doctoral fellowships.

Further, although the upfront design and construction costs would be high, in the long run the expenditures might be more cost effective than piecemeal investments in facilities that are inherently unsuitable for state-of-the-art capabilities. Referring to current efforts to bring the NMNH Mall facility up to standard, an interviewee commented, “They are spending a fortune jerry-rigging a 100-year-old building. Conceptually, a purpose-build facility is the only way to go in the long term.” It is also important to bear in mind that the costs of an interagency facility would be

---

<sup>10</sup> In the context of biology, “systematics” refers to the classification of biological specimens according to a standard taxonomic scheme.

shared among the Smithsonian and other interested government partners, some of which have considerably larger budgets.

Even though the idea of an interagency facility has been discussed before without result, interviewees thought the time is right to take a new look at this option. Resistance to the concept within the Smithsonian has been decreasing in recent years, as the scale of NMNH's resource and facilities limitations has become increasingly clear and as security concerns have grown. Enthusiasm for an interagency facility is, if anything, even stronger at other federal agencies likely to be involved. Like NMNH, these agencies realize they cannot postpone dealing with their own facilities issues much longer — in fact, as noted, the time is at hand for the Patuxent Wildlife Research Center. Among interviewees, the idea of addressing common problems through an interagency facility had very strong support.

Political factors may also be shifting in a favorable direction. The Maryland congressional delegation's commitment to funding a new facility for Patuxent suggests there is potential support in the Congress. Further, according to interviewees, the Prince George's County Government would be receptive to hosting an interagency natural history research facility. The federal executive branch is pushing strongly for more interagency collaboration in information management, and the White House Office of Science and Technology Policy would be a possible candidate to broker negotiations among interagency partners. From a larger perspective, the project fits well with the current federal emphasis on merging similar activities across agencies to boost efficiency.<sup>11</sup>

Among interested parties, practical issues are already receiving a good deal of informal discussion, and a consensus is emerging on at least one major practical issue: location. Within the biology research community that would form the core of such a facility, there is widespread agreement that the Beltsville site of ARS/USDA

---

<sup>11</sup> On this point, the facility would reinforce incentives for federal agencies to use the Smithsonian as the repository for their collections, and perhaps help to settle the disposition of the NPS collections that are the subject of current negotiations. An interviewee from NPS noted that a "build-to-purpose" interagency facility "would clarify that this is the appropriate place to put specimens."



would be ideal. ARS owns 300-plus acres that it is willing to contribute to the project — ARS has included the possibility of such a facility in its Beltsville master land use plan for years. This site has much to recommend it. A lot of useful infrastructure is already in place: ARS is one of the world's leading agricultural research facilities, and its National Agricultural Library serves as a hub for bioinformatics work.<sup>12</sup> The land adjoins the Patuxent Research Refuge and is easily accessible by car (near the Beltway) and public transportation (ARS operates a shuttle to and from the nearby Metro stop). Two major partners in the project (ARS and Patuxent) are already located in Beltsville, and the latter needs to construct new facilities in the near future regardless of what happens with the interagency facility. Finally, the site is situated near the University of Maryland, a major research institution. Graduate students from the university are already involved with ARS and Patuxent, and staff from those facilities are engaged in activities at the university. Interviewees noted that the contact with graduate students and faculty working on the cutting edge of research would enrich the interagency facility, although this benefit does have to be weighed against the time and funding needs of supporting students. One interviewee emphasized in particular the importance of a close university connection to train future generations of systematists. Without those experts, collections will go unstudied and their value unrealized. Thus, the Beltsville location offers the critical intellectual mass that interviewees thought was lacking at Suitland.

There are three major obstacles to a new interagency facility. One is its likely upfront cost. Although it can be argued that this cost is likely to be less than what the individual agencies would spend on their own to build or renovate separate facilities, finding the funds for such an ambitious project can be an uphill battle, given current budgetary realities.<sup>13</sup>

---

<sup>12</sup> One interviewee thought the Library could equally well support the integration of national natural history databases.

<sup>13</sup> The OP&A study team concluded it would be impossible at this time to hazard even a ballpark estimate of the cost of constructing such a facility, let alone to estimate the Smithsonian's share of this cost.

A second obstacle is getting the various parties to reach agreement on the details of constructing and operating the facility. Sorting out the details of management, ownership, cost-sharing, and physical configuration would require significant and possibly contentious negotiations. Who would own the collections? Should collections be consolidated, or should individual partners retain ownership and control of what they bring to the facility? Who would manage the various activities within the facility?<sup>14</sup> How would storage and research space be allocated? How will operational costs be allocated across agencies? All of these questions and more could only be settled through discussions and negotiations among the involved agencies. Advocates of an interagency facility recognize this challenge, yet remain optimistic about the prospects for cooperation and agreement. In the words of one non-Smithsonian interviewee, “Working this out will take a lot of talking. But all the problems can be solved.” There may be grounds for this optimism, given the strong tradition of collaboration among natural history organizations and the partnerships among federal agencies and the Smithsonian, which have functioned well for decades.

The third and potentially most serious obstacle is timing. The Smithsonian and the Patuxent Wildlife Research Center must act in the near term. But negotiations among federal agencies for a joint project could take years to complete. Then funding would have to be found, within a federal budget cycle that operates two years in advance. Once these issues are resolved, design and construction would take several more years. All told, such a project could require 10 years or more to implement. Interim solutions may require the investment of funds in temporary measures that will ultimately be lost. For example, planning on Pod 5 is at an advanced stage, and that facility will almost certainly be built in the next few years. If NMNH alcohol collections were then to be transferred to a new interagency facility, Pod 5 — explicitly constructed for housing flammable biology collections — would have to be converted to some other use, possibly at additional cost.

---

<sup>14</sup> While ARS would be the logical manager of the physical plant, that still leaves the question of which agency would administer and manage the interagency research and collecting programs.

Some interviewees voiced two further concerns. One is the possibility that some NMNH staff would choose to leave the museum rather than commute to the proposed Beltsville site. The second is the negative impact that the physical separation of NMNH collections and research would have on exhibitions and public programs, which would remain on the Mall.

It is unclear to what extent these last two concerns are significant issues. As noted, the Beltsville site is well-served by the Metro. Some staff are likely to be transferred from the Mall to Suitland anyway, and many are unenthusiastic about this move. Further, NMNH expects large numbers of retirements in the next five to 10 years, meaning that many of the existing staff most tied to the Mall will have departed by the time any new facility is operational. New staff hired in the meantime could be made aware of the impending changes, and could make their decisions on whether to accept employment at NMNH with this in mind.

As to the separation of scientists and public programs, although they are now co-located, this has not necessarily resulted in a high level of interaction. The point has been made that the bulk of natural history collections — particularly life science collections — tend to be used primarily for research, with exhibition as an incidental use. Many collections are already at Suitland, and more will be going there under current plans, so to the extent that the separation of collections from public space is a problem, it will exist in any case. At its October 2003 meeting, the advisory Smithsonian Institution Council (SIC) strongly suggested that, in the interest of adequate stewardship, moving NMNH collections off the Mall should be the long-term goal.<sup>15</sup> In fact, some interviewees and SIC council members suggested that removing storage and research facilities from the Mall could free up additional space at NHB for exhibitions. This, however, appears to be a misplaced hope. In the words of an interviewee familiar with the NHB renovations, “the most expensive thing you could possibly do would be to try to convert the NHB wings to public

---

<sup>15</sup> The Smithsonian Institution Council had not been informed of the interagency facility option, and so couched its recommendation in terms of eventually moving most collections to expanded MSC facilities.

space.” Both floor loading capacities and ceiling heights in current NHB collections and research space are inadequate to allow use of this space for exhibitions without extremely costly alterations. As this interviewee put it, “Maybe you could have somebody go in there and blow out every other floor and reinforce the remaining ones around the windows, but at that point, it would be cheaper to tear it down and start all over again.”

# APPENDIX F.

## ACQUISITION AND DISPOSAL: BACKGROUND INFORMATION

### table of contents

The Henry Ford Museum intellectual framework .....	403
The Samdok approach .....	406
Disposals at the Glenbow Museum .....	407
Collections accounting standards .....	410

### the Henry Ford Museum intellectual framework

---

For a number of years, the Henry Ford Museum has been employing an intellectual framework to guide all its programs, including collecting. This approach marked a significant shift from the one that Henry Ford envisioned in 1931: “We are trying to assemble a complete series of every kind of article used or made in America from the days of the first settlers down to now. When we are through we shall have reproduced American life as lived; and that, I think, is the best way of preserving at least a part of our history and traditions (Henry Ford Museum & Greenfield Village 2002a).”

The transition began in 1981, when a new director, Harold Skramstad, concluded there was no clear rationale underlying the museum’s collecting. He called for a moratorium on collecting for one to one-and-a-half years until the museum had a collecting plan. During that period there were to be no acquisitions, as the new director of collections (now president of the Henry Ford) defined a theme — change

over time — to which collections would need to be clearly linked. Also underlying the changes of this period was the need to address serious financial issues.

More recently, in 1999 the museum established a Collections 21 Task Force, whose mandate was “to re-examine and define the purpose, nature, and scope of the artifacts we will require to achieve our mission in the next century (Henry Ford Museum & Greenfield Village 1999).” This task force worked in parallel with two others that looked at “the character and mix of our programmatic experiences” in the museum and Greenfield Village, respectively (*ibid.*). The collections task force identified both the core topics of the museum’s collections (for example, agriculture and family life) and the areas that the collections did not cover and that the museum would not pursue in depth (such as religion and military history). In each of the core topics, the task force also identified particular strengths of the Henry Ford’s collection (such as competition and record-setting within the core topic of transportation and automobiles).

The Collections 21 Task Force also identified a guiding collections principle — “The artifacts we maintain need to tell a story and the story we are telling is one of change through time” — in light of which judicious acquisitions should take place. Acquisitions were expected to have certain characteristics reflecting this story-telling function. They should, for example, “reflect a shift in the way America viewed, understood, or interacted with the world,” and “include a powerful story of a maker, user, or marketer.” The task force listed the target audiences in order of priority, noting that the primary audience to be considered in object collecting was the general public, and that “No three-dimensional artifacts should be collected primarily for research, study, or for an electronic program.”<sup>1</sup> Wherever possible, the object was to be the “real thing.” The task force recommended a Collections Evaluation Initiative over three years to analyze over half the collections. The initiative was implemented beginning in 2000, and over a period of three years curatorial staff

---

<sup>1</sup> Ford’s collections are geared entirely to its public programs, including exhibitions. It does not have a research function beyond that required for the development of exhibitions and other public programs, although a significant number of outside researchers make use of its collections.

evaluated some 22,500 items in 32 collections. As of September 2002, 3,897 of those items had been deaccessioned.

The collections department (now called the history department) works within the updated intellectual framework that defines broad subject matter areas relating to American inventiveness and technology. Within those areas, it selects specific themes, subthemes, and stories that the museum is to emphasize in its programs. An example of a subject matter area is “Rural Life after World War II.” A draft narrative for this area identifies three themes: “Changing Features and Distinctiveness of Rural Life”; “Balance Between Altering the Environment and Producing a Crop”; and “Significance of Technological Development and Mechanization” (Henry Ford Museum & Greenfield Village 2002b). According to this narrative, “The three themes examine the following concepts: rural people and rural culture; the competing ideals regarding agriculture and rural life; and the technological manifestation of agricultural production (*ibid.*, 1).” An underlying assumption is that stories and objects will represent “the lives of rural people and workers of differing ages, ethnicity, class, gender, and geography (*ibid.*)” The narrative also provides specific subthemes and identifies appropriate artifacts that fall under each theme. For example, in the case of the theme “Significance of Technological Development and Mechanization,” the subthemes are “Hand Labor vs. Mechanization”; “Appropriate Use of Technology”; and “Biotechnology and Conventional Genetic Isolation.” The narrative states that “these themes and topics will build on what is arguably the best machinery collection in the United States. It prudently broadens the scope of our collections while building on existing strengths (*ibid.* 8).” Specific artifacts that the museum intends to use to illustrate the subthemes are a gene gun; a bean buggy; a diesel tractor; a John Deere 4020 tractor; feed and seed sacks; a large round baler; harvestore pieces; and an Allis-Chalmers Rotobaler.

## the Samdok approach

---

Samdok is the most frequently cited example of the use of documentation as the primary tool in preserving evidence of social, economic, and political evolution. Samdok is a consortium of Swedish museums, numbering 90 in 2002, that focuses on extensive documentation of contemporary life, with object collecting relegated to a secondary role. Further, Samdok avoids an ad hoc approach to acquisitions by basing its limited collecting on research into national economic and social characteristics (Fenton 1995). For Samdok, collecting is not an end in itself. Rather, the goal is comprehensive documentation of contemporary society that avoids the gaps that currently exist in museum collections (Rubenstein 1985).

Samdok grew out of discussions at one national Swedish museum about its failure to present a picture of the present time — its collections only went up to 1910, and they did not reflect the whole of Swedish society. One outcome of the discussions was the establishment of Samdok in the 1970s to deal with the enormity of the task of preserving evidence of contemporary society.

Members of Samdok participate on projects in nine working groups that focus on specific areas of contemporary life, such as domestic life, leisure, nature and natural resources, and manufacturing. Each working group develops a national program to guide its work, and members meet annually to choose, by consensus, a documentation project and specific documentation site — such as a particular home or firm. Members of the groups work jointly on the projects, which typically are larger than individual museums can do on their own.

Initially Samdok emphasized object collecting, but after a few years it shifted to comprehensive documentation of the chosen site, including extensive interviews with the people living or working there and visual imaging. The documentation team also decides what objects to collect, looking for a limited number of objects that best



illustrate the themes that emerge from the documentation. According to interviewees, Samdok has led participating museums away from collecting that turns on the personal interests of curators to a more conscious, representative approach to collecting with richer context, less duplication, and fewer artifacts. It has also encouraged active sharing of plans, information, and collections across museums, consistent with a long tradition of collaboration among Swedish museums.

## disposals at the Glenbow Museum

---

Canada's Glenbow Museum in Calgary, Alberta, opened in 1968 with a mission that called for a focus on the history and settlement of northwestern North America. Its initial donated collections were large and somewhat eclectic, with objects that varied greatly in quality. The collections grew rapidly, in part because local people who saw the museum as their community's attic donated generously, and in part because the museum accepted most of what was offered. In the 1980s, "deaccessions became an active part of professional collections management at Glenbow (Ainslie 1997, 127)." From 1980-92 Glenbow disposed of around 30,000 secondary objects that were redundant, not of museum quality, or clearly outside the museum's mission.

In 1992, Glenbow realized that if it continued at its current rate of operating expenses, it would be bankrupt by 1997, with a deficit of \$7.7 million (Janes 1995, 27). To avoid this outcome, the board and director adopted six strategies, one of which was to sell selected items from its international collections that did not support its mission and geographic focus; most of the items were of museum quality and of some financial value. The objectives of the disposal project were:

- To create a Collections Endowment Fund, indexed against inflation, the income from which could be used for the care and maintenance of the collections and for future acquisitions;

- To create space for new acquisitions of more relevant collections;
- To re-establish Glenbow's core geographic focus on northwestern North America;
- To refine by culling duplicates and nonmuseum quality items; and
- To reduce the cost of collections management (Ainslie 1997, 130).

Glenbow's director discussed the disposals in the following terms: "Like good gardeners, we gather and tend our collections, but we must also prune. Careful deaccessioning of selected international collections would strengthen our focus on the northwest quadrant of North America, without diminishing our commitment to an international perspective (Janes 1995, 130)." It also helped, as one interviewee noted, that "Glenbow had no choice."

Beginning in 1992, Glenbow undertook a careful, detailed, and transparent program of deaccessioning and disposal that lasted about a year. It selected items with the aid of experts, hired for the task when museum curators lacked the required expertise. Glenbow also consulted with stakeholders, the local government, the public, the media, donors, and the museum community. Having decided it wanted to use sales proceeds for collections care as well as acquisitions, Glenbow consulted a number of sources, including the Canadian Museum Association, AAM, and auditors, to ensure that this was acceptable. It listened to all the concerns it heard, and made every effort to address them. Although the museum was initially worried about how donors might respond, the attitude of one was typical: he said he would keep donating to Glenbow because he wanted to see his collection go to a museum that was properly managed.

Glenbow sold the objects through auction houses and, when they were not interested, through dealers. By 1997 Glenbow disposed of 3,000 objects for about \$5 million in net revenue (income less the cost of the sales). It set up an acquisition

fund with the proceeds, with the income allocated for care and documentation of the collections.<sup>2</sup>

In the aftermath of the deaccessioning project, Glenbow introduced a “grading” system, intended to identify further candidates for deaccession, as well as rationalize collections care. Senior management designated this grading system as a strategic priority, both to emphasize its importance and facilitate its completion. The process was carried out only after lengthy discussion with curators, who were initially skeptical but in the end bought into the system. Each curatorial department was required to review all objects in its collections and to assign the objects to one of four categories: (1) core; (2) education (for hands-on use); (3) community (primarily for loans); and (4) disposal.<sup>3</sup> The last category was required to equal at least 10 percent of a department’s remaining collections<sup>4</sup>; some departments placed up to 20 percent of their collections in this category. Aside from identifying potential candidates for disposal, the process allowed curators to become more familiar with the collections and to determine which objects should be housed at the museum (grades 1-3) as opposed to less adequate facilities (grade 4). As a result, some higher grade collections were moved out of poor offsite storage and into the museum, and vice-versa. At the end of a year, Glenbow had graded 65 percent of its collections.<sup>5</sup>

Because a new law transferred ownership of the museum’s collections to the government and made deaccessioning far more complicated, after 1997 Glenbow had to curtail its disposal activity. However, it was continuing to work with the government to find ways to proceed with disposals.

---

<sup>2</sup> The income was initially set at 8 percent of the principal (indexed against inflation), a rate that is slowly being decreased to 5 percent.

<sup>3</sup> In the 1990s, the Ministry of Welfare, Health, and Cultural Affairs of the Netherlands began a grading scheme called the Delta Plan (see Chapter 4). The purpose was to deal with financial problems by identifying museum backlogs, developing strategic plans, and implementing solutions. The Delta Plan established three categories for museum collections, from most significant to least significant.

<sup>4</sup> This percentage was fairly arbitrary, but was chosen to be high enough that (1) the staff would take the project seriously; and (2) the amount to be deaccessioned would make the project worthwhile.

<sup>5</sup> Thereafter the process slowed as resources were reassigned to other priorities that emerged.

## collections accounting standards

---

The Smithsonian abides by the standards of the Financial Accounting Standards Board (FASB), which sets standards for nongovernmental accounting. In accordance with these standards and with prevailing museum practice, the Smithsonian does not capitalize its collections as assets. That is, it does not assign a monetary value to them.

When FASB issued a draft proposal in 1990 that suggested collections should be recognized as assets and capitalized in financial statements, there was a strong reaction from the museum community. After receiving comments on this draft, FASB agreed that the costs associated with capitalizing collections greatly outweighed the benefits, and that capitalizing collections would make museums appear wealthier than they really are in terms of assets available to fund operating expenses. Thus, FASB standards issued in 1992 made capitalizing collections optional; however, they also set certain policies and reporting requirements for museums that chose not to capitalize their collections (Financial Accounting Standards Board 1993a and 1993b). According to these policies, noncapitalization is permissible if collections are held for public exhibition, education, or research rather than financial gain; are cared for and preserved; and are subject to an organizational policy that requires proceeds from sales of collection items to be used only for the purchase of new acquisitions. (Objects that are not part of a museum's collections must be capitalized on financial statements, and revenues from the sale of such items are available for any purpose, including operating expenses.)<sup>6</sup>

---

<sup>6</sup> Another organization, the Federal Accounting Standards Advisory Board (FASAB), promulgates standards for "heritage assets" (including collections) held by federal organizations. FASAB standards preclude the capitalization of collections, but impose stewardship reporting requirements called Required Supplementary Stewardship Information (RSSI). RSSI requires federal museums to demonstrate acceptable stewardship by reporting on collection size; the number of catalogued items; the condition of individual catalogued items; and the percentage of catalogued items in good, fair, and poor condition. This goes beyond FASB standards for noncapitalized collections, which require only that museums describe their collections and stewardship policies, but do not require condition reports.

The Smithsonian, with the approval of its external accountants, began to comply with FASB's FAS 116 requirements in 1996 and has continued to do so. Thus, the Smithsonian does not capitalize its collections and provides annual reports regarding changes in collections size and the disposition of funds from sales of collections items. The National Collections Program (NCP) publishes these data in its annual *Collection Statistics* report, which covers, among other things, the size of collections and the number of acquisitions, deaccessions, disposals, and loans. NCP also publishes an annual *Collections Management Assessment Report*, with collecting units' self-assessments of their compliance with Smithsonian Directive 600 Collections Management (SD 600).<sup>7</sup> NCP submits an annual collections disclosure to the Chief Financial Officer and the Comptroller for use in the annual external audit and statement of financial position.

In accordance with FASB requirements — as well as professional ethics — SD 600 states that collecting units can use the proceeds from sales of deaccessioned items to acquire additional collections and to cover the costs *directly associated* with the deaccession and disposal of items, including appraisal, culling or processing, shipping, and commissions. At its January 2004 meeting, the Smithsonian Board of Regents approved the use of sales proceeds for expenses directly related to the deaccessioning and disposals, saying in a statement on deaccessions at the National Postal Museum that “Proceeds from the sale will be used to acquire stamps and other philatelic artifacts for the Museum and to cover the direct costs associated with the deaccession.”

---

<sup>7</sup> Chapter 8 of Smithsonian Directive 600 deals with the Smithsonian's policy on accounting for collections.



# APPENDIX G.

## ADDITIONAL STATISTICAL MATERIAL

### table of contents

---

Appendix Table G-1. Loans by Smithsonian Collecting Units in FY2000: Incoming Loans (Excluding Loans For Exhibitions); Outgoing Loans to Organizations Other Than Smithsonian Affiliates; and Outgoing Loans to Smithsonian Affiliates .....	414
Appendix Table G-2. Total Collections Storage Space Reported by Unit and Quality, FY2000 .....	417

**Appendix Table G-1. Loans by Smithsonian Collecting Units in FY2000: Incoming; Outgoing to Organizations Other Than Affiliates; and Outgoing to Affiliates**

**A. Incoming loans, less loans for exhibitions, FY2000**

Collecting unit	Loans	Items <sup>a</sup>	FTEs reported	Cost estimate (\$)	FTE days per loan	Cost per loan (\$)	FTE days per item	Cost per item (\$)
All collecting units	1,549	329,523	12	869,805	2.08 <sup>b</sup>	562	0.01 <sup>b</sup>	2.64
Art	342	2,828	4	303,339	4.67 <sup>c</sup>	887	0.81 <sup>c</sup>	107.26
FSG	48	577	0.5	32,101	2.30	669	0.19	56.00
C-HNDM	132	1,614	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
HMSG	0	n.a.	0.7	49,934	n.a.	n.a.	n.a.	n.a.
NMAfA	28	179	0.5	38,521	4.73	1,376	0.74	215.00
NPG	39	60	0.6	39,400	3.47	1,010	2.26	657.00
SAAM	95	398	2.0	143,383	5.18	1,509	1.24	\$60.00
Cultural history	4	4	1	88,634	76.10	22,158	76.10	22,158.41
AM/CAAHC	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NASM	0	n.a.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
NMAH	3	3	0.9	65,806	75.34	21,935	75.34	21,935.00
NMAI	0	n.a.	0.1	4,993	n.a.	n.a.	n.a.	n.a.
NPM	1	1	0.3	17,834	61.25	17,834	61.25	17,834.00
HSD (artifacts)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OAHF	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Natural science	1,203	326,691	7	477,832	1.37 <sup>d</sup>	397	0.01 <sup>d</sup>	1.46
NMNH	1,201	326,659	6.7	477,832	1.37	398	0.01	1.46
HSD (orchids)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NZZP	2	32	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.

Source: OP&A FY2000 survey and National Collections Program FY2000 collections statistics.

a. A single loan transaction may include multiple items.

b. For these calculations, loans reported by C-HNDM and NZZP were not included, because these units did not report any work effort.

c. For these calculations, loans reported by C-HNDM were not included, because C-HNDM did not report any work effort.

d. For these calculations, loans reported by NZZP were not included, because NZZP did not report any work effort. The effect on the final result is, however, negligible.

FTE Full-time equivalents.

n.a. Not applicable.

n.r. No survey response or no reported work effort.



Appendix Table G-1 (continued)

**B. Outgoing loans, less loans to Smithsonian affiliates, FY2000**

Collecting unit	Loans	Items <sup>a</sup>	FTEs reported	Cost estimate (\$)	FTE days per loan	Cost estimate (\$)	FTE days per item	Cost estimate (\$)
All collecting units	1,953	187,635	31	2,207,666	3.89	1,130	0.04	12.00
Art	134	1,638	10	735,959	18.86	5,492	1.54	449.00
FSG	6	12	0.7	49,934	28.58	8,322	14.29	4,161.00
C-HNDM	11	35	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
HMSG	44	89	1.7	121,269	9.47	2,756	4.68	1,363.00
NMAfA	4	6	0.9	66,341	56.96	16,585	37.98	11,057.00
NPG	23	386	1.1	75,398	11.26	3,278	0.67	\$195.00
SAAM	46	1,110	5.9	423,016	31.58	9,196	1.31	\$381.00
Cultural history	116	992	6	460,077	13.62	3,966	1.59	\$464.00
AM/CAAHC	1	3	0.5	37,595	129.12	37,595	43.04	12,532.00
NASM	18	42	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
NMAH	87	884	4.2	298,358	11.78	3,429	1.16	338.00
NMAI	7	45	1.5	109,856	53.90	15,694	8.38	2,441.00
NPM	2	15	0.2	14,267	24.50	7,133	3.27	951.00
HSD (artifacts)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OAHP	1	3	n.r.	n.a.	n.a.	n.a.	n.a.	n.a.
Natural science	1,723	185,050	14	1,008,777	2.01	\$585	0.02	5.00
NMNH	1,721	185,047	14.1	1,008,777	2.01	\$586	0.02	5.00
HSD (orchids)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NZP	2	3	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.

Source: OP&A FY2000 survey and National Collections Program FY2000 collections statistics.

a. A single loan transaction may include multiple items.

FTE Full-time equivalent.

n.a. Not applicable.

n.r. No survey response or no reported work effort.

Appendix Table G-1 (continued)

*C. Outgoing loans to Smithsonian affiliates, FY2000*

	Loans	Items <sup>a</sup>	FTEs reported	Cost estimate (\$)	FTE days per loan	Cost estimate (\$)	FTE days per item	Cost estimate (\$)
All collecting units	20	388	9	631,337	110.25	31,567	5.68	1,627.00
Art	5	111	1	83,749	57.53	16,750	2.59	754.00
FGA/AMSG	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
C-HNDM	0	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
HMSG	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NMAfA	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NPG	5	111	1.2	83,749	57.53	16,750	2.59	754.00
SAAM	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cultural history	12	166	5	373,082	106.78	31,090	7.72	2,247.00
AM/CAAHC	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NASM	4	11	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
NMAH	7	152	4.9	348,114	170.80	49,731	7.87	2,290.00
NMAI	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NPM	1	3	0.4	24,967	85.75	24,967	28.58	8,322.00
HSD (artifacts)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OAHP	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Natural science	7	122	2	174,506	85.62	24,929	4.91	1,430.00
NMNH	7	122	2.4	174,506	85.62	24,929	4.91	1,430.00
HSD (orchids)	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NZIP	0	n.a.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.

*Source:* OP&A FY2000 survey and National Collections Program FY2000 collections statistics.

a. A single loan transaction may include multiple items.

FTE Full-time equivalent.

n.a. Not applicable.

n.r. No survey response or no reported work effort.

**Appendix Table G-2. Total Collections Storage Space and Quality Reported by Units, FY2000**

	Smithsonian-owned storage space				Leased storage space			
	Total space (sq ft)	Optimal (%)	Acceptable (%)	Below acceptable (%)	Total space (sq ft)	Optimal (%)	Acceptable (%)	Below acceptable (%)
All responding units	1,294,632	42	23	35	159,397	12	43	45
Archives & libraries	44,080	10	36	53	24,798	6	18	76
AAA	0	n.a.	n.a.	n.a.	5,490	0	10	90
CFCH	2,400	100	0	0	1,600	100	0	0
HSD	510	0	100	0	0	n.a.	n.a.	n.a.
NASM	7,700	0	100	0	0	n.a.	n.a.	n.a.
SAO	0	n.a.	n.a.	n.a.	6,319	0	0	100
SIA	8,289	0	0	100	9,259	0	38	62
FSG	1,455	0	100	0	0	n.a.	n.a.	n.a.
NMAFA	1,195	17	83	0	0	n.a.	n.a.	n.a.
NMAH	9,659	2	5	93	330	0	0	100
NMAI	840	0	100	0	0	n.a.	n.a.	n.a.
NMNH	9,432	0	34	66	1,800	0	17	83
SCMRE	2,600	67	31	2	0	n.a.	n.a.	n.a.
Museums	1,247,802	44	23	34	134,599	12	47	41
HMSG	27,000	100	0	0	10,000	100	0	0
HSD	2,132	0	100	0	12,525	0	31	69
NASM	241,773	28	6	66	0	n.a.	n.a.	n.a.
SAAM	22,194	0	92	8	7,620	49	0	51
AM/CAAHC	1,120	0	100	0	3,000	0	100	0
C-HNDM	12,232	100	0	0	3,408	41	59	0
FSG	18,554	100	0	0	0	n.a.	n.a.	n.a.
NMAFA	10,300	100	0	0	4,000	0	100	0
NMAH	188,944	15	43	42	51,800	0	93	7
NMAI	71,656	66	0	34	0	n.a.	n.a.	n.a.
NMNH	561,146	59	21	20	35,000	0	0	100
NPG	3,050	0	0	100	1,000	0	0	100
NPM	3,250	5	0	95	1,450	0	48	52
NZP	81,701	0	54	46	0	n.a.	n.a.	n.a.
Other units	2,750	0	100	0	4,796	56	38	5
SCMRE	0	n.a.	n.a.	n.a.	3,550	72	21	7
OAHP	2,750	0	100	0	946	0	100	0
CFCH	0	n.a.	n.a.	n.a.	300	50	50	0

Source: OP&A FY2000 survey.

Note: Several units reported space that was undergoing renovation in FY2000. For owned space, they reported as follows (in sq ft): NMAfA Archives, 778; HSD, 1,582; C-HNDM, 702; NMAH, 27,000; and NMNH, 22,498. SAO reported renovations to 140 sq ft of leased space. SIL did not respond. n.a. Not available.



## APPENDIX H.

# AN ACTIVITY-BASED MODEL FOR ESTIMATING THE LABOR IMPLICATIONS OF ALTERNATIVE COLLECTIONS MANAGEMENT SCENARIOS IN SMITHSONIAN MUSEUMS

**T**his appendix describes a model created by the OP&A study team that can be used to project staffing needs for different levels of collections management activity. The model recognizes that different unit directors will make different strategic and tactical choices about the relative priority of various collections management tasks. For example, one director may wish to increase outreach through increasing loans. Another may wish to reduce the size of the unit's collections through deaccessioning and disposal of some objects. Yet another may want to facilitate access to collections by increasing the number of objects with enhanced electronic records. Each choice will require assigning additional staff to the desired set of tasks. This model estimates how many additional staff will be needed to achieve the specific targets that a director sets — assuming no significant technological breakthroughs and staff productivity that remains constant in the short term.

The FY2000 OP&A collections survey asked responding museums to estimate the number of staff in various positions and the percentage of time that these staff invested in a range of collections management-related activities in FY2000. These activities included collections development; (ongoing) care and documentation; exhibition support; reference and research/study services for internal users; reference and research/study services for external users;

outgoing loans to affiliates; outgoing loans to others; incoming loans (other than for exhibitions); public program/education support; central reporting requirements/services; and other activities. The purpose in gathering this information was to estimate the amount of labor expended in collections management functions, broadly defined, across the Smithsonian.

In the course of analysis, this list of activities was considerably altered. In the survey, units were permitted to modify the list of collections management activities if another set of activities fit their situation better. As defined by the OP&A study team for the survey, one category — “collections care and documentation” — mixed functions generally performed by care staff and functions generally performed by research staff, and ended up accounting for the bulk of collections management labor. One museum (NMNH) chose to increase the number of categories, in part by disaggregating the category of “collections care and documentation,” and the OP&A study team judged these distinctions to be useful. The list of collections management functions, incorporating the changes proposed by NMNH, is as follows:

- Acquisitions
- Deaccessions and disposals
- Repatriation
- Registration/records (including inventory control/accountability, imaging, and digitization)
- Loans (including incoming loans other than for exhibitions; outgoing loans to affiliates; outgoing loans to others; and packing/shipping)
- Exhibition program support
- Research program support (including support for Smithsonian-affiliated federal agencies and external users)
- Education program support

- Central administration reporting
- Informatics (including Web development and database management)
- General care (including basic ongoing care; preservation/conservation; storage; and move logistics)
- Training
- Other.

In developing the base staff distributions for the model, the OP&A study team drew heavily on NMNH's detailed survey response, using these categories. The aggregated distribution of labor over activities reported by NMNH was similar to the distribution for all units, but NMNH's disaggregation of broad categories provided more detailed insight into this distribution than the responses provided by other units.

The OP&A study team constructed the model using MS Excel. With the model, it explored the staff requirements for alternative scenarios of collections management activities and performance targets. As noted in Chapter 6, activities are increasingly performed by a mix of staff. Research staff such as curators and scientists, as well as designated collections care staff, may be involved in conservation tasks. Likewise, staff with primary care responsibilities may participate in acquisitions and deaccessions. Thus, the exact distribution of responsibilities will vary between museums.

A key element in the model is the postulated relationship between the performance of a collections management activity at a given level (output) and the staff resources expended on that activity (inputs). With some activities where numerical information is recorded, it is relatively easy to quantify performance — such as the number of loan transactions or records enhanced to a certain level. With other activities, it may be difficult or even impossible to quantify performance with existing information because units currently do not

collect numerical performance measures — for example, for registration or conservation activities. In calibrating the model, the OP&A study team used quantitative data where available, even if the data were from different years. For nonquantified activities, the OP&A study team used the number of reported FTEs for those collections management activities. (In the future, directors should ideally seek quantitative performance measures for all collections management tasks.)

The OP&A study team constructed alternative scenarios by “allowing” hypothetical directors to choose to perform specific collections management tasks at the current level, or to raise or lower that level by a specified amount. Any change is specified as a given percentage of current performance — for example, 125 percent if performance is to be increased by 25 percent, or 50 percent if performance is to be cut in half.

Figure H-1 shows one illustrative scenario.<sup>1</sup> Column 1 lists the collections management activities. The second column shows the percentage distribution of reported staff FTEs across activities in the base scenario. The next three columns break down that total into three categories of personnel: SI employees; contractors and employees of affiliated federal agencies; and volunteers/interns.

The sixth column contains a new target level as a percentage of current performance for each collections management activity. (It might be assumed that these goals represent the collective choices of the unit directors, and have been approved by the central administration.) Finally, the last column shows how many staff need to be added (or subtracted) in each category to achieve these targets. In the scenario depicted in Appendix Table H-1, the Smithsonian needs an additional 223 collections FTEs to achieve the desired

---

<sup>1</sup>The scenario presented in Appendix Table H-1 summarizes the more extensive MS Excel spreadsheet that was used to calculate staff requirements for the target level of each collections management activity in Appendix Table H-2.



targets.<sup>2</sup> Where the personnel are to be found for meeting these targets is, of course, at the discretion of unit directors and senior management — they may be hired as staff, contracted, recruited as volunteers, transferred from noncollections work, or some combination of these. (The model can indicate the distribution of additional staff among employees, contractors, and volunteers on the assumption that historically observed patterns hold.) Clearly, each of these alternative sources of staff has different implications for museum finances and operations in future years.

**Appendix Table H-1. One Hypothetical Activity-based Collections Management Staffing Scenario**

Collections Change management needed activities	Distribution of current staff (%)	Distribution of FTEs			Target level (% present)	in staff (FTEs) (%)
		Employees (%)	Contract (%)	Volunteer (%)		
Acquisitions transactions	4	88	7	5	100	0.0
Deaccessions transactions	1	95	5	0	150	6.6
Repatriation transactions	3	100	0	0	100	0.0
Inventory control/accountability	5	73	15	12	113	4.3
Imaging	*	25	75	0	200	1.8
Electronic records meeting basic cataloguing standards	22	80	20	0	150	70.1
Electronic records meeting enhanced cataloguing standards	6	78	10	12	125	8.9
Incoming loan transactions (Other than for exhibitions)	2	85	15	0	100	0.0
Outgoing loan transactions (Affiliates)	1	94	6	0	300	9.5
Outgoing loan transactions (Non-affiliate museums)	4	73	25	2	200	27.5
Packing/shipping	1	100	0	0	200	7.0
SI museum exhibition program	2	96	1	3	100	0.0
SI/affiliated agency research program	6	78	22	0	100	0.0
External user research	5	77	23	0	100	0.0
Education program support	4	66	2	32	100	0.0
Central administration reports	1	99	1	0	75	(3.8)

<sup>2</sup> This is a net figure, assuming collections personnel are transferred from activities with targets of less than 100 percent of current levels to those with targets greater than 100 percent of current levels.

Web development	1	6	0	94	200	24.5
Database management	1	95	5	0	150	6.5
Basic care	5	13	1	86	150	19.7
Preservation/conservation	18	26	18	56	125	34.5
Storage	5	60	6	34	100	0.0
Move logistics	1	100	0	0	75	(2.9)
Training	1	96	4	0	200	12.1
Other	*	100	0	0	50	(3.0)

Total staff resources applied (%) 100

Change in staff resources needed 223.4

\* Less than 1 percent.

Alternative scenarios can be constructed by entering different targets for each collections management activity in the target column.<sup>3</sup> For any scenario, the model projects the number of FTEs required, and indicates how these FTEs would be distributed among employees, contractors, and volunteers if reported historical patterns are maintained.

As it is based on the relationships between outputs and staff at one museum (NMNH) at a given point in time, the OP&A model cannot be considered a completely accurate representation of collections management needs across Smithsonian units. Rather, it is an illustrative example of a basic decision-making model that might be adapted for collections management program planning at individual units on the basis of data appropriate to those units.

The OP&A study team developed and used this model to understand the implications of changing targets for Smithsonian collections management at a very general level. The team used the model as a rough check on whether the aggregate staffing needs that the units reported in the OP&A survey were reasonable, given certain broadly defensible assumptions about modest increases in loans (to the levels of the mid-1990s), collections care, imaging, and documentation.

<sup>3</sup> Assuming that no activity can be completely neglected, a value of zero is precluded in the target column for any individual category.

To this end, the OP&A study team used the model to do some “what if?” forecasting. Staffing implications are shown below for three target scenarios.<sup>4</sup> The results are given in FTE person-years required to accomplish scenario targets; assuming no technological changes in the relationship between labor and output, these will be the same whether the work is accomplished in 1 year, 5 years, or 20 years. Note that these are not estimates of additional staff needed for basic collections management tasks; actual personnel needs depend on the time period used to do the work.

**Scenario I.** Complete basic cataloguing for 1,000,000 electronic records and enhanced cataloguing for 500,000 electronic records.<sup>5</sup>

**Scenario II.** Deaccession 1,000,000 items in 2,000 transactions, including basic cataloguing of 100,000 items prior to deaccessioning (so the unit and purchaser are fully aware of what is being deaccessioned)

**Scenario III.** Process 100 loans to affiliate museums and 3,000 loans to other users (perhaps including enhancement or conservation loans).

Scenario I would require 2,084 FTE person-years to complete, involving primarily collections research staff. If historical patterns were to hold, the breakdown by employment status would be 1,672 FTE person-years performed by Smithsonian employees, 334 FTE person-years by contract staff, and 76 FTE person-years by volunteers if current practices are followed. An alternative approach might be to treat cataloguing as a one-time activity, particularly in the case of processing backlogs, and make greater use of contractors and employees hired for fixed terms. A completely different

---

<sup>4</sup> Bear in mind that the results of this model most closely reflect the experience of NMNH and have been scaled up to approximate the Institution-wide situation.

<sup>5</sup> In most cases, one record encompasses the information on one object. However, in other cases, especially for biology collections, a single record may encompass more than one specimen or object.

approach would be to loan items to other qualified organizations that agreed to do the cataloguing as part of their use of the collections.

Scenario II would require 246 FTE person-years, including 93 by collections care staff (72 by employees, 13 by contract staff, and 8 by volunteers, following current patterns) and 153 by collections research staff (120 by employees, 21 by contract staff, and 13 by volunteers). On the other side of the coin, a 1 percent reduction in collections size would save nearly 3 FTE person-years of care and inventory work annually. Thus, continuing savings on the cost of care would eventually offset the one-time cost of the disposal effort. Note, too, that in those cases where cataloguing has already been completed on the items to be disposed of, the disposal requires collections *care* staff almost exclusively. Nevertheless, it would take many years of savings to cover the one-time cost.

Scenario III would require 98 collections care FTE person-years (82 by employees, 16 by contract staff, and 1 by volunteers). No additional collections research personnel would be required for this scenario. The loans to non-affiliates would consume more resources than loans to affiliates, although the difference is relatively small — 47 FTE person years for affiliate museum loans and 51 FTE person-years for loans to other borrowers.

Assuming continuance of historical patterns of work, all three scenarios would involve a mix of employees, contract staff, and volunteers. Whatever the actual targets, the OP&A study team does not believe it is possible to accomplish desirable improvements in collections management while maintaining the emphasis on using federal employees. As collecting units develop their mission statements and more clearly identify the role and scope of collections needed to accomplish their missions, unit managers will need to prepare plans that procure and allocate human capital differently.

To consider the reasonableness of the estimated aggregate number derived from the units' requests in Chapter 6, the OP&A study team also applied the

forecasting model to project staffing needs for hypothetical — but broadly defensible, in the study team’s judgment — targets for collections management tasks. Among the collection management targets were: (1) decreasing acquisition and increasing deaccession transactions slightly compared to actual performance in FY2002<sup>6</sup>; (2) increasing inventory control and the number of records with basic cataloguing information, images, and enhanced information; (3) increasing outgoing loans to affiliate museums and other users (and increasing packing and shipping work commensurately); (4) increasing website development and database management; (5) increasing basic care and conservation, but decreasing move logistic efforts; and (6) increasing collections care training. With these assumptions, the OP&A study team projects an immediate need for a total of 77 additional collections care FTEs, consisting of 57 employees, 11 contract staff, and 9 volunteers. Further, there is a need for 32 collections research FTEs (24 employees, 5 contract staff, and 4 volunteers) and 12 informatics FTEs (9 employees, 2 contract staff, and 1 volunteer). These numbers are not dramatically out of line with the staffing needs expressed by the units in the OP&A survey.

As a final caveat, it should be noted that the OP&A model most likely projects NMNH collections management staffing needs better than that of other collecting units with a significantly different balance among research, exhibitions, and public programs — for example, those that expend a larger portion of staff time on exhibitions, or a smaller portion of staff time on

---

<sup>6</sup> The study team used FY2002 performance because FY2002 was the first and most recent year for which NCP had published data on electronic collections management. Since the OP&A survey gathered FY2000 data, the study team used data from two different years as an approximation of the relationship between collections management tasks and labor applied. The specific collections management targets used in the scenario were: decreasing acquisition transactions from 1,618 to 1,500; increasing deaccession transactions from 283 to 500; increasing inventory control by 25 percent; increasing the number of objects imaged from 212,944 to 500,000; increasing the number of records with basic cataloguing from 91,483 to 100,000; increasing the number of records with enhanced data from 32,489 to 50,000; increasing outgoing loans to affiliate museums from 10 to 30; increasing outgoing loan transactions to other users from 1,623 to 2,000; increasing packing and *fn. 6 (cont):* shipping work by 25 percent; increasing web development and database management by 25 percent each; increasing basic care and conservation by 25 percent each; decreasing move logistic efforts by 25 percent; and increasing collections care training by 50 percent.

---

collections documentation. However, with appropriate modifications to fit the specific conditions and with unit-specific data, directors of all units can use a model of this type to estimate how much increasing loans, changing the level of basic conservation, or setting any other specific collections management targets will change staffing requirements.

Figure H-2. Full MS Excel Worksheet for Collections Management Scenario

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
			FY 2001 Ending	Added FY 2002	FY 2002 Ending	Resources Applied* (FTE)	Standardized Items/units per FTE	Hypothetical Annual Goal	Annual target processing std. units	Required FTE to meet annual target	FTE Increment to meet annual target	FTE Staff Resources Needed to Complete Activity Level		
												SI	Contract	Volunteer
3														
4	<b>Collections Management Activities</b>													
5	Items	Items, objects, & specimens	142,417,741	1,121,183	143,538,924									
6	Acquisitions	Acquisitions**	315,656		1,136,333									
7		Acquisition transactions**	1,785		1,618	5	300	1,500 acquisition transactions	100%	5.4	0.0	4.9	0.4	0.1
8	Deaccessions	Deaccessions**	6,452		13,499									
9		Deaccessions-Transactions**	500		283	2	179	500 deaccession transactions	150%	2.4	0.8	2.3	0.1	0.0
10	Repatriation	Repatriations**	19		81									
11		Repatriations-Transactions**	4		4	3	1.1	4 Repatriation transactions	100%	3.5	0.0	3.5	0.0	0.0
12	Registrarial & records													
13		Inventory control/Accountability				4		Increase current inventory activity FTE level by one-fourth	150%	6.2	2.1	5.2	0.7	0.2
14		Total electronic records**	7,948,790	358,907	8,307,697									
15		Total images**	1,029,227	212,944	1,242,171	0	997,562	Specimens imaged	250%	0.5	0.3	0.1	0.4	0.0
16		Specimens without electronic records**	134,468,951	762,276	135,231,227									
17		registration & inventory standards**	1,228,554	78,304	1,306,858									
18		meeting basic cataloguing standards**	5,050,788	91,483	5,142,271	17	5,427	Specimens catalogued	150%	25.3	8.4	20.3	5.0	0.0
19		Electronic records meeting enhanced cataloguing standards**	263,428	32,489	295,917	4	7,540	75,000 Specimens with enhanced records	150%	6.5	2.2	5.6	0.6	0.2
20	Loans	Items-Incoming loans (Non exhibition)**	134,707		10,459,382									
21		Transactions-Incoming loans (Non exhibition)**	1,432		1,024	2	666	1,000 Incoming non-exhibition loan transactions	100%	1.5	0.0	1.3	0.2	0.0
22		Items-Outgoing loans (Affiliates)**	168		273									
23		Transactions-Outgoing loans (Affiliates)**	10		10	1	18	50 Outgoing loan transactions to non-Affiliates	300%	1.7	1.1	1.6	0.1	0.0
24		Items-Outgoing loans (Non Affiliate museums)**	271,665		131,229									
25		Transactions-Outgoing loans (Non Affiliate museums)**	131,492		1,623	3	490	2,000 Outgoing loan transaction to non-Affiliates	200%	6.6	3.3	4.8	1.7	0.1
26		Packing/Shipping				1		Maintain current packing and shipping activity FTE level	200%	1.7	0.8	1.7	0.0	0.0
27	Exhibition program	SI museum program				10	10	Increase current exhibition activity FTE level by one quarter	100%	9.8	0.0	9.6	0.1	0.1
28		Traveling exhibition program												
29		Items-Incoming loans (Exhibition)**	3,334		3,533									
30		Transactions-Incoming loans (Exhibition)**	552		377									
31	Research program	SI/Affiliated agency program				5	5	Maintain current internal research support activity FTE level	100%	5.3	0.0	4.1	1.2	0.0
32		External users				5	5	Maintain current external research support activity FTE level	100%	4.7	0.0	3.6	1.1	0.0
33	Education program support					8	8	Maintain current education support activity FTE level	100%	7.7	0.0	6.5	0.3	0.8
34	Central administration reports					2	2	Maintain central reporting activity FTE level	75%	1.4	(0.5)	1.3	0.0	0.0
35	Informatics	Web development				3	3	Increase current web development activity FTE level by one-half	200%	5.9	2.9	1.2	0.0	4.7
36		Database management				2	2	Increase current database management activity FTE level by one-half	250%	3.9	2.3	3.7	0.2	0.0
37	General care	Basic care				5	5	Increase current basic care activity FTE level by one-quarter	200%	9.5	4.7	3.5	0.2	5.8
38		Preservation/Conservation				17	17	Increase current conservation activity FTE level by one-quarter	200%	33.2	16.6	15.3	10.0	8.0
39		Storage				5	5	Maintain current storage activity FTE level	150%	7.2	2.4	5.7	0.6	0.9
40		Move Logistics				1	1	Increase current move activity FTE level by one-quarter	75%	1.0	(0.3)	1.0	0.0	0.0
41	Training					1	1	Double current training activity FTE level	200%	2.9	1.5	2.8	0.1	0.0
42	Other					1	1	Increase current other activity FTE level by one-half	50%	0.4	(0.4)	0.4	0.0	0.0
43	Estimated Staff Resources Applied					105,610				154.0	48.4	110	23	21
44	Care & other activities					74				105.7	31.5	76	16	14
45	Primarily research activities					26.7				38.0	11.2	27	6	5
46	Informatics activities					5				10.3	5.6	7	2	1

## PHOTO CREDITS

◆ *Cover*: Key Marco Cat, Southwestern Florida, AD 1450, National Museum of Natural History, photo by Victor Krantz, 1977 ◆ *p. xvii*: Flamingo, National Zoological Park, photo by Jessie Cohen. ◆ *p. 1*: Thomas Alva Edison light bulb, National Museum of American History. ◆ *p. 22*: George Washington's uniform, National Museum of American History, photo by Jeff Tinsley, 2000. ◆ *p. 50*: Malachite (from Shaba, Democratic Republic of Congo), National Museum of Natural History, photo by Laurie Minor-Penland, 1995. ◆ *p. 108*: Magnolia, Mark Catesby (1682-1749), *The Natural History of Carolina, Florida and the Bahama Islands*, London: for the author, 1731-43 [1729-48], 2 vols., Smithsonian Institution Libraries, gift of Marcia Brady Tucker. ◆ *p. 138*: Antique cash register, National Museum of American History, photo by Laurie Minor-Penland, 1989. ◆ *p. 202*: Man with Overcoat and Cane, 1933, Conrado Massaguer, graphite and ink, Abril Lamarque papers, Archives of American Art. ◆ *p. 258*: Space shuttle *Enterprise*, National Air and Space Museum, photo by Eric F. Long (SI 2000-9349). ◆ *p. 278*: *1948-C* (1948), Clyfford Still, American, 1904-80, oil on canvas, Hirshhorn Museum and Sculpture Garden, Joseph H. Hirshhorn Purchase Fund, 1992 (92.8).





Smithsonian  
Institution

OFFICE OF POLICY AND ANALYSIS  
WASHINGTON, DC 20560-0405