



Smithsonian

Fiscal Year 2017

Submitted to the Committees on Appropriations
Congress of the United States

Smithsonian Institution

Fiscal Year 2017

Budget Justification to Congress

February 2016

SMITHSONIAN INSTITUTION
Fiscal Year 2017 Budget Request to Congress
TABLE OF CONTENTS

INTRODUCTION

Overview	1
FY 2017 Budget Request Summary.....	7

SALARIES AND EXPENSES

Summary of FY 2017 Changes	15
Fixed Costs	
Salary and Related Costs	18
Utilities, Rent, Communications, and Other	20
Summary of Program Changes	24
No-Year Funding.....	37
Object-Class Breakout	37
Federal Resource Summary by Performance Objective and Program Category	38

MUSEUMS AND RESEARCH CENTERS

Grand Challenges and Interdisciplinary Research	40
• <i>Biodiversity Genomics</i>	41
• <i>Global Earth Observatories (Forest/Marine GEOs)</i>	42
• <i>Microbial Research</i>	44
• <i>Conservation Research</i>	45
• <i>Preserving Cultural Heritages</i>	46

Unlocking the Mysteries of the Universe

Introduction, <i>Unlocking the Mysteries of the Universe</i>	47
National Air and Space Museum	48
Smithsonian Astrophysical Observatory	55
Major Scientific Instrumentation.....	60
• <i>Greenland Telescope</i>	65

Understanding and Sustaining a Biodiverse Planet

Introduction, <i>Understanding and Sustaining a Biodiverse Planet</i>	66
National Museum of Natural History	67
National Zoological Park.....	76
Smithsonian Environmental Research Center	85
Smithsonian Tropical Research Institute.....	89

Valuing World Cultures

Introduction, <i>Valuing World Cultures</i>	97
Arthur M. Sackler Gallery/Freer Gallery of Art	98
Center for Folklife and Cultural Heritage.....	103
Cooper Hewitt, Smithsonian Design Museum.....	109
Hirshhorn Museum and Sculpture Garden.....	114
National Museum of African Art	120

Understanding the American Experience

Introduction, <i>Understanding the American Experience</i>	127
Anacostia Community Museum	128
Archives of American Art	132
National Museum of African American History and Culture	136
National Museum of American History, Behring Center	146
National Museum of the American Indian	158
National Portrait Gallery	162
National Postal Museum	170
Smithsonian American Art Museum	174

MISSION ENABLING

Introduction, Mission Enabling	180
Outreach	181
• <i>The Smithsonian Institution Traveling Exhibition Service; Smithsonian Affiliations; the Smithsonian Center for Learning and Digital Access; the Office of Fellowships and Internships; and the Smithsonian Institution Scholarly Press</i>	
Communications	186
Institution-wide Programs	189
• <i>Research Equipment Pool</i>	191
• <i>Latino Initiatives Pool</i>	191
• <i>Asian Pacific American Initiative Pool</i>	192
• <i>Collections Care and Preservation Fund</i>	192
• <i>Information Resources Management Pool</i>	194
Smithsonian Exhibits	197
Museum Support Center	199
Museum Conservation Institute	201
Smithsonian Institution Archives	206
Smithsonian Libraries	208
Office of the Chief Information Officer	213
Administration	217
• <i>The offices of the Secretary; the Under Secretary for Museums and Research/Provost; the Under Secretary for Finance and Administration/Chief Financial Officer; the Assistant Secretary for Education and Access; and the Deputy Under Secretary for Collections and Interdisciplinary Support. Administration also includes the central activities of human resources, diversity, financial and contract management, and legal services.</i>	
Office of the Inspector General	224
Facilities Maintenance	226
Facilities Operations, Security, and Support	230

FACILITIES CAPITAL

Overview	235
Summary Tables	238
Revitalization	240
National Museum of Natural History	240
National Zoological Park	242
National Museum of American History	246
National Air and Space Museum	248
National Museum of the American Indian	250
Anacostia Community Museum	251
Cooper Hewitt, Smithsonian Design Museum.....	251
Hirshhorn Museum and Sculpture Garden.....	253
Museum Support Center	254
Smithsonian Astrophysical Observatory	255
Smithsonian Environmental Research Center	258
Smithsonian Tropical Research Institute.....	258
Suitland Collections Facility	261
Multiple Locations, Revitalization Projects	263
Construction Supervision and Administration	263
Facilities Planning and Design	264
Construction, Collections Storage Module	265

APPENDIX

Organization Chart	267
Visitation Chart.....	268
Trust Funds Summary	269
Appropriation Language and Citations	271
Adjustments to FY 2016 Funding	279

THE SMITHSONIAN INSTITUTION'S IMPACT ON AMERICA

The Smithsonian greatly appreciates the continued support of the Administration, the Congress, and the American people, and takes seriously the crucial role we play in advancing the civic, educational, scientific, and artistic life of this nation. As a public trust, the Smithsonian addresses some of the world's most complex issues — and uses new technologies to broaden access to information for citizens, students, and policy makers.

Thanks to the generous bequest of English scientist James Smithson, Congress established the Smithsonian Institution in 1846 as an independent federal trust instrumentality, a unique public-private partnership that has achieved outstanding results for 170 years. The federal commitment provides the foundation for all we do, and is especially helpful in attracting private support. We leverage our federal funding to enrich the lives of the American people and advance our mission for “the increase and diffusion of knowledge.”

In keeping with that mission, the Smithsonian is a world leader in research and discovery, addressing today's relevant issues and helping the American people understand our role in the world through the arts and humanities. We use cutting-edge technology to create unprecedented access to our treasures and inspire educators, students, and learners of all ages.

Accordingly, we continue to implement our 2010 Strategic Plan that focuses on four “Grand Challenges” and promotes interdisciplinary and Institution-wide collaboration. That plan has been extended to 2017. With this guidance, we are improving facilities maintenance and collections care to be better stewards of America's treasures. We are also working with new federal, state, and local partners to avoid redundancies and expand our reach.

The Smithsonian is large and diverse, encompassing art, history, science, education, and culture. We have 19 museums and galleries, 20 libraries, nine research centers, the National Zoo, and 208 affiliate museums in 46 states, Puerto Rico, and Panama. We are open 364 days a year — and admission is free. We have research and education facilities in eight states and the District of Columbia, and operate in more than 145 countries. For the last full fiscal year, our museums had more than 28 million visits and another 4.5 million people visited our traveling exhibitions. In addition, *Smithsonian Magazine* is now read by more than seven million people, and the Smithsonian Channel is distributed by the top nine cable TV operators and reaches a total of 34 million households.

Our collections total 138 million objects, including 127 million scientific specimens, 340,000 works of art, and two million library volumes. We also care for 157,000 cubic feet of archival material, 16,000 musical instruments — and more than 2,000 live animals. We have the Star-Spangled Banner; Morse's telegraph; Edison's light bulb; the Hope Diamond; the Wright Flyer; one of Amelia Earhart's planes; Louis Armstrong's trumpet; labor leader Cesar Chavez's jacket; the Lansdowne portrait of George Washington; the Congressional Gold Medal awarded to Japanese American World War II veterans; the *Spirit of Tuskegee* airplane; remnants of a slave ship found off the coast of South Africa; the camera John Glenn used on his voyage into space; Asian, African,

and American art; the Apollo 11 Command Module, *Columbia*; and the space shuttle *Discovery*. We hold all these objects in trust for the American people and preserve these priceless national treasures for future generations to enjoy.

In 2015, our visitors enjoyed nearly 100 new exhibitions, including: *The Great Inka Road: Engineering an Empire* at the National Museum of the American Indian; multiple exhibitions in the National Museum of American History's (NMAH) renovated West Wing, including *Places of Invention*, *Spark!Lab*, *American Enterprise*, *The Value of Money*, *Giving in America*, and the Smithsonian Libraries exhibition *Fantastic Worlds: Science and Fiction, 1780–1910*; *Outside the Spacecraft: 50 Years of Extra-Vehicular Activity* at the National Air and Space Museum; *Orchids: Interlocking Science and Beauty* at the National Museum of Natural History; *American Bison* at the National Zoo; the high-tech *Immersion Room* at the renovated Cooper Hewitt, Smithsonian Design Museum (which *Atlantic* magazine called the “museum of the future”); *Out of Many, One*, the giant National Portrait Gallery (NPG) landscape portrait that covered many acres of the National Mall; *Shirin Neshat: Facing History* at the Hirshhorn Museum and Sculpture Garden; *Peacock Room REMIX: Darren Waterston's Filthy Lucre* and *Sōtatsu: Making Waves* at the Arthur M. Sackler Gallery; *Robert Motherwell: A Centennial Celebration* at the Archives of American Art; *The Divine Comedy: Heaven, Purgatory, and Hell Revisited by Contemporary African Artists* at the National Museum of African Art; *Bridging the Americas: Community and Belonging from Panama to Washington, DC* and *Twelve Years that Shook and Shaped Washington: 1963–1975* at the Anacostia Community Museum; *Freedom Just Around the Corner: Black America from Civil War to Civil Rights* and *New York City: A Portrait Through Stamp Art* at the National Postal Museum; *Richard Estes' Realism* at the Smithsonian American Art Museum; *One Life: Dolores Huerta* at the NPG; and *WONDER*, the debut exhibition at the newly renovated and recently reopened Renwick Gallery.

Digital technology allows us to reach new, diverse audiences more than ever before. In 2015, our more than 200 websites attracted in excess of 100 million unique visitors. In social media, we currently have more than eight million followers on Facebook and Twitter alone, with tens of thousands more engaging with us on other Internet platforms.

For years, we have been digitizing our objects, specimens, archival materials, and library books. So far, our museums and libraries have created digital images for approximately two million objects, specimens and books, and electronic records for more than 26 million artifacts and items in the national collections. Our archives have created 3.7 million digital images, and now have electronic records and metadata for close to 100,000 cubic feet of archival material. Our Transcription Center crowdsourcing platform at transcription.si.edu, with more than 5,800 volunteers from around the globe, has transcribed nearly 150,000 pages of material drawn from 11 Smithsonian units. We have also implemented rapid capture digitization, a conveyor-belt technology that accelerates the digitization of our collections. This technique establishes the Smithsonian as a leader in digitizing our nation's intellectual capital and our cultural heritage for future use.

Thanks to the work of our Digitization Program Office, we are leaders in the field of 3D scanning, allowing our treasures and specimens to be seen in an entirely new light.

Our Smithsonian X 3D collection and website features 40 items from the collections, including Lincoln's life mask, the Wright Flyer, fossil whales, a remnant of the Cas A supernova, and soon even the space shuttle *Discovery*. With the Explorer tool offered on the website, users can even print replicas of objects on 3D printers for scientific research or use in the classroom. In 2014, we made history when our digitization team scanned President Obama, creating a life mask and bust; these models have joined the Lincoln life mask as a part of the collection of presidential images in the National Portrait Gallery.

As part of our mission for the "diffusion of knowledge," the Smithsonian serves millions of people annually, from preschoolers to senior citizens, with a myriad of educational offerings. We deliver educational materials to students and teachers in all 50 states each year. More than 2,000 learning resources, all tied to state standards, are available online for free. Smithsonian speakers, traveling exhibitions and webinars, hosted by Smithsonian Affiliated museums, also bring our educational offerings into many communities. Additionally, in FY 2015, the Smithsonian Traveling Exhibition Service sent large and small exhibitions to museums and provided educational materials to schools and libraries for a total of 44 exhibitions in 386 communities across 49 states, Australia, Canada, Guam, and Puerto Rico, reaching an audience of 4.5 million people.

We have numerous dedicated learning and discovery spaces, including centers at the National Museum of the American Indian, Smithsonian American Art Museum (SAAM), and the National Postal Museum. The Institution serves the public appetite for education through the National Museum of American History's Object Project and *Wegmans Wonderplace*, and the National Museum of Natural History's Q?rius, our 10,000-square-foot science education center for teenagers. We continue to connect with young learners through the Hirshhorn's *ARTLAB+* program for teens and the Cooper Hewitt's Design Center in Harlem. Smithsonian Affiliates also provide unique Smithsonian educational experiences by hosting *Spark!Lab* — hands-on invention centers developed by the National Museum of American History.

In addition, we have launched our first online courses through edX, the Massive Open Online Course platform, jointly sponsored by Harvard University and the Massachusetts Institute of Technology. The courses — "Teaching Historical Inquiry with Objects," "The Rise of Superheroes and Their Impact on Pop Culture," and "Objects that Define America" — were created by Smithsonian experts and use some of our iconic collections to help lifelong learners continue their education.

The Smithsonian takes collections stewardship very seriously. Our collections are a vital national asset, and we are constantly improving storage conditions and balancing the preservation of and access to these collections. We have completed our in-depth study of collections space needs and developed a blueprint for going forward. It is called *Securing the Future for Smithsonian Collections: Smithsonian Collections Space Framework Plan*.

The collections we maintain are a valuable resource for scientists from federal agencies such as the Departments of Agriculture and Defense, and the United States

Geological Survey. We work with the White House's Office of Science and Technology Policy to coordinate our efforts with federal agencies and avoid duplication of activities. Collections acquired a century or more ago are being used today to address the effects of global change, the spread of invasive species, and the loss of biological diversity and its impact on interconnected ecosystems. Federal, state, and local authorities often look to our collections for answers during events such as flu epidemics, oil spills, volcanic eruptions, or when aircraft are downed by bird strikes.

We operate in more than 145 countries by coordinating with strategic partners across the Federal government, and working with foreign governments and the private sector. Through our Office of International Relations and our science, art, history, culture, and education units, we work with virtually every cabinet-level federal agency and numerous other organizations.

We leverage our strengths with our strategic partners for a combined greater impact. For example, after the devastating earthquake in Haiti in 2010, the Smithsonian worked with Haitian, U.S., and international partners on the recovery efforts, including the U.S. Department of State, USAID, UNESCO, the U.S. President's Committee for the Arts and the Humanities, the Broadway League, and the International Committee for the Blue Shield. To date, the Haitian recovery effort has saved some 6,000 paintings from the Centre d'Art, thousands of historical documents at the National Archives, paintings from the National Palace, and sculpture from the National Museum — altogether more than 35,000 cultural objects. The Smithsonian has also trained more than 150 Haitian colleagues in conservation work and helped open the Cultural Conservation Center at Quisqueya University in Port-au-Prince.

Solidifying relationships with these international organizations has allowed us to come together more quickly to launch recovery efforts following events such as the March 2015 attack on the Bardo National Museum in Tunisia, the April 2015 earthquake in Nepal, and the ongoing destruction of cultural heritage in Syria and Iraq. In October, we convened a group of leading international cultural heritage preservation specialists at the National Museum of American History for a symposium, "Uniting to Save World Cultures," which was designed to build collaboration and capacity to help protect culture at risk. We recently partnered with the Federal Emergency Management Agency on the Heritage Emergency National Task Force, a network of more than 40 Government and non-profit organizations dedicated to protecting cultural heritage from the damaging effects of natural disasters and other emergencies here in the United States. In May 2016, the Smithsonian will host the training course *First Aid to Cultural Heritage in Times of Crisis*, an effort to train an international group of first responders to protect cultural heritage.

These and other Smithsonian projects foster international collaboration and bring together governments, foundations, and the world's leading thinkers and scientists. We bridge disciplines and borders, whether helping to save endangered species, rescuing art from the rubble of devastated galleries and museums, or inspiring tomorrow's scientists and leaders. Far beyond museum or laboratory walls, our teams are making discoveries, preserving the past, and sharing insights with audiences of all ages. By

working with governments and cultural organizations around the world, we amplify our impact. Our method of cross-disciplinary collaboration gets results and produces a shared legacy of progress and discovery.

Smithsonian scientists work to help save endangered, vulnerable, and threatened species around the globe, such as Asian elephants, giant pandas, Panamanian golden frogs, African kori bustards, Asian tigers, Przewalski's horse, the African scimitar-horned oryx, coral reefs, North American black-footed ferrets, Cuban crocodiles, Asian clouded leopards, and many more.

In today's world of long-distance travel and new technologies, deadly viruses can reach around the globe in 24 hours, and nearly 75 percent of emerging pathogens in humans come from animals. With that in mind, the Smithsonian is working with the USAID-funded Emerging Pandemic Threats Program to help public health officials prevent the international community's next major pandemic. Veterinary scientists and pathologists from the National Zoo are conducting regional wildlife pathology workshops to train biologists and conservationists to recognize and identify the next global health threat in its initial stages. These actions, in turn, will prove vital to prevent potential pandemics from occurring.

The Smithsonian's 500 scientists are tackling other vital issues of the day, making important discoveries — and sharing them with the public. For example, scientists at the Harvard-based Smithsonian Astrophysical Observatory are using telescopes in outer space to discover new planets. Scientists there have discovered an exoplanet dubbed a "mega-Earth." Found in the constellation Drago, Kepler-10c is a rocky world weighing as much as 17 Earths.

Closer to home, our cutting-edge work in genomics will make the Smithsonian a world leader in searching for answers to genome-scale questions about the animals, plants, and ecosystems of our planet. Our goal, along with our strategic partners, is to solve worldwide problems of biodiversity loss, disease transmission, and environmental degradation as well as train future generations of scientists and citizens to understand our natural world. The Smithsonian's genomics initiative, the Smithsonian Institute for Biodiversity Genomics, is built on a foundation of vast global research expertise, the world's largest natural history collections, the most significant concentration of biodiversity scientists anywhere, and a long and trusted history of studying nature and accurately documenting our discoveries. In November 2015, we convened a conference with different Government agencies to work together and coordinate research in this expanding and increasingly important field.

The Smithsonian will build on the momentum of the climate change statement, symposium, and past efforts of the *Living in the Anthropocene* initiative, by developing a strategic Institution-wide response to climate change in four ways: by increasing knowledge of the human and natural environment through research; making research findings available to the public; protecting our collections; and operating our facilities and programs in a sustainable manner.

With our international partners and worldwide reach, the Institution is particularly well connected to study biodiversity issues. The Smithsonian's ForestGEO (Global Earth Observatories) network is a worldwide partnership of more than 95 institutions working to monitor the health of six million trees (including 10,000 species) on 63 plots in 24 countries. On a related note, our follow-up initiative, Tennenbaum Marine Observatories, or MarineGEO, seeks to replicate this success and assess the health of coastal areas and the oceans at large, with the goal of determining how to manage these important resources.

As the leading partner in the ambitious, 10-year *Encyclopedia of Life* (EOL) project, the National Museum of Natural History (NMNH) is closing in on its goal to create a key repository of scientific information about virtually every form of life on Earth. EOL is an online database that has financial, logistical, and research support from numerous partners, including the MacArthur and Sloan Foundations.

Similarly, the NMNH also houses the Consortium for the Barcode of Life, an international initiative devoted to developing DNA barcoding as a global standard for the accurate and rapid identification of biological species. The new technique uses a short DNA sequence from a standardized position in the genome as a molecular diagnostic marker for species identification. As the recognized U.S. leader in DNA barcoding, the Smithsonian seeks to increase its research and training capacity to better work with strategic partners in expanding the frontiers of knowledge in this exciting field.

We can do all this thanks to more than 6,500 dedicated employees, including award-winning scientists and scholars, curators, researchers, historians, and experts in fields from astrophysics to zoology, and 6,300 generous on-site volunteers, 319 research Fellows, 955 research associates, 197 interns, and 5,800 digital volunteers — brain power that benefits the Smithsonian and the world many times over. They are all committed to their work and the Smithsonian. That is why, for the sixth year in a row, the Smithsonian was ranked as one of the best places to work in the Federal government.

With the continuing support of the Congress, the Administration, our Board of Regents, and the American people, we will offer even more opportunities to enlighten and engage the public in the future. A significant example is the new National Museum of African American History and Culture that will open in September 2016.

In October, I was proud to be officially installed as the 13th Secretary of the Smithsonian. I am honored to be a part of this great Institution that serves our nation and the world as a source of inspiration, discovery, and learning. Today, with its free museums, distinguished research and scholars, iconic American treasures, and the vast array of information accessible from its websites, the Smithsonian is a resource of extraordinary value for the American people and the world. By maintaining our dialogue with the public, the Smithsonian will continue to prove its worth as an investment in the future as well as a steward of our past.

David J. Skorton
Secretary, Smithsonian Institution

SMITHSONIAN INSTITUTION FY 2017 BUDGET REQUEST SUMMARY

Account	FY 2015 Enacted	FY 2016 Enacted	FY 2017 Request
Salaries and Expenses	\$675,343,000	\$696,045,000	\$759,224,000
Facilities Capital	<u>\$144,198,000</u>	<u>\$144,198,000</u>	<u>\$163,000,000</u>
Total	\$819,541,000	\$840,243,000	\$922,224,000

For fiscal year (FY) 2017, the Smithsonian’s request to fund essential operating expenses and revitalization of the Institution’s physical infrastructure is **\$922.2 million**. The total amount includes **\$759.2 million** for Salaries and Expenses (S&E) and **\$163.0 million** for the Facilities Capital account. A detailed summary of the increases requested is provided in the table at the end of this section.

SALARIES AND EXPENSES

FIXED COSTS INCREASES

- **Salaries and Related Costs (+\$7,729,000)** — This request funds a 1.6 percent pay raise for FY 2017, the annualization of pay in FY 2016, and an adjustment for Workers’ Compensation.
- **Non-pay Fixed Items (+\$8,785,000)** — The Institution requests additional funding, largely for inflation-related increases in rent, utilities, software licenses, and other operating costs. Details are provided in the S&E section of this budget submission.

PROGRAM CHANGES

This Budget request for FY 2017 places the programmatic increases into the broad categories of the Smithsonian’s Strategic Plan, thereby linking the funds directly to the Institution’s overall mission and the strategic goals of the Grand Challenges.

EXCELLENT RESEARCH

- **Greenland Telescope (+\$2,000,000)** — The Institution requests \$2.0 million to support the Greenland Telescope project that will conduct groundbreaking, high-priority observations of supermassive black holes. This project addresses the only mid-scale priority in the 2010 Decadal Survey for astronomy and is a joint venture with the National Science Foundation.
- **Biodiversity Genomics (+\$360,000)** — The funds requested support the Biodiversity Genomics program to collect, organize, share, and study genomic samples of non-human species, which will advance the Smithsonian’s efforts to create a systematic understanding of Earth’s

biodiversity. The requested funds will be used to enhance genomic research across the Institution and enable coordination with global partners on a longer term basis. This request supports expanded Institution-wide efforts on collaborative, multi-disciplinary discovery, exploration, and the application of genomic information to promote the sustainability of global biodiversity and the 21st century bioeconomy. This program is a cornerstone priority of the Institution's biodiversity strategic plan and federal appropriations will leverage private fund raising.

- **Global Earth Observatories (+\$1,440,000)** — The Institution's Forest Global Earth Observatories (ForestGEO) and Marine Global Earth Observatories (MarineGEO) provide a global-scale network of ecological observatories dedicated to understanding changes in the structure and function of forest and marine ecosystems. ForestGEO (+\$800,000) provides the research platform that enables Smithsonian scientists and their university and federal agency partners to better understand the storage and movement of carbon and water in tropical and temperate forests, as well as the impacts of climate change on the relationships of forests with wildlife, the atmosphere, and sources of fresh water.

MarineGEO (+\$640,000) is one of the Smithsonian's signature programs in Earth observations and understanding global change, and is dedicated to understanding changes in the structure and function of marine ecosystems. This comprehensive approach to environmental research will provide a fundamental understanding of our oceans, their sustainability, and their importance to human life and society.

- **Microbial Research (+\$300,000)** — The Institution requests funds to build on more than a century of world-class research and collections, to glean insights into how microbes shape ecosystem functions, services, and restoration, in U.S. habitats and around the world. This microbial biology initiative will significantly strengthen the Institution's international leadership in biodiversity research, and fill significant gaps both in Smithsonian signature programs and federal research priority areas. This initiative advances the general principles that govern the behaviors of microbiomes in diverse environments, by using Earth-observation data, including those focused on ocean habitats.
- **Conservation Research (+\$600,000)** — The requested funds will support important Smithsonian research to use the vast scholarly and scientific capacity of the Smithsonian to develop conservation strategies sorely needed by decision makers, practitioners, and citizens alike. The Smithsonian seeks to enhance its role as a trusted knowledge resource to the global biodiversity conservation community and to mobilize its scientific capacity, unparalleled collections, laboratories, field stations, and partnerships into multi-disciplinary teams that can increase our collective impact in creating the new knowledge needed to understand and sustain a biodiverse planet.
- **Preserving Cultural Heritages (+\$508,000)** — The Institution requests funding for a Smithsonian Cultural Crisis Recovery Center. Since 2010, the Smithsonian

has taken a leadership role in the preservation of cultural heritages affected by natural and man-made disasters, including the 2010 earthquake in Haiti, Hurricane “Super Storm” Sandy in New York, ongoing man-made crises in Mali, Syria, Iraq, Egypt, and, most recently, the devastating earthquake in Nepal. The additional funding will strengthen and enhance the Smithsonian’s ability to respond to the many requests the Institution receives for assistance with cultural heritage recovery and preservation around the world. The funding will also help leverage private support for cultural recovery efforts.

BROADENING ACCESS

- **Digitization (+\$2,120,000)** — The Smithsonian continues work on its Strategic Plan to use new technologies to share its vast collections and extensive research, along with the expertise of its scholars, scientists, researchers, museum specialists, and curators. The Institution has invested in creating a standard mass-digitization process that enables replicable, cost-effective, high-throughput, resulting in high-quality digitization for all priority collections. This request supports the Smithsonian’s Digitization Strategic Plan to stimulate learning and innovation. Digitizing the national collections and making them accessible online are major Strategic Plan priorities.
- **Latino Center (+\$342,000)** — The Institution requests funding to increase the number of programmatic staff specializing in the history, art, and culture of Latino/Hispanic Americans, the fastest growing demographic in the United States. This funding is in line with the *Consolidated Appropriations Act, 2016*, which encourages the Institution to promote “the inclusion of Latino contributions in Smithsonian Institution programs, exhibitions, collections, and public outreach.” These personnel will enhance the Institution’s exhibitions, public programs, and education capabilities. This request reflects the Institution’s desire to increase research, exhibition development, and educational programs serving the Latino community.
- **Asian Pacific American Center (+\$300,000)** — The Institution requests additional positions to support the Asian Pacific American Center’s (APAC) strategic plan. These resources are needed to implement the guidance in the *Consolidated Appropriations Act, 2016*, which encourages the Smithsonian to develop programs and expand outreach in this area to “promote a better understanding of the Asian Pacific American experience.” The Strategic Plan intends to transform APAC into a leading voice on the Asian Pacific American experience, and the new positions will leverage private fund raising to achieve that goal.

STRENGTHENING COLLECTIONS

- **Collections Staffing (+\$2,735,000)** — Currently, the Institution has insufficient staff to provide optimal care for its collections, and is hindered in strengthening and sharing its collections with diverse national and international audiences. The Smithsonian needs these requested funds to rebuild its curatorial and collections

management staffing in support of excellent research; improve exhibitions and digitization of the nation's vast collection of artifacts; and fully realize the benefits of the Institution's facilities infrastructure investments.

- **Collections Care and Preservation Fund (+\$1,500,000)** — Collections stewardship is a key component and core priority of the Smithsonian's Strategic Plan. The requested increase will target specific collections and improve substandard aspects of collections care to an acceptable level. This includes meeting professional standards of collections care, correcting specific collections management deficiencies identified in the Smithsonian's Inspector General audit recommendations, and addressing the Institution's highest priority collections management needs.
- **Animal Welfare (+\$500,000)** — Funding is requested for the National Zoological Park's Smithsonian Conservation Biology Institute (SCBI, in Front Royal, Virginia) breeding facility. SCBI is world-renowned for its heroic efforts to research, breed, and reintroduce some of the world's most critically endangered species into the wild. The National Zoo must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — personnel who are essential for ensuring that the Zoo successfully achieves its vital mission of saving species from extinction.

MISSION ENABLING

- **Facilities Maintenance (+\$14,500,000)** — The Smithsonian requests an increase of \$14.5 million to enable its maintenance program to continue stabilizing and standardizing the overall condition of its facilities. The increase will enable the Institution to address the significant maintenance backlog and meet the minimum standards for annual maintenance budgets as endorsed by the Government Accountability Office and the National Research Council. The increase also supports the facilities funding required to maintain the new National Museum of African American History and Culture (NMAAHC).
- **Facilities Operations, Security, and Support (+\$15,640,000)** — The Institution requests an increase of \$15.64 million to address high-priority operating, security, and safety needs. The increase will enable the Smithsonian to correct existing staffing and funding shortfalls in facilities operations and security, and will help improve cleanliness in its many facilities. The increase also supports the facilities funding required to operate and secure NMAAHC.
- **Information Technology (IT) Infrastructure (+\$2,050,000)** — This funding request supports the upgrade and replacement of aging IT security infrastructure at the Smithsonian. The request includes funds for security monitoring, response, and assessment; maintenance of seven sites and the replacement of the Internet firewall; recurring funds to maintain and/or replace outdated and inadequate intrusion-detection systems; and funds for maintenance and replacement of outdated Web proxy servers. In addition, this request will provide funds to replace the voice/data communications of 6,000 Voice-over-Internet-Protocol

(VoIP) telephones that are more than 10 years old; replace network switches and routers that are several years beyond their life cycle; and replace the uninterrupted power source system and battery which are also more than a decade old.

- **Training (+\$338,000)** — This requested funding supports a comprehensive, centrally funded, mandated training program (as required by 5 *United States Code* [U.S.C.] §4121) that includes initial and follow-up supervisor training on the myriad rules, regulations, and policies involved in employee supervision. The request also establishes centralized funds for a Smithsonian leadership development program to address the unique learning needs of supervisors at all levels of leadership. By having a centralized training fund, the Institution will ensure compliance with federal regulations, increase employee engagement and retention, and effectively mitigate costs.
- **Diversity (+\$289,000)** — The Institution is requesting funding for a Supplier Diversity Program (SDP) specialist and one affirmative employment specialist. This SDP position will assist with administrative duties and advocate for unit managers to achieve their SDP goals. In addition, the SDP specialist will be responsible for duties that are currently being intermittently performed by interns, volunteers, and individuals on rotational and training assignments from other units and agencies. Meanwhile, the affirmative employment specialist will conduct regular and comprehensive audits of diversity metrics in Smithsonian units to ensure consistent Equal Employment Opportunity practices are being implemented throughout the Smithsonian.
- **Internal Controls (+\$1,143,000)** — The Institution is requesting an increase of \$1,000,000 for staff and training for the Office of the General Counsel. The funds will address the Smithsonian's current need for advice, representation, and education to support internal controls, and to manage the increasing activities in the areas of cybersecurity, privacy, risk management, ethics, international activities, complex business transactions, and litigation.

In addition, the Institution is requesting \$143,000 to hire a privacy specialist to mitigate the risk of unauthorized acquisition, use, or disclosure of personally identifiable information (PII). This position will enable the Institution to both investigate incidents and continue training to prevent breaches, as well as develop methods to identify and respond to future data breaches of PII content.

FACILITIES CAPITAL PROGRAM

The request for the Facilities Capital Program (**\$163,000,000**) is essential to arrest the deterioration of some of the Smithsonian's oldest and most visited buildings and maintain the current condition of other facilities through systematic renewal and repair. This amount will allow the Facilities Capital Program to address all of the priority one projects that are ready to be fixed in FY 2017.

For FY 2017, the requested funds will enable the Institution to continue major revitalization work at the National Museum of Natural History (\$19.1 million), the National Zoological Park (\$26.0 million), and the National Museum of American History (\$5.0 million). In addition, these funds will allow the Smithsonian to perform critical revitalization work at the National Air and Space Museum (NASM) (\$3.0 million); National Museum of the American Indian (\$2.05 million); Anacostia Community Museum (\$1.2 million); Cooper Hewitt, Smithsonian Design Museum (\$2.7 million); Hirshhorn Museum and Sculpture Garden (\$1.0 million); Museum Support Center (\$2.25 million); Smithsonian Astrophysical Observatory (\$1.75 million); Smithsonian Environmental Research Center (\$1.5 million); Smithsonian Tropical Research Institute (\$2.85 million); and the Suitland Collections Facility (\$2.0 million). The request also provides for critical revitalization projects throughout the Institution, costing under \$1 million each, and for program support (\$13.25 million). Furthermore, this request accounts for planning and design of future projects (\$29.35 million) and for construction of the Collections Storage Module (\$50.0 million) at NASM's Udvar-Hazy Center. Details are provided in the Facilities Capital section of this Budget request.

**SMITHSONIAN INSTITUTION
FY 2017 BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

SALARIES AND EXPENSES	FTEs	Amount	Page #
FY 2016 Enacted	4,404	\$696,045,000	
FY 2017 Increases			
<u>FIXED COSTS INCREASES</u>		16,514,000	
Salaries and Related Costs	0	7,729,000	18
Utilities, Postage, Rent, Communications, and Other	0	8,785,000	20
<u>PROGRAM INCREASES</u>			
Excellent Research	18	5,208,000	
Greenland Telescope	0	2,000,000	25/62
Biodiversity Genomics	2	360,000	26/41
Global Earth Observatories (Forest)	4	800,000	26/42
Global Earth Observatories (Marine)	4	640,000	26/43
Microbial Research	2	300,000	27/44
Conservation Research	3	600,000	27/45
Preserving Cultural Heritages	3	508,000	28/46
Broadening Access	14	2,762,000	
Digitization	8	2,120,000	28/units
Latino Center	3	342,000	29/220
Asian Pacific American Center	3	300,000	29/221
Strengthening Collections	27	4,735,000	
Collections Staffing	22	2,735,000	31/units
Collections Care and Preservation Fund	0	1,500,000	32/195
Animal Welfare	5	500,000	32/84
Mission Enabling	82	33,960,000	
Facilities Maintenance	23	14,500,000	33/228
Facilities Operations, Security, and Support	51	15,640,000	34/232
Information Technology Infrastructure	0	2,050,000	34/215
Training	0	338,000	35/222
Diversity	2	289,000	35/222
Internal Controls	6	1,143,000	36/223
Total FY 2017 Salaries and Expenses	4,545	\$759,224,000	

**SMITHSONIAN INSTITUTION
FY 2017 BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

FACILITIES CAPITAL	FTEs	Amount	Page #
FTEs in Base	48		
Revitalization			
National Museum of Natural History		19,100,000	240
National Zoological Park		26,000,000	242
National Museum of American History		5,000,000	246
National Air and Space Museum		3,000,000	248
National Museum of the American Indian		2,050,000	250
Anacostia Community Museum		1,200,000	251
Cooper Hewitt, Smithsonian Design Museum		2,700,000	251
Hirshhorn Museum and Sculpture Garden		1,000,000	253
Museum Support Center		2,250,000	254
Smithsonian Astrophysical Observatory		1,750,000	256
Smithsonian Environmental Research Center		1,500,000	258
Smithsonian Tropical Research Institute		2,850,000	258
Suitland Collections Facility		2,000,000	261
Multiple Location Revitalization Projects		13,250,000	263
Facilities Planning and Design		29,350,000	264
Construction: Collections Storage Module		50,000,000	265
Total FY 2017 Facilities Capital	48	\$163,000,000	
FY 2017 REQUEST, ALL ACCOUNTS	4,593	\$922,224,000	

**SMITHSONIAN INSTITUTION
SALARIES AND EXPENSES (S&E)
FY 2017 Request**

	FTEs	Amount	Page #
	4,404	\$696,045,000	
Fixed Costs Increases			
Salaries and Related Costs		7,729,000	18
Utilities, Postage, Rent, Communications, and Other		<u>8,785,000</u>	20
Total Fixed Costs Increases		\$16,514,000	
Program Increases			
Excellent Research	18	5,208,000	
Greenland Telescope	0	2,000,000	25/62
Biodiversity Genomics	2	360,000	26/41
Global Earth Observatories (Forest)	4	800,000	26/42
Global Earth Observatories (Marine)	4	640,000	26/43
Microbial Research	2	300,000	27/44
Conservation Research	3	600,000	27/45
Preserving Cultural Heritages	3	508,000	28/46
Broadening Access	14	2,762,000	
Digitization	8	2,120,000	28/units
Latino Center	3	342,000	29/220
Asian Pacific American Center	3	300,000	29/221
Strengthening Collections	27	4,735,000	
Collections Staffing	22	2,735,000	31/units
Collections Care and Preservation Fund	0	1,500,000	32/195
Animal Welfare	5	500,000	32/84
Mission Enabling	82	33,960,000	
Facilities Maintenance	23	14,500,000	33/228
Facilities Operations, Security, and Support	51	15,640,000	34/232
IT Infrastructure	0	2,050,000	34/215
Training	0	338,000	35/222
Diversity	2	289,000	35/222
Internal Controls	6	1,143,000	36/223
Total Program Increases	141	\$46,665,000	
Total Increases	141	\$63,179,000	
FY 2017 Total Salaries and Expenses	4,545	\$759,224,000	

SMITHSONIAN INSTITUTION
Salaries and Expenses
Unit Detail of the FY 2015/2016 Enacted and FY 2017 Requests (\$ in Thousands)

FTE = Full-Time Equivalent

Page #

	FY 2015 Enacted		FY 2016 Enacted Base		FY 2017 Request		ANALYSIS OF CHANGE (FY 2017 Increases)				
	FTEs	\$000	Adjusted		FTEs	\$000	Pay & Benefits	Rent & Utilities	Other	Program Increase	
			FTEs	\$000			\$000	\$000	\$000	FTEs	\$000
MUSEUMS AND RESEARCH CENTERS											
47 Unlocking the Mysteries of the Universe											
48 National Air and Space Museum	161	18,603	163	19,209	165	19,853	394	0	0	2	250
<i>Collections Staffing</i>										2	250
55 Smithsonian Astrophysical Observatory	99	23,957	99	24,141	99	24,393	252	0	0	0	0
60 Major Scientific Instrumentation	0	4,118	0	4,118	0	6,118	0	0	0	0	2,000
<i>Greenland Telescope</i>											2,000
40 Universe Research	1	184	1	184	1	184	0	0	0	0	0
Subtotal, Unlocking the Mysteries of the Universe	261	46,862	263	47,652	265	50,548	646	0	0	2	2,250
66 Understanding and Sustaining a Biodiverse Planet											
67 National Museum of Natural History	343	47,992	343	48,503	343	49,205	702	0	0	0	0
76 National Zoological Park	204	25,420	208	26,382	213	27,252	370	0	0	5	500
<i>Animal Welfare</i>										5	500
85 Smithsonian Environmental Research Center	32	3,909	32	3,956	32	4,171	215	0	0	0	0
89 Smithsonian Tropical Research Institute	202	14,025	202	14,166	202	14,344	178	0	0	0	0
40 Biodiversity Research	3	1,520	3	1,523	18	4,230	7	0	0	15	2,700
<i>Biodiversity Genomics</i>										2	360
<i>Global Earth Observatories (Forest/Marine)</i>										8	1,440
<i>Microbial Research</i>										2	300
<i>Conservation Research</i>										3	600
Subtotal, Understanding a Biodiverse Planet	784	92,866	788	94,530	808	99,202	1,472	0	0	20	3,200
97 Valuing World Cultures											
98 Arthur M. Sackler Gallery/Freer Gallery of Art	45	6,049	45	6,111	45	6,197	86	0	0	0	0
103 Center for Folklife and Cultural Heritage	17	2,503	17	2,581	18	3,122	28	230	200	1	83
<i>Digitization</i>										1	83
<i>Collections Storage and Festival costs</i>								230	200		
109 Cooper Hewitt, Smithsonian Design Museum	36	4,755	36	4,810	40	5,105	51	8	0	4	236
<i>Rent Escalation</i>								8			
<i>Collections Staffing</i>										2	136
<i>Facilities Operations</i>										2	100
114 Hirshhorn Museum and Sculpture Garden	37	4,301	37	4,414	41	4,913	63	0	0	4	436
<i>Collections Staffing</i>										2	286
<i>Digitization</i>										2	150
120 National Museum of African Art	27	4,227	28	4,399	29	4,576	97	0	0	1	80
<i>Collections Staffing</i>										1	80
40 World Culture Research	2	284	2	284	5	792	0	0	0	3	508
<i>Preserving Cultural Heritages</i>										3	508
Subtotal, Valuing World Cultures	164	22,119	165	22,599	178	24,705	325	238	200	13	1,343
127 Understanding the American Experience											
128 Anacostia Community Museum	18	2,093	19	2,252	19	2,329	77	0	0	0	0
132 Archives of American Art	17	1,859	17	1,880	18	2,005	29	0	0	1	96
<i>Digitization</i>										1	96
136 National Museum of African American History & Culture	139	40,648	165	41,347	165	41,564	217	0	0	0	0
146 National Museum of American History, Behring Center	158	21,767	163	22,697	173	25,022	563	250	0	10	1,512
<i>Collections Storage</i>								250			
<i>Collections Staffing</i>										9	1,406
<i>Digitization</i>										1	106
158 National Museum of the American Indian	216	31,444	216	31,726	218	32,341	391	0	0	2	224
<i>Collections Staffing</i>										2	224

SMITHSONIAN INSTITUTION
Salaries and Expenses
Unit Detail of the FY 2015/2016 Enacted and FY 2017 Requests (\$ in Thousands)

Page #	FTE = Full-Time Equivalent	FY 2015		FY 2016		FY 2017		ANALYSIS OF CHANGE				
		Enacted		Enacted Base		Request		(FY 2017 Increases)				
				Adjusted				Pay & Benefits	Rent & Utilities	Other	Program Increase	
		FTEs	\$000	FTEs	\$000	FTEs	\$000	\$000	\$000	\$000	FTEs	\$000
162	National Portrait Gallery <i>Collections Staffing</i>	55	5,997	56	6,200	57	6,460	139	0	0	1	121
170	National Postal Museum	6	1,073	6	1,109	6	1,120	11	0	0	0	0
174	Smithsonian American Art Museum <i>Collections Staffing</i>	88	9,474	89	9,723	91	10,115	197	0	0	2	195
40	American Experience Research Subtotal, Understanding the American Experience	4	593	4	595	4	596	1	0	0	0	0
	Total for Museums and Research Centers	701	114,948	735	117,529	751	121,552	1,625	250	0	16	2,148
		1,910	276,795	1,951	282,310	2,002	296,007	4,068	488	200	51	8,941
180	MISSION ENABLING Program Support and Outreach											
181	Outreach	65	9,150	64	9,045	64	9,214	169	0	0	0	0
186	Communications	22	2,567	22	2,594	22	2,632	38	0	0	0	0
189	Institution-wide Programs <i>Collections Care and Preservation Fund</i> <i>Digitization - Information Resources Management Pool</i>	0	10,505	0	13,284	0	14,984	0	0	0	0	1,700
											0	1,500
											0	200
197	Smithsonian Exhibits	28	2,974	28	3,009	28	3,057	48	0	0	0	0
199	Museum Support Center	18	1,848	18	1,866	18	1,890	24	0	0	0	0
201	Museum Conservation Institute	22	3,244	22	3,277	22	3,320	43	0	0	0	0
206	Smithsonian Institution Archives	20	2,167	20	2,253	20	2,316	63	0	0	0	0
208	Smithsonian Libraries <i>Library Inflation</i> <i>Digitization</i>	86	10,399	86	10,654	87	11,275	142	0	350	1	129
										350		
											1	129
	Subtotal, Program Support and Outreach	261	42,854	260	45,982	261	48,688	527	0	350	1	1,829
213	Office of the Chief Information Officer <i>Digitization</i> <i>IT Infrastructure</i>	93	48,929	95	50,462	97	54,641	248	0	661	2	3,270
											2	1,220
											0	2,050
217	Administration <i>Audit costs</i> <i>Collections Staffing - National Collections Program</i> <i>Latino Center</i> <i>Asian Pacific American Center</i> <i>Diversity - Office of Equal Employment and Minority Affairs</i> <i>Internal Controls - Office of General Counsel</i> <i>Internal Controls - Privacy Office</i> <i>Training - Office of Human Resources</i>	181	34,067	181	34,773	196	37,526	108	0	60	15	2,585
										60		
											1	173
											3	342
											3	300
											2	289
											5	1,000
											1	143
											0	338
224	Office of the Inspector General Facilities Services	24	3,416	24	3,451	24	3,499	48	0	0	0	0
226	Facilities Maintenance <i>Maintenance Requirements</i>	382	71,403	399	73,877	422	89,227	850	0	0	23	14,500
											23	14,500
230	Facilities Operations, Security, and Support 21 <i>Central Utilities</i> 22 <i>Central Rent</i> <i>Facilities and Security Requirements</i>	1,476	197,879	1,494	205,190	1,543	229,636	1,880	7,026	0	49	15,540
									4,784		49	
									2,242			15,540
	Subtotal, Facilities Services	1,858	269,282	1,893	279,067	1,965	318,863	2,730	7,026	0	72	30,040
	Total for Mission Enabling	2,417	398,548	2,453	413,735	2,543	463,217	3,661	7,026	1,071	90	37,724
	GRAND TOTAL, SMITHSONIAN INSTITUTION	4,327	675,343	4,404	696,045	4,545	759,224	7,729	7,514	1,271	141	46,665

SALARIES AND EXPENSES

FY 2015 Enacted	\$675,343,000
FY 2016 Enacted	\$696,045,000
FY 2017 Request	\$759,224,000

For FY 2017, the Institution requests **\$759.2 million** in the Salaries and Expenses (S&E) account. Within the total increase requested, approximately 26 percent is attributable to fixed costs for sustaining base operations (e.g., pay, utilities, rent, etc.), and the remainder is for priority requirements throughout the Institution.

FIXED COSTS

SALARY AND PAY-RELATED COSTS (+\$7,729,000) — The Institution requests an increase of \$7,729,000 for higher salary and pay-related costs. The requested budget funds the proposed 1.6 percent pay raise in January 2017, the annualization of the FY 2016 pay raise, and a decrease in Workers' Compensation costs, as follows:

<i>Salary and Related Costs:</i>	<u>Request</u>
▪ January 2017 pay raise (3/4 year at 1.6%)	\$6,283,000
▪ Annualization of 2016 pay raise (1/4 year at 1.46%)	1,749,000
▪ Workers' Compensation	<u>-303,000</u>
Total	\$7,729,000

- **Proposed January 2017 Pay Raise (+\$6,283,000)** — This provides for a proposed 1.6 percent pay raise in January 2017 for three-quarters of a year.

- **Annualization of the 2016 Pay Raise (+\$1,749,000)** — This funds the annualization of the 1.46 percent pay raise in January 2016 for the first quarter of FY 2017.

- **Workers' Compensation (-\$303,000)** — This supports the provisions of Section 8147(b) of Title 5, *United States Code*. The Workers' Compensation bill for FY 2017 is **\$3,151,000**, based on a Department of Labor invoice for costs incurred from July 1, 2014 through June 30, 2015. This represents a decrease of \$303,000 from the prior-year cost of \$3,454,000 payable in FY 2016.

FY 2017 Increased Pay Costs
(Dollars in Thousands)

Line Item	FY 2016 Annualized	FY 2017 Pay Increase	FY 2017 Total Pay Increase
National Air and Space Museum	76	318	394
Smithsonian Astrophysical Observatory	63	189	252
National Museum of Natural History	178	524	702
National Zoological Park	90	280	370
Smithsonian Environmental Research Center	17	198	215
Smithsonian Tropical Research Institute	45	133	178
Biodiversity — Consortium	0	7	7
Arthur M. Sackler Gallery/Freer Gallery of Art	22	64	86
Center for Folklife and Cultural Heritage	7	21	28
Cooper Hewitt, Smithsonian Design Museum	13	38	51
Hirshhorn Museum and Sculpture Garden	16	47	63
National Museum of African Art	13	84	97
Anacostia Community Museum	8	69	77
Archives of American Art	8	21	29
National Museum of African American History and Culture	38	179	217
National Museum of American History, Behring Center	85	478	563
National Postal Museum	3	8	11
National Museum of the American Indian	98	293	391
National Portrait Gallery	24	115	139
Smithsonian American Art Museum	38	159	197
American Experience — Consortium	0	1	1
Outreach	29	140	169
Communications	10	28	38
Museum Support Center	6	18	24
Museum Conservation Institute	11	32	43
Smithsonian Institution Archives	9	54	63
Smithsonian Libraries	35	107	142
Smithsonian Exhibits	12	36	48
Office of the Chief Information Officer	63	185	248
Administration	98	313	411
Inspector General	11	37	48
Facilities Maintenance	191	659	850
Facilities Operations, Security, and Support	432	1,448	1,880
Total Increased Pay Costs	\$1,749	\$6,283	\$8,032

UTILITIES, POSTAGE, RENT, COMMUNICATIONS, AND OTHER FIXED COSTS (+\$8,785,000) — For FY 2017, the Institution requests an increase of \$8,785,000 for utilities, postage, rent, communications, and other fixed-cost accounts, as detailed in the chart below. The requested increase reflects consumption and rate changes in the utilities accounts, inflationary increases, and program needs in rent accounts. In addition, the increases for Communications and Other Support are requested to provide for fixed software licensing and maintenance costs, inflationary increases for library subscriptions, and to meet compliance requirements.

The following table displays the FY 2016 and FY 2017 estimates. The details that follow address the specific changes affecting the FY 2017 accounts.

**Federal Utilities, Postage, Rent, Communications,
and Other Fixed Costs
FYs 2016–2017
(Dollars in Thousands)**

	FY 2016 Estimate	FY 2017 Request	Change
Utilities:			
Electricity	20,487	22,186	1,699
Chilled Water	6,614	7,052	438
Steam	7,749	7,790	41
Natural Gas	3,211	3,228	17
DC Gov't Water/Sewer	3,222	5,849	2,627
Other Water and Fuel Oil	<u>1,151</u>	<u>1,113</u>	<u>-38</u>
Subtotal, Utilities	42,434	47,218	4,784
Postage	1,511	1,511	0
Motor Fuel	370	370	0
Rental Space:			
Central	32,231	34,473	2,242
Unit	<u>8,311</u>	<u>8,799</u>	<u>488</u>
Subtotal, Rent	40,542	43,272	2,730
Communications	18,213	18,874	661
Other Support	2,527	3,137	610
Total	\$105,597	\$114,382	\$8,785

UTILITIES (+\$4,784,000) — Justified here, but included in the Facilities Operations, Security, and Support line item, is a requested increase to cover the costs of energy, water, and sewer services. The request includes the following:

- **Electricity (+\$1,699,000)** — Electricity is used to operate the Smithsonian's large infrastructure. The major use of electricity is for air-conditioning that provides essential climate control to protect the priceless national collections as well as ensure the comfort of visitors and staff. The request covers anticipated cost increases in FY 2017 for current services for all accounts (+\$804,000) and anticipated surcharges by the Potomac Electric Power Company to recover costs of the DC PLUG initiative to place the District of Columbia's power lines underground (+\$387,000). The request also funds increased electricity costs incurred from new and renovated facilities at the Smithsonian's Tropical Research Institute (STRI) and the Environmental Research Center (+\$508,000).
- **Chilled Water (+\$438,000)** — Chilled water costs represent both the annual cost of the fixed, 15-year debt service for the joint project between the General Services Administration (GSA) and the Smithsonian to supply chilled water from GSA's central plant to the Smithsonian's south Mall facilities, and the variable cost for actual chilled water usage. The requested amount will fully fund the estimated FY 2017 costs.
- **Steam (+\$41,000)** — The Smithsonian uses steam for heating and humidification, and to produce hot water for facilities on the Mall and in New York City. The requested increase covers escalation as stipulated in Energy Savings Performance Contracts (ESPCs).
- **Natural Gas (+\$17,000)** — The Smithsonian uses natural gas and propane for heating and generating steam. The net increase covers anticipated rate changes and estimated higher usage in FY 2017 (+\$7,000) as well as escalation as stipulated in ESPCs (+\$10,000).
- **DC Water and Sewer (+\$2,627,000)** — Funds cover the costs of both water and sewer services provided by the District of Columbia Water and Sewer Authority (DCWSA). The net increase includes rate and billing adjustments transmitted by DCWSA to the Smithsonian in April 2015 (+\$2,661,000), as well as anticipated increased reimbursements in FY 2017 (-\$34,000).
- **Other Water and Fuel Oil (-\$38,000)** — Funds provide water service for facilities outside of Washington, DC, and fuel oil used in dual-fuel boilers and generators for emergency power. The net decrease includes escalation as stipulated in ESPCs (+\$9,000) and a downward adjustment for lower-than-projected fuel-oil prices and usage in FY 2015 (-\$47,000).

POSTAGE — Funds provide for all official domestic and international mail services. No increases are requested for postage in FY 2017.

MOTOR FUEL — Funds provide for motor fuel that powers the Smithsonian's motor vehicle fleet and scientific research vessels. No increases are requested for motor fuel in FY 2017.

RENTAL SPACE (+\$2,730,000) — Funds provide for the long-term rental of office, collections and warehouse storage, and laboratory space. For FY 2017, the Smithsonian requests increases of \$2,242,000 for centrally-funded lease requirements and \$488,000 for unit-funded, programmatic lease requirements, as follows:

- **Central Rent (+\$2,242,000)** — Justified here, but included in the Facilities Operations, Security, and Support line item, are increases needed to support leased office and collections storage space, as follows:

Escalation (+\$1,492,000) — This request funds annual rent increases in accordance with the terms of current lease contracts, and lease-related services. Among the contracts, the annual escalation rate for base rent averages three percent, and operating and real-estate taxes are each projected to increase at four percent above FY 2016 estimates.

Additional Base Rent (+\$750,000) — This request funds additional leased office and collections storage space for the National Portrait Gallery and Smithsonian American Art Museum at the Victor Building, which is located at 750 9th Street, NW, Washington, DC. The additional space is required to accommodate collection staffing needs and to properly care for and store collections.

- **Unit Rent (+\$488,000)** — Justified here, but included in the following museums' line items, are unit-funded rent increases needed to support Smithsonian programs. The increases are as follows:

Escalation (+\$8,000) — Provides funding for the annual escalation of contractual lease costs and lease-related services. The requested increase supports leased space occupied by Cooper Hewitt, Smithsonian Design Museum (+\$8,000).

Center for Folklife and Cultural Heritage (+\$230,000) — This increase provides base rent funds for approximately 5,000 square feet of leased collections storage space to house audio and video collections in an environmentally controlled space. Currently, the collections are housed in substandard environmental conditions that put them at risk from deterioration. The requested funds will ensure long-term preservation of these irreplaceable collections for future generations.

National Museum of American History (+\$250,000) — This increase provides base rent funds for approximately 5,000 square feet of leased collections storage space to protect and preserve the large, heavy, industrial artifacts that are returning to the Smithsonian from the National Museum of Industrial History in Pennsylvania.

COMMUNICATIONS (+\$661,000) — The communications budget supports the operations of the Institution's voice and data telecommunications infrastructure. The requested increase covers the increased cost of software and hardware maintenance fees for existing investments, and the expansion of central storage and backup systems used to house, manage, and protect the rapidly growing number of digitized collections assets.

These systems include: Enterprise Resource Planning; RedHat/Linux enterprise platforms; business analytics software; a software distribution system for Macs; SharePoint administration; an employee safety system; and the personnel records management system. The requested increases will enable systems to stay current and cover rising annual maintenance and operating costs, the costs of the upgraded Internet2 connection that allows the exchange of large datasets with external collaborators (and sharing of high-resolution images and 3D models), and the annual recurring cost for a network connection to the new STRI lab in Gamboa, Panama.

OTHER SUPPORT (+\$610,000) — An additional \$610,000 is requested to offset the effects of inflation and to cover other fixed costs. The Smithsonian Libraries requires additional funding to adequately address inflationary increases in library subscriptions (+\$350,000). This increase will enable the Libraries to cover the extraordinary inflation costs of purchasing journals and electronic databases, which are critical to support the Institution's many research programs and scientists.

In addition, the Institution requests an increase of \$200,000 to support the Smithsonian Folklife Festival's compliance with new regulations instituted by the National Park Service in its management of the turf on the National Mall, which strictly limit how the Festival can use this prominent public space.

Finally, the Smithsonian requests an increase of \$60,000 to fund the inflationary costs of the Institution-wide personal property audits, and to pay the fees associated with processing local vouchers through the federal travel-management system (Concur).

SUMMARY OF S&E PROGRAM INCREASES

	\$000s			
	FY 2016 Base	FY 2017 Program Increase	FY 2017 Fixed Costs	FY 2017 Total
Excellent Research (Grand Challenges)	84,938	+5,208	+2,178	92,324
• Major Scientific Instrumentation	4,118	+2,000		
○ Greenland Telescope		+2,000		
• Biodiversity	1,523	+2,700		
○ Biodiversity Genomics		+360		
○ Global Earth Observatories (Forest)		+800		
○ Global Earth Observatories (Marine)		+640		
○ Microbial Research		+300		
○ Conservation Research		+600		
• World Cultures	284	+508		
○ Preserving Cultural Heritages		+508		
Broadening Access	81,650	+2,762	+714	85,126
• Digitization	14,184	+2,120		
• Latino Center	239	+342		
• Asian Pacific American Center	123	+300		
Revitalizing Education	17,279	0	+243	17,522
Strengthening Collections	75,452	+4,735	+518	80,705
• Collections Staffing	49,149	+2,735		
• Collections Care and Preservation Fund	6,697	+1,500		
• National Zoo – Animal Welfare	19,606	+500		
Mission Enabling	436,726	+33,960	+12,861	483,547
• Facilities Maintenance	73,877	+14,500		
• Facilities Operations, Security, and Support	216,845	+15,640		
• Information Technology Infrastructure	64,109	+2,050		
• Management Operations (Training, Diversity, Internal Controls)	81,895	+1,770		
Total S&E Program Increases	\$696,045	+\$46,665	+\$16,514	\$759,224

Note: For a complete list of program categories, see page 39

EXCELLENT RESEARCH (GRAND CHALLENGES)

The Smithsonian’s Strategic Plan for FYs 2010–2017 articulates four Grand Challenges that provide an overarching strategic framework for Smithsonian programs and operations. The four Grand Challenges are:

- *Unlocking the Mysteries of the Universe*
- *Understanding and Sustaining a Biodiverse Planet*
- *Valuing World Cultures*
- *Understanding the American Experience*

Meeting these Grand Challenges will allow the Smithsonian to integrate the work of many disciplines within its museums and research centers, as well as broaden the Institution’s external collaborations. The challenges are grounded in research and emphasize complementary education and outreach programs. Together, they will continue to influence how the Smithsonian directs its resources and focuses its energies for maximum effectiveness.

The programs described below will continue to advance science, technology, and innovation within the Institution to achieve high-return benefits from the investment in research. For FY 2017, the Institution will continue implementing its Strategic Plan with the following requested increases for Excellent Research:

<u>Category</u>	FY 2017 Program Increase (\$000s)	FY 2017 FTEs Increase
EXCELLENT RESEARCH		
• Greenland Telescope	+2,000	+0
• Biodiversity Genomics	+360	+2
• Global Earth Observatories (Forest)	+800	+4
• Global Earth Observatories (Marine)	+640	+4
• Microbial Research	+300	+2
• Conservation Research	+600	+3
• Preserving Cultural Heritages	+508	+3
Total Increases	+5,208	+18

***Unlocking the Mysteries of the Universe* — Major Scientific Instrumentation (Greenland Telescope) — Base: (\$4,118,000); FY 2017 Increase: (+\$2,000,000)**

The Smithsonian requests \$2,000,000 to support the completion of the first phase of the Greenland Telescope project that will conduct groundbreaking, high-priority observations of supermassive black holes, and conduct terahertz (very high frequency) observations of the cold universe as part of the only “mid-scale” priority in the 2010 National Research Council “Decadal Survey of Astronomy.” The Smithsonian Astrophysical Observatory (SAO), in partnership with the National

Science Foundation (NSF) Division of Polar Programs, has identified a high, dry, northern site on the Greenland ice sheet as the ideal place for the Smithsonian's 12-meter radio antenna. The telescope will conduct single-dish submillimeter and terahertz observations, and very long baseline observations, in conjunction with telescopes in Chile and the Smithsonian's submillimeter telescope array (SMA) in Hawaii. Additional details are provided in the Major Scientific Instrumentation section of this budget submission.

Understanding and Sustaining a Biodiverse Planet — Biodiversity Genomics — Base: (\$1,523,000); FY 2017 Increase: (+\$360,000, +2 FTEs)

This request (+\$360,000 and +2 FTEs) supports expanded Institution-wide efforts on collaborative, multi-disciplinary discovery, exploration, and application of genomic information for sustainability of global biodiversity and the 21st century bioeconomy. This program is a cornerstone priority of the Institution's biodiversity strategic plans, builds on more than 20 years of systematic development and reprogramming of federal resources, and further leverages and builds credibility for increased private fund raising.

Genome-level information is now a crucial, unifying component of diverse fields, including evolutionary biology; ecological research and monitoring; environmental change and health; conservation and wildlife management; invasive species management; agriculture; and biosurveillance related to national security and commerce. Genomic approaches provide innovative tools to explore the traits and properties of unknown or poorly known organisms. Collections are one of the key resources in Biodiversity Genomics because they represent long-term investments, are key resources for analyses with future technologies, and are the basis for monitoring near- and long-term changes in organisms. Additional details are provided in the Grand Challenges and Interdisciplinary Research section of this Budget request.

Understanding and Sustaining a Biodiverse Planet — Global Earth Observatories, ForestGEO and MarineGEO — Base: (\$1,523,000) Note: an additional \$1,431,000 is included in the Smithsonian's Tropical Research Institute budget for ForestGEO; FY 2017 Increase: (+\$1,440,000, +8 FTEs)

The Institution requests funding (+\$800,000 and +4 FTEs) for the Forest Global Earth Observatories, or ForestGEO. ForestGEO provides long-term scientific data about biodiversity, ecological, hydrological, soil, and meteorological processes associated with climate change at local spatial scales and, comparatively, at regional and global scales. This research platform enables Smithsonian scientists and their university and federal agency partners to better understand the storage and movement of carbon and water in tropical and temperate forests, as well as the impacts of climate change on the relationships of forests with wildlife, the atmosphere, and sources of fresh water.

In addition, the Institution requests funds (+\$640,000 and +4 FTEs) for the Marine Global Earth Observatories, or MarineGEO. MarineGEO is one of the

Smithsonian's signature programs in Earth observations and understanding global change, and is dedicated to understanding changes in the structure and function of marine ecosystems. These funds build on existing Smithsonian federal and trust investment, collaboration with the National Oceanic and Atmospheric Administration (NOAA) and the National Science and Technology Council's Subcommittee on Ocean Science and Technology (SOST), and leveraging in-kind support from a range of academic partners to allow expansion of the network beyond the initial sites. This comprehensive approach will provide a new, fundamental understanding of our oceans, their sustainability, and their importance to human life and society. Additional details are provided in the Grand Challenges and Interdisciplinary Research section of this Budget request.

Understanding and Sustaining a Biodiverse Planet — Microbial Research —
Base: (\$1,523,000); FY 2017 Increase: (+\$300,000, +2 FTEs)

Micro-organisms are ubiquitous in all environments on Earth, from high in the atmosphere to deep below the ocean floor. Advancements in genomic and computational technologies are revolutionizing the scientific exploration of the microbial world, and paving the way for transformative discoveries that explain how ecosystem health arises from the hidden and tremendous diversity of microbial life. By regulating element and water cycling, microbial communities control nearly every facet of ecosystem ecology, and are central to understanding and solving the most pressing environmental problems facing the United States. For decades, the Smithsonian has established a global network of long-term research sites, known as ForestGEO and MarineGEO, to understand patterns and processes of change in natural communities in temperate and tropical forests as well as coastal and coral reef ecosystems. Accordingly, the Institution requests funds (+\$300,000 and +2 FTEs) to build on more than a century of world-class research and collections, and to glean insights into how microbes shape ecosystem functions, services, and restoration across habitats in the United States and around the world. Additional details are provided in the Grand Challenges and Interdisciplinary Research section of this budget submission.

Understanding and Sustaining a Biodiverse Planet — Conservation Research —
Base: (\$1,523,000); FY 2017 Increase: (+\$600,000, +3 FTEs)

The Institution requests \$600,000 and 3 FTEs to use the vast scholarly and scientific capacity of the Smithsonian to develop conservation strategies sorely needed by decision makers, practitioners, and citizens alike. The Smithsonian seeks to enhance its role as a trusted knowledge resource to the global biodiversity conservation community known for solving real-world problems, serving the national interest, and those of humankind, and ultimately finding solutions that will help life survive and thrive. Focused on a common future, the Smithsonian has a tremendous opportunity to mobilize its scientific capacity, unparalleled collections, laboratories, field stations, and partnerships into multi-disciplinary teams that can increase our collective impact in creating the new knowledge needed to understand and sustain a biodiverse planet. Additional details are provided in the Grand Challenges and Interdisciplinary Research section of this Budget request.

**Valuing World Cultures — Preserving Cultural Heritages — Base: (\$284,000);
FY 2017 Increase: (+\$508,000, +3 FTEs)**

The Institution requests funding (+\$508,000 and +3 FTEs) for a Smithsonian Cultural Crisis Recovery Center. Since 2010, the Smithsonian has taken a leadership role in the preservation of cultural heritages affected by natural and man-made disasters, including the 2010 earthquake in Haiti, Hurricane “Super Storm” Sandy in New York, the ongoing man-made crises in Mali, Syria, Iraq, and Egypt, as well as, most recently, the devastating earthquake in Nepal. The additional funding will strengthen and enhance the Smithsonian’s ability to respond to the many requests for assistance with cultural heritage recovery and preservation around the world. Additional details are provided in the Grand Challenges and Interdisciplinary Research section of this budget submission.

BROADENING ACCESS

Category	FY 2017 Program Increase (\$000s)	FY 2017 FTEs Increase
BROADENING ACCESS		
• Digitization	+2,120	+8
• Latino Center	+342	+3
• Asian Pacific American Center	+300	+3
Total Increase	+\$2,762	+14

Digitization — Base: (\$14,184,000); FY 2017 Increase: (+\$2,120,000, +8 FTEs)

The Smithsonian has implemented the first-ever Institution-wide digitization strategic plan that includes the framework of digitization policies; made assessments to account for the state and progress of digitization; and clarified digitization priorities to guide resource allocation and planning. The FY 2015 Digital Assessment showed that the Smithsonian has prioritized 13 million objects for digitization and completed 2.5 million objects (or 19 percent) of this task to date. In accordance with Smithsonian Directive (SD) 610, Digitization and Digital Asset Management Policy, Smithsonian units have articulated their implementation of Institution-wide priorities in unit digitization plans (UDPs) and created foundational digital asset management plans to ensure that the Smithsonian can effectively manage digital content for scientific studies.

In addition, the Smithsonian has strategically invested in creating a standard mass-digitization process that enables replicable, cost-effective, high-throughput, and high-quality digitization for all Smithsonian priority collections. Digitization efforts to implement this process have resulted in digital images for more than 400,000 collection objects in FY 2015 alone, doubling the rate of digitization at the Smithsonian. This Budget request will accelerate the Institution’s digitization progress by turning more time-limited, mass-digitization prototypes into production projects and finishing the digitization of entire collections. Additional details are provided in the

Office of the Chief Information Officer narrative; the Institution-wide Programs section; and in the following units' budget submissions: Smithsonian Libraries; Archives of American Art; Center for Folklife and Cultural Heritage; National Museum of American History; and the Hirshhorn Museum and Sculpture Garden.

Latino Center — Base: (\$239,000); FY 2017 Increase: (+\$342,000, +3 FTEs)

The Latino Center requires additional funding to increase the number of programmatic staff specializing in the history, art, and culture of Latino/Hispanic Americans, the fastest growing demographic in the United States. These personnel will enhance the Institution's exhibitions, public programs, and educational capabilities. They will help the Smithsonian join networks of Latino cultural, scholarly, and educational organizations across the United States, and help leverage increased private support for related programmatic initiatives. Both Appropriations Acts for 2015 and 2016 encouraged the Institution to promote "the inclusion of Latino contributions in Smithsonian Institution programs, exhibitions, collections, and public outreach." Additional details are provided in the Administration section of this budget submission.

Asian Pacific American Center — Base: (\$123,000); FY 2017 Increase: (+\$300,000, +3 FTEs)

To achieve the Institution's strategic goal of Broadening Access to its mission and promoting the understanding of the full spectrum of the American Experience, the Smithsonian requests additional positions to support the Asian Pacific American Center's (APAC) strategic plan. Both Appropriations Acts for 2015 and 2016 encouraged the Smithsonian to develop a more robust program in this area, "which will promote a better understanding of the Asian Pacific American experience." APAC will showcase cutting-edge programming and increase the Center's capacity to collaborate internally and externally, both with the Asian Pacific American community and Smithsonian stakeholders. Additional details are provided in the Administration section of this Budget request.

REVITALIZING EDUCATION

The Smithsonian will continue to provide authentic and inspiring Science, Technology, Engineering, and Mathematics (STEM) experiences for teachers and students by drawing on the scientific and engineering assets of the Federal government. In particular, the Smithsonian will advance STEM goals by serving as a conduit between federal mission agencies and other non-profit organizations — including the Smithsonian's 208 Affiliate museums. The Institution will build and support learning communities that include educators in schools and informal learning settings; assist with the identification of curricula in various modalities; and work with partners to identify, develop, and disseminate STEM engagement materials and experiences. The STEM initiative will also advance professional development opportunities that take the next-generation science standards into consideration and align with individual state education standards.

In FY 2017, the Smithsonian will continue to work with Federal agencies offering STEM programs so that the Institution can identify and disseminate content that takes advantage of each agency’s unique assets; create complementary materials and avoid duplication of effort; and share a centralized portal for the broad dissemination of our educational offerings. However, no additional resources are requested in this FY 2017 budget submission.

STRENGTHENING COLLECTIONS

<u>Category</u>	FY 2017 Program Increase (\$000s)	FY 2017 FTEs Increase
STRENGTHENING COLLECTIONS		
• Collections Staffing	+2,735	+22
• Collections Care and Preservation Fund	+1,500	+0
• Animal Welfare	+500	+5
Total Increase	+\$4,735	+27

Collections stewardship is a key component and core priority of the Smithsonian’s Strategic Plan. Assembled throughout the Institution’s history, Smithsonian collections are fundamental to carrying out the Institution’s mission and supporting the Grand Challenges, serving as the intellectual base for scholarship, exhibition, and education. As recognized by the America COMPETES Reauthorization Act of 2010, the proper management, documentation, preservation, and accessibility of collections are critical to the nation’s research and education infrastructure, enabling researchers to address such significant challenges as the effects of climate change, the spread of invasive species, and the loss of biological diversity and its impact on global ecosystems.

Collections stewardship — the systematic development, documentation, management, preservation, and use of collections — is not a single process or procedure but a series of components which are interwoven, interdependent, and ongoing. The condition of facilities housing collections, the quality of storage and preservation, and the ability to document collections in manual and digital formats directly affect the Smithsonian’s ability to make collections available to scholars and the general public worldwide. Because collections stewardship is fundamental to the Smithsonian’s mission, there is a vital need for additional resources to accomplish basic collections management activities for accountability, preservation, storage, digitization, and accessibility of the collections. The Institution must also substantially improve its collections scholarship to ensure that our vast collections are properly exhibited and interpreted for the Smithsonian’s worldwide audiences, including the scientific community.

Collections Staffing — Base: (\$49,149,000); FY 2017 Increase: (+\$2,735,000, +22 FTEs)

Collections Scholarship (+\$1,604,000 and +11 FTEs): Although the Institution has many staffing needs, curatorial and collections management staffing is the top priority. For example, the National Museum of American History has important national collections in its Chemistry (7,000 objects), Biology (3,000 objects), and Physics (600 objects) departments. However, with the loss of six key staff in the last decade, primarily due to base erosion, none of these collections has professional curatorial coverage. Coverage is currently provided by one collections specialist who does no exhibiting, interpretation, or cataloguing of existing collections, and no new collecting.

Museums also require additional staff to research and write educational materials that convey cultural context and meet curriculum standards, design curriculum and learning activities, and develop and maintain a dynamic and functional publications distribution system.

In pursuit of the requested funds, the Institution is following a balanced strategy, using both federal and trust support to stop further base erosion and begin rebuilding the curatorial staff. Even though it is difficult to raise private funds for this effort, each museum is committed to match the federal support with private resources for this essential program. We have had some success with this approach so far and have funded some endowed curatorial positions as part of our national campaign. Our donors have expressed their support for this balanced strategy, leveraging their donations with an equal federal commitment to restore the scholarly foundation of the Institution.

Museums requesting curatorial funding include: the National Museum of American History (+5 FTEs); the Hirshhorn Museum and Sculpture Garden (+2 FTEs); the National Museum of the American Indian (+2 FTEs); and the National Air and Space Museum (+2 FTEs). Additional details are included in each Museum's narrative.

Collections Management (+\$1,131,000 and +11 FTEs): Several recent Inspector General collections stewardship audit reports have identified a critical need to fill high-priority positions to care for and preserve collections, including ensuring full inventory control over collections, providing proper preservation of collections at risk, and supporting a robust digitization program to make collections available online to national and international communities. Museums require additional staff to: assist with research and public collections inquiries; expand loan and digitization capacities to meet the growing demand for physical and digital access to collections; conserve fragile and at-risk collections, including time-based media and digital art; research and process new acquisitions and backlogs; meet the expanding requirements of upcoming exhibitions; improve collections emergency management and professional development training; and achieve and sustain inventory and preservation controls to support responsible collections stewardship.

In particular, Museums and offices requesting collections management funding include: the National Museum of American History (+4 FTEs); National Portrait Gallery (+1 FTE); the Smithsonian American Art Museum (+2 FTEs); the National Museum of African Art (+1 FTE); the Cooper Hewitt, Smithsonian Design Museum (+2 FTEs); and the National Collections Program (+1 FTE). Additional details are included in each Museum's unit narrative.

This collections staffing request (+\$2,735,000 and +22 FTEs) specifies the necessary federal support to begin to reverse the loss of curatorial and collections management staff in several of the Smithsonian's most popular museums and galleries.

Collections Care and Preservation Fund — Base: (\$6,697,000); FY 2017 Increase: (+\$1,500,000)

The Institution seeks to improve its collections care to ensure Smithsonian collections remain available for current and future use. The volume, characteristics, complexity, and age of Smithsonian collections, as well as the variety of discipline-specific standards that apply to their care, make their management and preservation as unprecedented, challenging, and complex as the collections themselves.

This Budget request supports the Smithsonian's Strategic Plan to continually improve the quality of collections preservation, storage space, management, and accessibility, while also leveraging internal resources to support Institution-wide initiatives that strategically address Smithsonian collections care. Collections care funding directly supports the Smithsonian's overarching goal of improving the preservation and accessibility of collections which are vital to current and future scholarly research, education, and the nation's scientific endeavors.

The Smithsonian has made significant progress at raising the level of collections care, storage, and accessibility with targeted funding. Through assessments, long-term planning, and prioritization, the Smithsonian is strengthening collections in a pragmatic, strategic, and integrated manner. This Budget request seeks critical resources to continue to build on and implement important planning initiatives for strategically addressing critical collections management, emergency preparedness, and space needs. Additional details are included in the Institution-wide Programs section of this budget submission.

Animal Welfare — Base: (\$19,606,000); FY 2017 Increase: (+\$500,000, +5 FTEs)

The National Zoological Park (NZIP) is requesting a funding increase (+\$500,000 and +5 FTEs) to provide the needed resources for the NZIP's Smithsonian Conservation Biology Institute (SCBI, in Front Royal, Virginia) breeding facility. SCBI is world-renowned for its heroic efforts to research, breed and reintroduce some of the world's most critically endangered species into the wild, including Przewalski's horse, the golden-lion tamarin, black-footed ferret, scimitar-horned oryx, and red-crowned cranes, among others. Federal and state regulations require intensive animal quarantining and screening procedures to prevent disease transmission. Increased disease threats, such

as highly pathogenic avian influenza, require additional staffing to respond to new requirements and maintain a viable collection.

Furthermore, the National Zoo must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — staff who are essential for ensuring that the Zoo successfully achieves its vital mission of saving species. Specifically, the requested funding will support one veterinarian, three animal keepers, and one support position. Additional details are provided in the NZP unit narrative in this budget submission.

MISSION ENABLING

<u>Category</u>	FY 2017 Program Increase (\$000s)	FY 2017 FTEs Increase
MISSION ENABLING		
• Facilities Maintenance	+14,500	+23
• Facilities Operations	+15,640	+51
• IT Infrastructure	+2,050	+0
• Management Operations	+1,770	+8
Total Increase	+\$33,960	+82

Facilities Maintenance — Base: (\$73,877,000); FY 2017 Increase: (+\$14,500,000, +23 FTEs)

For FY 2017, the Smithsonian requests an increase of \$14.5 million and 23 FTEs to enable its maintenance program to continue the work of stabilizing and standardizing the overall condition of Institution facilities. The increase will fund high-priority needs, including support to complete funding of facilities and security operations for the National Museum of African American History and Culture (NMAAHC). The long-term, well-documented goal is to maintain Smithsonian facilities at the Leadership in Educational Facilities, or APPA, top rating of Level 1. Progress toward that goal has been made in recent years. With the resources requested in the FY 2017 budget, the Smithsonian will operate at a solid APPA maintenance rating of Level 3 (out of 5), “Managed Care.” This increase provides a minimal level of preventive maintenance and building system reliability to ensure that proper environmental conditions are maintained for collections and that public expectations are met.

The following chart summarizes the requirements:

<u>Category</u>	FY 2017 Increase \$000s	FY 2017 Increase FTEs
Facilities and Systems Support	+11,400	+14
Land Management	+1,500	+3
NMAAHC Support	+1,600	+6
Total Increases	+\$14,500	+23

Additional details are included in the Facilities Maintenance section of this Budget request.

Facilities Operations, Security, and Support — Base: (\$216,845,000); FY 2017 Increase: (+\$15,640,000, +51 FTEs)

For FY 2017, the Smithsonian requests an increase of \$15.64 million and 51 FTEs to address high-priority operating, safety, and security requirements. The increase will fund high-priority needs, including support to complete funding of facilities and security operations for the National Museum of African American History and Culture (NMAAHC). The Institution is committed to achieving APPA’s appearance Level 2 (out of 5), referred to as “Ordinary Tidiness.” This level of appearance will provide an acceptable level of cleanliness that meets public expectations.

The following chart summarizes the requirements:

<u>Category</u>	FY 2017 Increase \$000s	FY 2017 Increase FTEs
Facilities Requirements	+5,100	+11
Security Requirements	+6,075	+2
NMAAHC Support	+4,465	+38
Total Increase	+\$15,640	+51

Additional details are included in the Facilities Operations, Security, and Support section and the Cooper Hewitt, Smithsonian Design Museum’s narrative of this Budget request.

Information Technology (IT) Infrastructure — Base: (\$64,109,000); FY 2017 Increase: (+\$2,050,000)

This funding request supports the upgrade and replacement of aging IT security infrastructure at the Smithsonian. The request includes funds for security monitoring, response, and assessment; maintenance of seven sites and the replacement of the Internet firewall; recurring funds for maintenance or the

replacement of outdated and inadequate intrusion-detection systems; and funds to maintain and replace outdated Web proxy servers. Additional details are included in the Office of the Chief Information Officer narrative of this Budget request.

Management Operations — Base: (\$81,895,000); FY 2017 Increase: (+\$1,770,000, +8 FTEs)

The following chart summarizes the requested requirements:

<u>Category</u>	FY 2017 Increase \$000s	FY 2017 Increase FTEs
Training	+338	0
Diversity	+289	+2
Internal Controls		
Office of the General Counsel	+1,000	+5
Privacy Specialist	+143	+1
Total Increase	+\$1,770	+8

- Training (+\$338,000)** — This funding request supports a comprehensive, centrally funded, mandated training program (as required by *5 United States Code* [U.S.C.] §4121), which includes initial and follow-up supervisor training to comply with the myriad rules, regulations, and policies involved in employee supervision. Currently, courses are funded on a cost-recovery basis (via unit reimbursements) that presents a growing unit challenge of prioritizing funding needs to meet their most critical training needs. By having a centralized training fund, the Institution will ensure compliance with federal regulations, increase employee engagement, and mitigate costs.
- Diversity (+\$289,000, +2 FTEs)** — Diversity is one of the expressed values in the Smithsonian Strategic Plan. The Office of Equal Employment and Minority Affairs’ (OEEMA) Supplier Diversity Program advocates for the use of small disadvantaged businesses in the Smithsonian’s procurement and contracting operations. The Institution is requesting permanent funding for a Supplier Diversity Program (SDP) specialist (\$134,000). This position will assist with administrative duties and in advocating for unit managers to achieve their SDP goals. In addition, the Office of Equal Employment and Minority Affairs requests one affirmative employment specialist (\$155,000) to conduct regular and comprehensive audits of Smithsonian units to identify barriers to Equal Employment Opportunity (EEO), including in the Institution’s hiring and promotion practices.

- **Internal Controls**

- **Office of General Counsel (+\$1,000,000, +5 FTEs)** — The Office of the General Counsel requests additional resources to address the Smithsonian’s current need for advice, representation, and education to support internal controls, and to manage the increasing activities in the areas of cybersecurity, privacy, risk management, ethics, international activities, complex business transactions, and litigation.

These essential resources will address the areas of privacy and cybersecurity; agreements for projects conducted in other countries; increased complex litigation, including cases in the Office of Special Counsel and Merit Systems Protection Board (which often involve time-sensitive electronic discovery assignments); expanded activities at the Smithsonian Tropical Research Institute and the Smithsonian Astrophysical Observatory; the need for timely ethics guidance; and proper oversight of fundraising and investment activities.

- **Privacy Specialist — (+\$143,000, +1 FTE)** — This funding request provides for a privacy specialist to deliver essential support to the Smithsonian community. As the incidents of privacy breaches increase, this additional position will enable the Institution to both investigate incidents as well as continue training to help prevent breaches and develop methods to identify and respond to future data breaches of personally identifiable information content.

Additional details on all Management Operations increases are included in the Administration section of this Budget request.

NO-YEAR FUNDING — The following table provides the FY 2016 and FY 2017 Salaries and Expenses requests for No-Year Funding.

No-Year Funding Request
(Dollars in Thousands)

Salaries and Expenses	FY 2016 Enacted	FY 2017 Request	Change from FY 2016
No-Year Funds			
National Museum of African American History and Culture	41,347	41,564	+217
National Museum of Natural History			
Exhibition Reinstallation	954	954	+0
Repatriation Program	1,379	1,396	+17
Major Scientific Instrumentation	4,118	6,118	+2,000
Collections Acquisition	435	435	+0
Total, No-Year Funds	\$48,233	\$50,467	+\$2,234

OBJECT-CLASS FUNDING — The following table provides an object-class breakout of resources for the Salaries and Expenses account.

Object-Class Request
(Dollars in Millions)

Salaries and Expenses	FY 2016 Enacted	FY 2017 Request	Change from FY 2016
Salaries and Benefits	421	449	+28
Travel and Transportation	6	6	0
Rent, Utilities, Communications, and Other	91	99	+8
Other Services	129	148	+19
Supplies and Materials	19	23	+4
Equipment	27	31	+4
Land and Structures	3	3	0
Total, Object-Class Funds	\$696	\$759	+\$63

FEDERAL RESOURCE SUMMARY BY PERFORMANCE OBJECTIVE AND PROGRAM CATEGORY

The Smithsonian has developed its FY 2017 Budget request by reviewing all resources, both base amounts and identified increases or decreases, in relation to the Institution's performance plan and overall Strategic Plan.

The Institution's program performance goals and objectives are aligned with the program categories used in the federal budget and the Institution's financial accounting system. This enables the Institution to more clearly demonstrate the relationship between dollars budgeted and results achieved.

The table below summarizes the request by program category and details the pay increases and program changes. The table on the following page summarizes the Institution's FY 2016 and FY 2017 **Salaries and Expenses** estimates and the proposed changes by strategic goal, performance objective, and program category.

FY 2017 Budget Federal Resources by Program Category Salaries and Expenses (\$s in 000s)

Federal Resources by Performance Objective and Program Category											
Salaries and Expenses (\$s in thousands)											
Performance Objective/Program Category	FY 2016		FY 2017		Change		Fixed Pay	Fixed Rent/ Utilities	Fixed Other	Program Change	Total
	FTEs	\$000	FTEs	\$000	FTEs	\$000					
Excellent Research	561	84,938	580	92,324	19	7,386	1,903		275	5,208	7,386
Broadening Access	564	81,650	578	85,126	14	3,476	514		200	2,762	3,476
Revitalizing Education	145	17,279	145	17,522	0	243	243				243
Strengthening Collections	529	75,452	554	80,705	25	5,253	288	230		4,735	5,253
Mission Enabling	2,605	436,726	2,688	483,547	83	46,821	4,781	7,284	796	33,960	46,821
<i>Facilities Operations</i>	729	142,045	758	157,853	29	15,808	719	7,284		7,805	15,808
<i>Facilities Maintenance</i>	399	73,877	422	89,227	23	15,350	850			14,500	15,350
<i>Security and Safety</i>	826	74,800	848	83,679	22	8,879	1,044			7,835	8,879
<i>Information Technology</i>	154	64,109	154	68,157	0	4,048	1,337		661	2,050	4,048
<i>Management Operations</i>	497	81,895	506	84,631	9	2,736	831		135	1,770	2,736
TOTAL	4,404	696,045	4,545	759,224	141	63,179	7,729	7,514	1,271	46,665	63,179

Federal Resources by Performance Objective and Program Category

Salaries and Expenses (\$\$ in thousands)

Performance Objective and Program Category	FY 2016		FY 2017		Change	
	FTEs	\$000	FTEs	\$000	FTEs	\$000
Excellent Research	561	84,938	579	92,324	18	7,386
Research						
Engage in research and discovery	421	66,810	436	72,997	15	6,187
Ensure the advancement of knowledge in the humanities	140	18,128	143	19,327	3	1,199
Broadening Access	564	81,650	579	85,126	15	3,476
Digitization and Web Support						
Provide improved digitization and Web support	83	14,184	92	16,584	9	2,400
Public Programs						
Provide reference services and information	138	18,233	143	18,915	5	682
Exhibitions						
Offer compelling, first-class exhibitions	343	49,233	344	49,627	1	394
Revitalizing Education	145	17,279	145	17,522	0	243
Education						
Engage and inspire diverse audiences	145	17,279	145	17,522	0	243
Strengthening Collections	529	75,452	554	80,705	25	5,253
Collections						
Improve the stewardship of the national collections	529	75,452	554	80,705	25	5,253
Mission Enabling	2,606	436,726	2,689	483,547	83	46,821
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	729	141,815	758	157,617	29	15,802
Implement an aggressive and professional maintenance program	399	73,877	422	89,227	23	15,350
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	230	1	236	0	6
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors and volunteers	780	68,046	800	76,534	20	8,488
Provide a safe and healthy environment	46	6,754	48	7,145	2	391
Information Technology						
Modernize the Institution's information technology systems and infrastructure	154	64,109	154	68,157	0	4,048
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	188	27,939	195	29,550	7	1,611
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	97	19,080	99	19,669	2	589
Modernize the Institution's financial management and accounting operations	90	14,148	90	14,328	0	180
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	37	5,417	37	5,550	0	133
Modernize and streamline the Institution's acquisitions management operations	65	8,457	65	8,568	0	111
Ensuring Financial Strength						
Secure financial resources required for Institution's mission	20	6,854	20	6,966	0	112
TOTAL	4,404	696,045	4,545	759,224	141	63,179

GRAND CHALLENGES AND INTERDISCIPLINARY RESEARCH

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	10	2,581	0	0	0	55	0	0
FY 2016 ENACTED	10	2,586	0	13	0	210	0	0
FY 2017 REQUEST	28	5,802	0	15	0	18	0	0

STRATEGIC GOAL: EXCELLENT RESEARCH

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	4	1,707	19	4,414	15	2,707
Ensure the advancement of knowledge in the humanities	6	879	9	1,388	3	509
Total	10	2,586	28	5,802	18	3,216

BACKGROUND AND CONTEXT

The Smithsonian's Strategic Plan for 2010–2017 articulates four Grand Challenges which provide an overarching strategic framework for Smithsonian programs and operations. Meeting these challenges will enable the Institution to integrate the work of many disciplines within the Smithsonian museums and research centers, as well as broaden our external collaborations. The challenges are grounded in research and emphasize complementary education and outreach programs; together, they influence how the Smithsonian directs its resources and focuses its energies. The Smithsonian has developed and implemented a Grand Challenges Awards initiative to advance cross-disciplinary, integrated scholarly efforts across the Institution that relate to one or more of the four Grand Challenges. Using a competitive internal process, the Smithsonian is distributing externally raised grant funds designated for the purpose of advancing research, broadening access, revitalizing education, and encouraging new ways of thinking that involve emerging technology. The grant funding may also help to leverage additional funding, both internal and external, thereby amplifying the scope and breadth of cross-cutting research initiatives. The Smithsonian uses the Grand Challenges to present the

high-level view of the Strategic Plan in the budget; funds are distributed through interdisciplinary consortia, but existing Smithsonian units with subject-matter expertise make most of the actual expenditures in the areas being supported.

The four Grand Challenges are:

- *Unlocking the Mysteries of the Universe*
- *Understanding and Sustaining a Biodiverse Planet*
- *Valuing World Cultures*
- *Understanding the American Experience*

In FY 2017, the Smithsonian’s budget request includes funding increases for Biodiversity Genomics, Forest/Marine Global Earth Observatories (GEOs), Microbial Research, and Conservation Research. The funding increase for World Cultures includes Preserving Cultural Heritages. Also included is \$8,000 for necessary pay for existing staff funded under this line item. Below is a summary of the FY 2017 Grand Challenges budget.

Grand Challenges	FY 2016 Base \$000s	FY 2017 Increase \$000s	FY 2017 Total \$000s
Universe	184	0	184
Biodiversity	1,523	+2,707	4,230
Biodiversity Genomics		+360	
Global Earth Observatories (Forest)		+800	
Global Earth Observatories (Marine)		+640	
Microbial Research		+300	
Conservation Research		+600	
Necessary Pay Increase		+7	
World Cultures	284	+508	792
Preserving Cultural Heritages		+508	
American Experience	595	+1	596
Necessary Pay Increase		+1	
Total	\$2,586	\$3,216	\$5,802

Understanding and Sustaining a Biodiverse Planet — Biodiversity Genomics — Base: (\$1,523,000); FY 2017 Increase: (+\$360,000, +2 FTEs)

This request (+\$360,000 and +2 FTEs) supports expanded Institution-wide efforts on collaborative, multi-disciplinary discovery, exploration, and application of genomic information for sustainability of global biodiversity and the 21st century bioeconomy. This program is a cornerstone priority of the Institution’s biodiversity strategic plans, builds on more than 20 years of systematic development and reprogramming of federal resources, and will further leverage increased private fund raising.

Genome-level information is now a crucial, unifying component of diverse fields, including evolutionary biology; ecological research and monitoring; environmental change and health; conservation and wildlife management; invasive species management; agriculture; and biosurveillance related to national security and commerce. Genomic approaches provide innovative tools to explore the traits and properties of unknown or poorly known organisms. The national collections are one of the key resources in Biodiversity Genomics because they represent long-term investments, are the key for analyses with future technologies, and are the basis for monitoring near- and long-term changes in organisms.

This genomics research will span existing Smithsonian interests, use the findings of the National Science Foundation (NSF) Tree of Life decadal program, and facilitate the international Global Genome Biodiversity Network — of which the Smithsonian is a key leader. This expertise and international network will integrate new intellectual and technological approaches, and will support the MarineGEO and ForestGEO platforms. It will facilitate building the vital distributed infrastructure of biological diversity collections and tissues, develop big databases (at the genome level) of unparalleled quality and provenance, and help to secure international cooperation on standards for these key observation sets.

This request will provide two researchers to specifically help foster, coordinate, and implement Biodiversity Genomics research across the Smithsonian and with our federal, national, and global partners. These two researchers will accelerate the initiative by providing essential core expertise, facilitate development and adoption of standards, and build a strong financial and scientific foundation to leverage further private support. They will also provide central support and coordination of core bioinformatic resources, including protocols for the collection, analyses, and management of data, the implementation and maintenance of hardware and software, and the curation of internal and public data repositories and bioinformatics pipelines. Coordinated and accessible data management is essential for high-quality genomics research.

Understanding and Sustaining a Biodiverse Planet — Global Earth Observatories, Forest and MarineGEOs — Base: (\$1,523,000) Note: an additional \$1,431,000 is included in the Smithsonian's Tropical Research Institute (STRI) budget for ForestGEO; **FY 2017 Increase: (+\$1,440,000, +8 FTEs)**

The Institution requests funding (+\$800,000 and +4 FTEs) for the Forest Global Earth Observatories, or ForestGEO (also known as the Center for Tropical Science, CFTS). ForestGEO provides long-term scientific data about biodiversity, ecological, hydrological, soil, and meteorological processes associated with climate change at local spatial scales and, comparatively, at regional and global scales. This research platform enables Smithsonian scientists and their university

and federal agency partners to better understand the storage and movement of carbon and water in tropical and temperate forests, as well as the impacts of climate change on the relationships of forests with wildlife, the atmosphere, and sources of fresh water. ForestGEO data improve forest change models and projections, and will better inform worldwide policy decisions related to carbon budgets, nutrient cycling, hydrology, and biodiversity. The ForestGEO network leverages and adds to related Government efforts coordinated through the United States Group on Earth Observations' interagency process (<http://usgeo.gov>) and the U.S. Global Change Research Program (USGCRP) (<http://globalchange.gov>). ForestGEO is coordinated with the NSF National Ecological Observation Network (NEON). Increasing the ForestGEO budget will stabilize long-term monitoring that extends back in time three decades; permit highly quantitative analyses of trees and carbon on individual forest plots and across the global network; promote further implementation of arthropod, vertebrate, soil, hydrology, and remote-sensing programs; and improve data quality and access.

In addition, the Institution requests funds (+\$640,000 and +4 FTEs) for the Marine Global Earth Observatories, or MarineGEO. MarineGEO is one of the Smithsonian's signature programs in Earth observations and understanding global change, and is dedicated to understanding changes in the structure and function of marine ecosystems. This investment builds on existing Smithsonian federal and trust investment, collaboration with the National Oceanic and Atmospheric Administration (NOAA) and the National Science and Technology Council's Subcommittee on Ocean Science and Technology (SOST), and leveraging in-kind support from a range of academic partners to allow expansion of the network beyond the initial sites. The MarineGEO network is unique in that it combines: 1) a commitment to standardized, long-term measurements of key new variables to document changes during the next 30–50 years; 2) the incorporation of innovative experiments across traditional disciplinary boundaries as a core element to determine causes of observed changes; 3) the use of extensive collections in anthropological and paleontological studies that put present changes in a much broader temporal context; 4) a commitment to data openness and standardization; 5) a focus on separating natural and anthropogenic causes of biodiversity changes; and 6) a focus on near-shore environments where people and biodiversity are concentrated and interact most closely. This comprehensive approach will provide a new, fundamental understanding of the sustainability of oceans.

The expanded MarineGEO will be a global-scale network of sites, which spans latitudes and ocean basins and engages a diverse consortium of partner institutions and collaborators. With partners such as NOAA and various state institutions, the Smithsonian is augmenting existing monitoring sites, and will include key international partners both latitudinally into the polar region and longitudinally to encompass the world's ocean basins. This network will provide the platform for integrative, multi-disciplinary research to answer a diverse range of fundamental questions about marine ecosystems, how they function, and their

sustainability. MarineGEO will also provide a vibrant and dynamic platform for education and outreach activities for students, citizen-scientists, environmental resource managers, and policy makers. MarineGEO began as a select set of core nodes, or sites, where the Smithsonian already had major research activities to facilitate rapid development of the program (i.e., the Smithsonian Environmental Research Center; the Smithsonian Marine Station at Fort Pierce, Florida; and STRI at Bocas del Toro, Panama) and testing of standardized useful protocols. To do this in the most efficient manner possible, the Institution is drawing on lessons learned from its current network of ForestGEO sites. Because of the importance of DNA-based analyses, MarineGEO is being implemented in collaboration with the expansion of the Smithsonian's biodiversity genomics analytical and collections capacities.

Private financial support will be used to address some of the program's infrastructure and equipment needs. It will support the expansion of the network, full integration of information into national and international Earth observation data streams, which will be used for model development and testing, and will support sustainable management and adaptation options in coastal regions.

The requested funds (+\$640,000) will provide salaries and benefits for 4 FTEs, thereby enabling the Smithsonian to standardize data management and dissemination, acquire consistent specimen collections across the network, provide services to partners, and attract new partners to the network. In addition, these vital resources will allow the Institution to centralize education and outreach efforts to bring together the stories of the scientists and share them for the diffusion of knowledge to the public, environmental resource managers, and policy makers.

Understanding and Sustaining a Biodiverse Planet — Microbial Research — Base: (\$1,523,000); FY 2017 Increase: (+\$300,000, +2 FTEs)

Micro-organisms are ubiquitous in all environments on Earth, from high in the atmosphere to deep below the seafloor. Advancements in genomic and computational technologies are revolutionizing the scientific exploration of the microbial world, and paving the way for transformative discoveries that explain how ecosystem health arises from the hidden and tremendous diversity of microbial life. By regulating element and water cycling, microbial communities control nearly every facet of ecosystem ecology, and are central to understanding and solving the most pressing environmental problems the United States faces. Accordingly, the Institution requests funds (+\$300,000 and +2 FTEs) to build on more than a century of world-class research and collections, and to glean insights into how microbes shape ecosystem functions, services, and restoration across habitats in the United States and around the world. The requested funds will provide salaries and benefits for 2 FTEs (one scientist and one research assistant), as well as the equipment needed to conduct the research.

This microbial biology initiative will significantly strengthen the Institution's international leadership in biodiversity research, and fill significant gaps in the Smithsonian's research priority areas. The Smithsonian is uniquely poised for this initiative because of our ongoing investments in two Global Earth Observatory (GEO) networks, one focused on forests (ForestGEO) and the other on near-shore coastal ecosystems (MarineGEO). These globally distributed sites in tropical and temperate landscapes and marine environments provide unique observatories for testing hypotheses about the role of microbial diversity in shaping the biodiversity and stability of terrestrial, estuarine, and marine habitats, and the health of their associated organisms.

In support of the requested funding, ongoing Smithsonian programs will provide the necessary physical and macro-biological data. The Institution already has appropriate laboratory and field facilities to carry out this research, and only lacks certain instruments for genomic research. The requested increase will allow Smithsonian scientists to:

- establish innovative research programs in terrestrial, marine, and estuarine microbial biology by leveraging existing biodiversity programs on global scales;
- discover general ecological principles governing how microbiota behave in diverse environments;
- develop and test experimental models of how microenvironments shape microbial community structures; and
- generate critical data to determine how microbiota promote resilience among species that form the biological and physical foundation of estuarine, wetland, coral reef, and forest ecosystems.

Understanding and Sustaining a Biodiverse Planet — Conservation Research — Base: (\$1,523,000); FY 2017 Increase: (+\$600,000, +3 FTEs)

The Smithsonian requests \$600,000 and 3 FTEs to harness the vast scholarly and scientific capacity of the Institution to develop conservation strategies sorely needed by decision makers, practitioners, and citizens alike.

With this funding, the Smithsonian seeks to enhance its role as a trusted knowledge resource for the global biodiversity conservation community that is known for solving real-world problems, serving the national interest, and ultimately finding solutions that help ecosystems survive and thrive. The following three major insights have emerged from our efforts to stem biodiversity loss: 1) biodiversity, in all its forms, is the foundation of healthy ecosystems that are resilient to degradation; 2) humankind depends on functioning, healthy ecosystems; and 3) humans are agents of change across the entire planet, from local to global scales. Billions of dollars a year are already channeled into global efforts to mitigate, offset or recover from environmental damage caused by human activities, and yet most of these approaches are not backed by rigorous science. By focusing on a common

future, the Smithsonian can mobilize its scientific capacity, unparalleled collections, laboratories, field stations, and partnerships into multi-disciplinary teams that will enable us to better acquire the new knowledge needed to understand and sustain a biodiverse planet for the benefit of all life on Earth.

This request will provide funds for a senior program director who will coordinate scientific activities across the Institution's dozens of projects, programs, and initiatives at Smithsonian museums and research centers. Two scientists will be recruited to lead efforts to study how environmental change, habitat fragmentation, disease, pollutants, and invasive species impact ecosystem functions and species survival. By focusing on these broad conservation challenges, we will foster increased Institution-wide collaboration, improve coordination and efficiency across disciplines and locations, and more effectively leverage federal resources to generate the external grants, contracts and philanthropic support that will fuel program activities and lead to new discoveries.

Valuing World Cultures — Preserving Cultural Heritages — Base: (\$284,000); FY 2017 Increase: (+\$508,000, +3 FTEs)

The Institution requests funding (+\$508,000 and +3 FTEs) for a Smithsonian Cultural Crisis Recovery Center. Since 2010, the Smithsonian has taken a leadership role in the preservation of cultural heritage affected by natural and man-made disasters, including the 2010 earthquake in Haiti, Hurricane "Super Storm" Sandy in New York, the ongoing man-made crises in Mali, Syria, Iraq, and Egypt, as well as, most recently, the devastating earthquake in Nepal. The additional funding will strengthen and enhance the Smithsonian's ability to respond to the many requests for assistance with cultural heritage recovery and preservation around the world. The funding will also help leverage private support for cultural recovery efforts. The Haiti initiative is an excellent example of a public-private partnership; the Institution successfully supplemented funding by USAID, UNESCO, the President's Committee on Arts and Humanities (PCAH), and other Government entities with financial support from numerous private sources.

The work of cultural crisis recovery entails assessment; collecting and sharing information; participating in, coordinating, or leading a response; conducting training; encouraging follow-up and long-range planning; and conducting and sharing research with field personnel and with policy makers. All this requires leadership and staff, and this budget request will increase our staff of one by adding three positions: a program manager, a training coordinator, and a program assistant. Also included are funds for travel, supplies, and equipment. Supporting this item of increase will create a strong federal base on which to build a public-private partnership for years to come. This is an initiative that demonstrates the Smithsonian's core values of respect for cultural heritages throughout the world. Cultural Crisis Recovery is key to saving our shared cultural heritage for future generations.

Introduction, *Unlocking the Mysteries of the Universe*

The Smithsonian will continue to lead in the quest to understand the fundamental nature of the cosmos, using next-generation technologies to explore our own solar system, meteorites, the Earth's geological past and present, and the paleontological record of our planet.

RESEARCH Goal: The Smithsonian will continue to advance knowledge at the forefront of understanding the universe and the solid Earth.

ACCESS Goal: Inspire people to probe the mysteries of the universe and planetary systems.

UNITS primarily associated with this Grand Challenge:

- **National Air and Space Museum**
- **Smithsonian Astrophysical Observatory**
- **Major Scientific Instrumentation**

NATIONAL AIR AND SPACE MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	161	18,603	60	7,986	25	7,265	3	978
FY 2016 ENACTED	163	19,209	56	7,599	46	10,174	3	777
FY 2017 REQUEST	165	19,853	56	7,599	46	10,174	3	777

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	3	1,134	3	1,165	0	31
Ensure the advancement of knowledge in the humanities	25	3,148	25	3,208	0	60
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	2	195	2	198	0	3
Public Programs						
Provide reference services and information	6	872	6	899	0	27
Exhibitions						
Offer compelling, first-class exhibitions	40	5,815	40	5,914	0	99
Revitalizing Education						
Education						
Engage and inspire diverse audiences	12	1,303	12	1,336	0	33
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	49	3,192	51	3,502	2	310
Mission Enabling						
Information Technology						
Modernize the Institution's information technology systems and infrastructure	7	845	7	872	0	27
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	15	2,413	15	2,462	0	49
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	4	292	4	297	0	5
Total	163	19,209	165	19,853	2	644

BACKGROUND AND CONTEXT

The Smithsonian's National Air and Space Museum (NASM) collects, preserves, studies, and exhibits artifacts and works of art related to the history, culture, and science of aviation and spaceflight and the study of the universe. Its research and outreach activities serve multiple audiences within and beyond its walls. The Museum commemorates the past and is committed to educating and inspiring people to appreciate the importance of flight to humanity.

NASM is administered as one Museum with multiple locations: the National Mall Building (NMB); the Steven F. Udvar-Hazy Center in Chantilly, Virginia; and the Paul E. Garber Facility in Suitland, Maryland. NASM provides access to the nation's aviation and space flight history to an average of 7– 9 million on-site visitors from all parts of the globe each year, making it one of the most visited museums in the world. In addition, NASM draws tens of millions of virtual visitors to its website and broadcast and webcast educational programming.

NASM has been loved by generations of visitors, and our staff has successfully ensured the Museum's relevance for them. However, as we look ahead, the Museum faces many challenges that will require the Smithsonian's best efforts to continue this record of success.

In FY 2016, NASM is continuing to collect and preserve the nation's aviation and space artifacts and perform original research in aviation and space history and planetary science to support its broad array of exhibitions, programs, publications, and outreach activities. To accomplish its public service mandate and reach diverse audiences, the Museum draws upon a mixture of in-house resources, contracted resources, and a large corps of volunteers. In addition to these core activities, planning is under way to support efforts associated with the revitalization of the NMB that is scheduled to begin in FY 2017. This revitalization will impact every surface in and outside the existing Mall building.

In anticipation of these requirements, we published a new NASM strategic plan for 2015–2025. This strategic plan introduced a long-term vision, "Transforming NASM for the Future," and established goals and objectives to achieve this vision. Our curators began the task of developing a new thematic and chronological vision for major exhibition concepts to be designed in conjunction with revitalization and installed as the renovations of galleries are completed. Senior Museum officials formed a gallery movement planning team that was chartered to ensure NASM has accurate inventory information, clear requirements, and achievable plans for the dismantling/movement/preservation/storage requirements for all the artifacts on display.

In FY 2016, the Museum is continuing to ensure stewardship and access to its peerless collection of aerospace artifacts and produce expert scholarship and research. Our curator teams have been expanded to include representatives from the Museum's exhibit design, education, and project management branches to form

full exhibition teams. These teams have begun to develop plans for reconstituting 23 new and reconstructed exhibits in conjunction with revitalization. This is an extraordinary opportunity that has not been possible for nearly 40 years (since the Museum's original construction). At the same time, NASM will continue to focus on increasing its public engagement to ensure maximum visitation during revitalization. Additionally, we are evaluating support requirements to protect and conserve our artifacts during construction and renovations.

The FY 2017 Budget request includes an increase of \$644,000. The increase includes \$394,000 for necessary pay and other related salary costs for existing staff funded under this line item and a programmatic increase of 2 FTEs and \$250,000 for collections scholarship.

MEANS AND STRATEGY

Public Engagement — NASM continues to reach diverse audiences through exhibitions, educational programming, publications, and electronic outreach. NASM will engage schools and families through a variety of programs and delivery methods. Museum staff will use their content knowledge to create engaging, standards-related education programs and delivery methods which will provide visitors with a deeper understanding of NASM content in science, technology, engineering, and math (STEM).

NASM has partnered with the National Aeronautics and Space Administration (NASA) to create programming, both live and through webcasting, on the latest advances in aerospace through the series, "What's New in Aerospace?" The Museum's website receives more than 11 million virtual visitors each year and NASM continues to modernize its approach with enhanced Wi-Fi capability and content. Some of this includes initiatives to leverage use of ever-present mobile devices and partner with Google/Indoor street view to show NASM content. Most recently, NASM has developed a mobile mission app called "*Find Yourself in Aerospace*," and is launching a new video experience for visitors as part of revitalizing the *Milestones of Flight* exhibit. As we continue to move beyond the walls of the Museum, we have developed *STEM in 30*, a live 30-minute webcast from NASM and other partner sites, which is focused on STEM subjects. During these webcasts, students engage with Museum experts through experiments and activities, ask the experts questions, and answer interactive poll questions. NASM archives these webcasts in an interactive *STEM in 30* webpage.

To further enhance visitor experiences, NASM staff and volunteers will continue to provide a variety of Museum programs, from daily activities such as docent-led tours, lectures, and science demonstrations that reach hundreds of thousands of visitors annually, to big Family Day events such as the Heritage Family Days that can reach 20,000 to 50,000 diverse visitors at one event. In FY 2016, NASM will expand the student Explainers Programs at both Museum locations to include an e-Explainer approach that promises to reach potentially massive audiences beyond the Museum walls. In addition, NASM is developing and

delivering Interactive Video Conferencing (IVC) lessons at the fifth- and sixth- grade levels as another example of the Museum's outreach initiatives that go to audiences where they live. Our astronomy programs, which include the Public Observatory and educational programming in the planetarium, will remain an important component of STEM education.

Museum staff will also evaluate all of NASM's education programs and develop a plan in FY 2016 to ensure that maximum programming is maintained during revitalization.

NASM continues to advance the strategic goal of Broadening Access to its collections by moving collections information to a publicly accessible website. The curatorial databases contain extensive information on the history and provenance of each artifact, and the best way to offer more of this in-depth information to the public is through electronic means. As a result, NASM's electronic resources allow more people access to the Museum's archival collections, leading to an increase in archival information requests from the public.

Exhibitions — In FY 2016, NASM will complete the major reinterpretation and revitalization of the *Milestones of Flight* in galleries 100 and 108. These galleries are the first and last impressions that visitors have of the Museum because they are at the entrance/exit points of the building. This exhibit will integrate digital and physical components to feature the interconnected stories of a select number of featured artifacts, along with an accessible welcome center, a searchable media wall, and a versatile mobile experience. These galleries are scheduled for reopening in July 2016 and will remain open throughout the Mall building revitalization.

Also in 2016, NASM will open *Our Amazing Moon: New Views from the Lunar Reconnaissance Orbiter Camera*, a temporary exhibition on the camera and imagery generated by the Lunar Reconnaissance Orbiter (LRO) spacecraft. It features imagery from the mission and research by scientists from NASM's Center for Earth and Planetary Studies (CEPS) who are participants on the mission. The exhibition is scheduled to open in February for six months.

In commemoration of the 100th anniversary of the American entrance into World War I, NASM will open *Artist Soldiers: Artistic Expression in the First World War* in the spring of 2017. This exhibition examines artistic expression in the Great War by first-hand participants, both through official art by commissioned American Expeditionary Force combat artists and spontaneous works by individual soldiers.

The Museum will also begin to take exhibition concepts into the design phase to prepare for the revitalization. NASM will be approaching the design of exhibits from three thematic headings, *Revolutions in the Sky*, *War in the Air: A Century of Military Aviation*, and *Space Exploration*.

In addition, NASM's Udvar-Hazy Center will put the Sikorsky UH-34 helicopter on temporary display. It belongs to the National Museum of the Marine Corps but will be on view in the Restoration Hangar until it is installed in its permanent home at Quantico. The YN19 "Gracious Lady Bev" is a Vietnam-era aircraft with a distinguished combat record, and is in the shop for the application of markings after being repainted.

Collections — The Museum's new conservation and restoration hangar and collections storage areas at Dulles handle portions of the Museum's collections of more than 46,000 artifacts. The traditionally high level of craftsmanship shown in the NASM restoration program now is matched by first-class facilities that can handle the various types of objects and materials the Museum manages. Preparations continue for the move of selected collections and restoration/conservation activities from the Paul E. Garber Facility in Suitland, Maryland, to the Udvar-Hazy Center in Chantilly, Virginia, and will continue in FY 2017 and beyond, as funding permits and as staff simultaneously move artifacts out of Garber and the NMB. NASM will complete the preparation, documentation, and relocation of third-floor models and office artwork at the NMB in anticipation of the revitalization work. As part of this process, NASM will evaluate revitalization impacts to its loan program, which currently encompasses more than 1,300 aviation and space artifacts, including some of the most sought-after artifacts of the last century: spacesuits and Apollo spacecraft.

As part of NASM's ongoing efforts to achieve the strategic goals of Broadening Access and Strengthening Collections, aircraft and spacecraft continue to be moved into the Udvar-Hazy Center for restoration in our state-of-the-art Mary Baker Engen Restoration Hangar. The Museum is currently restoring *Flak Bait*, a Martin B-26 Marauder aircraft that holds the record within the United States Army Air Force for surviving more than 200 bombing missions during World War II.

Much of FY 2017 will be focused on continuing to plan for revitalization and exhibit transformation. This includes developing new exhibit concepts while preparing for the move-out of galleries and staff spaces in conjunction with revitalization efforts. Exhibit teams continue to refine scope and costs for the first nine galleries. NASM plans to award a contract for design services by mid-2016 to support the planned revitalization schedule. The exhibit teams will finalize the concepts and estimated costs of the remaining 14 exhibit spaces and present them to the Exhibition and Program Initiatives Committee (EPIC) no later than March 2016.

The initial efforts of the gallery movement planning team will be enhanced by the addition of an artifact movement logistics planning consultant. This consultant team will work with the Museum's collections staff to develop schedule implications of artifact movement and conservation requirements in conjunction with revitalization demount/remount of exhibits. To support the revitalization schedule, in FY 2017 NASM will close and begin to demount several exhibits

located primarily at the west end (Zone 1) of the Museum. In addition, the flight simulators will be relocated and a temporary store will be introduced at the east end of the Museum.

Based on a feasibility study, subsequent 35 percent design completion, and dependent on capital budget approval, the Smithsonian will complete the design and begin to build additional storage capacity at the Udvar-Hazy Center in FYs 2016 and 2017. This swing space will need to be available by the end of FY 2017 to receive artifacts from the NMB which must be moved during the revitalization of the Mall building.

In FY 2017, NASM will address the design of the third-floor staffing area to coincide with revitalization. The existing configuration of NMB staff spaces is based on traditional office space design and does not facilitate inter-departmental interaction or collaboration. NASM desires to provide best-in-class office and support spaces to enhance the Museum's future ability to meet its mission. The intent is to decrease fragmentation; improve utilization; improve workplace functionality; upgrade building systems and controls in conjunction with the phased NMB revitalization; and simplify internal circulation to enhance connectivity, and improve the placement of offices within and between departments.

Scientific Research — To achieve the strategic goal of Excellent Research, NASM's CEPS conducts basic research related to planetary exploration, with an emphasis on Mars, Mercury, and the moon, and curates galleries and public offerings in the planetary sciences. NASM scientists continue to work as members of the science teams for the Mars Exploration Rover, Mars Express, Mars Reconnaissance Orbiter, Lunar Reconnaissance Orbiter, Mars Science Laboratory, and MESSENGER missions. NASM scientists work with the data from these and other missions to solar system bodies, and convey this exciting information to the public. Basic research continues to concentrate on the National Research Council and NASA priorities to determine the origin of solar system bodies and habitable planets, with an emphasis on understanding the past climate of Mars and publishing the results of this research in scientific literature.

Exceptional research productivity for CEPS scientists continues into FY 2016 with an average of 2.6 peer-reviewed scholarly papers published per scientist per year. Ensuring continued success in the years to come will be a major objective for NASM.

Historical Research — NASM continues to lead in the field of aerospace history by producing books, scholarly articles, and other publications, and by making presentations at professional conferences on the history of aerospace technology, aviation, aerodynamics, space flight, and space sciences. Based on their research and expertise, the curatorial staff will continue to evaluate potential acquisitions for the national collections and respond to numerous public inquiries.

NASM will also continue to upgrade exhibits dealing with aviation and space flight, thereby ensuring that current materials are available to the public.

Management — NASM will pursue the Mission Enabling strategic goal through the Museum's own strategic goal of Operational Excellence. Staff will expand their human capital capabilities through strategic workforce planning and enhance their organizational architecture by improving business processes, developing key performance indicators, and supporting metrics which gauge success.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$644,000. The increase includes \$394,000 for necessary pay and other related salary costs for staff funded under this line item, and a programmatic increase of 2 FTEs and \$250,000 for Collections Scholarship, as detailed below.

Collections Scholarship (+\$250,000, +2 FTEs)

The Budget request includes an increase of \$250,000 and 2 FTEs, for two additional curators. As NASM prepares for revitalization, staff must determine the best methods of dismantling, preserving, moving, and storing more than 12,000 small, medium and large artifacts while designing 23 new and reconstructed galleries. The Museum has insufficient curatorial staff to research, interpret, exhibit and care for its national collections as well as design new exhibit concepts. Since more than 60 percent of the Space History and Aeronautics curatorial staff is eligible for retirement, NASM has an urgent need for new personnel to assist in succession planning and preparing new, innovative exhibits for the Museum.

NONAPPROPRIATED RESOURCES — General trust funds support research, education, exhibitions, and fund raising, including salaries and benefits. Donor/sponsor-designated funds support costs related to specific programs and projects. Fund raising is under way for future exhibitions and the endowment of public programs. Government grants and contracts support research and other scientific activities.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	99	23,957	98	20,787	10	5,639	207	74,765
FY 2016 ENACTED	99	24,141	106	22,728	15	8,881	204	77,111
FY 2017 REQUEST	99	24,393	106	22,728	15	8,881	204	77,111

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	90	19,444	90	19,581	0	137
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	1	186	1	191	0	5
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	80	0	85	0	5
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	169	0	174	0	5
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	8	4,262	8	4,362	0	100
Total	99	24,141	99	24,393	0	252

BACKGROUND AND CONTEXT

The mission of the Smithsonian Astrophysical Observatory (SAO) is to advance the public's knowledge and understanding of the universe through research and education in astronomy and astrophysics. The secondary mission is to be of service to the national and international astronomical communities, and to society in general, in areas associated with our primary mission. The Observatory has an extraordinary record

of achievement in developing and successfully implementing large, complex, and innovative observational and theoretical research projects. SAO also supports the investigative research carried out by individual researchers and small groups. These varied activities create the distinctively fertile research environment that drives SAO's success and makes the Observatory a recognized leader in the global astrophysical field of science.

SAO's work directly supports the first of the Grand Challenges outlined in the Smithsonian's Strategic Plan: Unlocking the Mysteries of the Universe. The goal calls for the Smithsonian to "advance knowledge at the forefront of understanding the universe and solid Earth."

Founded in 1890, SAO is the largest and most diverse astrophysical research institution in the world. SAO has helped develop some of the world's most sophisticated astronomical instruments, with high resolution at wavelengths across the electromagnetic spectrum, to probe the mysteries of the universe. Alone, and in powerful partnerships with the National Science Foundation (NSF), the National Aeronautics and Space Administration (NASA), and the Department of Energy, it has pioneered the development of orbiting observatories and large, ground-based telescopes; the application of computers to study astrophysical problems; and the integration of laboratory measurements and theoretical astrophysics. Observational data are gathered at SAO's premier facilities: the Submillimeter Array (SMA) in Hawaii; the 6.5-meter diameter Multiple Mirror Telescope (MMT); the Very Energetic Radiation Imaging Telescope Array System (VERITAS); and related telescopes at the Fred Lawrence Whipple Observatory in Arizona. In addition, SAO conducts research with a broad range of powerful instruments aboard rockets, balloons, and spacecraft (most notably the Chandra X-ray Observatory, the Spitzer Space Telescope, the Hinode Telescope, and the Solar Dynamics Observatory); and at locations as diverse as the high plateaus of northern Chile and the Amundsen South Pole Station. Headquartered in Cambridge, Massachusetts, SAO collaborates with the Harvard College Observatory to form the Harvard-Smithsonian Center for Astrophysics.

For more than 60 years, SAO astronomers and their colleagues have made revolutionary discoveries that have changed our fundamental understanding of the universe and our place in it. We have discovered and examined planets in orbits around other stars, watched as new stars are born, and discovered bizarre remnants of dead stars that emit vast quantities of x-rays. We have determined that the universe is 13.7 billion years old, and that it is populated with billions of galaxies, many of which have supermassive black holes at their centers. In addition, we have found convincing evidence that most of the matter in the universe is an unexpected mixture of some kind of unseen "dark matter," with normal matter making up less than four percent of the total; and that the expansion of the universe is apparently accelerating, driven by a mysterious and invisible "dark energy." At the same time, SAO astronomers work systematically on the vital basic research that seeks to explain the sun and its x-ray-emitting corona, the nature of the solar system, the abundant elements in our Milky Way Galaxy, the gas and dust between the stars, the formation and evolution of galaxies, and other important questions about the nature of the universe. Today, SAO

is taking a lead role in the science of “precision astronomy,” using past discoveries and advanced technologies to produce a coherent story of the cosmos from the Big Bang to intelligent life here on Earth.

SAO’s research is unique and world renowned because of the strength and diversity of its observers, theorists, instrument developers, engineers, and laboratory experimentalists, and because SAO emphasizes multiple strategies that draw from the strengths of both small projects and large research centers. Indeed, SAO’s extraordinary research success is partly the result of the rich cross-fertilization that its outstanding scholars bring to each other in a climate that nurtures collaborative excellence and sharing of ideas.

SAO’s pre-eminence is underscored by the recognition that its researchers receive from leading scientific organizations. For instance, a senior SAO scientist received the 2014 Karl Schwarzschild Medal in recognition of a lifetime of outstanding contributions to astrophysics. Another senior SAO scientist won the Grote Reber Prize for Radio Astronomy, the highest award in this field of astronomy. Other major awards received by SAO scientists during the past year included the Gold Medal of Merit from the Institute of Applied Astronomy of the Russian Academy of Sciences, the Henry Norris Russell Lectureship, the highest honor of the American Astronomical Society (AAS), the Newton Lacy Pierce Prize, also given by the AAS, and the Gold Medal of the Pultusk Academy of Poland. Together with its partner, the Harvard College Observatory, SAO is the top choice of graduate- and postdoctoral-level young scientists for astrophysics. Federal support makes this continued leadership possible.

In a measure of just how highly regarded the work of the Observatory staff is, the AAS recently named SAO scientist Christine Jones-Forman as its new president.

The FY 2017 Budget request includes an increase of \$252,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

To achieve the goal of Excellent Research, SAO scientists will make optimal use of various astronomical facilities to support their research, including the ground-based optical and radio telescopes owned and operated by SAO in Arizona and Hawaii, and space-based telescopes, most notably the Chandra X-ray Observatory, which is operated by SAO on behalf of NASA, and NASA’s Solar Dynamics Observatory. SAO scientists also have research privileges at the two 6.5-meter Magellan telescopes in northern Chile (because of SAO’s partnership with the Harvard College Observatory). In addition, SAO scientists and engineers are leading the science operations team and carrying out a vital scientific research program in very high-energy astrophysics with the VERITAS telescope in southern Arizona. These facilities enable SAO scientists to make substantial progress in answering fundamental questions about the origin and nature of the universe, including dark energy and dark matter, as well as questions about the formation and evolution of the Earth and similar planets. In addition, SAO scientists will continue their work on future

space missions, collaborating with NASA and its research center on missions to study the sun, the x-ray universe, and the outer solar system.

SAO scientists are leading the development of the international Event Horizon Telescope, which will draw into one network radio telescopes around the globe, including SAO's SMA, to operate as one gigantic radio observatory to study the physics of the supermassive black hole at the center of the Milky Way Galaxy.

SAO scientists and engineers also play leading roles in the development of new techniques and instrumentation for astronomy. Much of this effort is now directed toward enabling technologies for the next generation of major telescopes. SAO scientists and engineers took the lead in designing critical elements of the Giant Magellan Telescope's wavefront control system that allows the seven huge mirrors to work as a single optical element. SAO also leads in the design and development of the first instrument that will be installed on the GMT: the GMT-Consortium Large Earth Finder (G-CLEF), which will enable astronomers to detect signs of life on planets orbiting nearby stars.

SAO scientists will continue to take a leadership role in astrophysics by participating in or hosting national and international conferences (e.g., the American Astronomical Society, the International Astronomical Union, and the Astronomical Data Analysis Software and Systems conference series), by participating as keynote and/or invited speakers at such meetings, and by serving on a diverse range of astronomical and astrophysical review panels. SAO scientists will also continue to publish in leading peer-reviewed journals, such as the *Astrophysical Journal*, the *Astronomical Journal*, and *Astronomy & Astrophysics*. In addition, SAO developed and operates the Astrophysics Data System, which is a world leader in the dissemination of scientific literature.

SAO will achieve the strategic goal of Broadening Access by producing and delivering educational services and products rooted in SAO research to meet the educational needs of the Observatory's audiences. This sustained outreach effort will give SAO increased publicity and recognition.

The goal of Mission Enabling will be achieved by making SAO's information technology (IT) infrastructure robust, reliable, and secure; maintaining a cooperative environment through communication and activities that underscore SAO's special mission and each staff member's contribution to its success; evaluating managers and supervisors on their compliance with applicable equal opportunity laws, rules, and regulations, and on the effectiveness of their efforts to achieve a diverse workforce; and facilitating the use of small, minority, women-owned, and other underused businesses in SAO's procurement operations and business relationships. These management tools will continue to support and enhance SAO's scientific and educational missions.

NONAPPROPRIATED RESOURCES — General trust funds come primarily from overhead charged on grants and contracts. SAO uses these funds to support administrative functions approved in the Indirect Cost Budget submitted to the Office of Naval Research, as required by Office of Management and Budget Circular A-122, *Cost Principles for Nonprofit Organizations*. Donor/sponsor-designated funds come primarily from restricted gifts from individuals, foundations, and corporations, which are earmarked for particular purposes; restricted endowment funds; and non-governmental grants and contracts. Government grants and contracts come from Government agencies for research in areas of SAO's expertise. SAO often conducts this research in cooperation with governmental, academic, and research institutions in the United States and abroad.

MAJOR SCIENTIFIC INSTRUMENTATION

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	0	4,118	0	0	0	0	0	0
FY 2016 ENACTED	0	4,118	0	0	0	0	0	0
FY 2017 REQUEST	0	6,118	0	0	0	0	0	0

STRATEGIC GOAL: EXCELLENT RESEARCH

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	0	4,118	0	6,118	0	2,000
Total	0	4,118	0	6,118	0	2,000

BACKGROUND AND CONTEXT

Smithsonian science is engaged in research and discovery focused on the origin and evolution of the universe, the formation and evolution of Earth and similar planets, the discovery and understanding of biological diversity, and the study of human diversity and cultural change.

The Smithsonian Astrophysical Observatory's (SAO) work directly supports the first of the Grand Challenges outlined in the Smithsonian Institution Strategic Plan: Unlocking the Mysteries of the Universe. This goal calls for the Smithsonian to "advance knowledge at the forefront of understanding the universe and solid Earth."

To achieve the strategic goal of Excellent Research, the Smithsonian uses its no-year funding from the Major Scientific Instrumentation (MSI) line item to develop large-scale instrumentation projects with advanced technologies that enable scientists at SAO to remain at the forefront of astronomy and astrophysics research. The Smithsonian's criteria for proposing and selecting MSI projects are: 1) the instrumentation will enable compelling scientific advances that would not otherwise occur (either at SAO or anywhere else in the world) for some time to come; 2) the instrumentation is novel and technically advanced, and would not be developed without SAO's contribution; and 3) the science enabled by the innovative instruments significantly advances the Smithsonian Institution's Strategic Plan. The

fundamental role for federal appropriations is to support the basic scientific infrastructure that enables SAO to conduct research, compete for external grants and funding, publish in peer-reviewed journals, and inform the public about the latest scientific discoveries in an exciting and compelling manner. Because of the magnitude of the costs involved and the time required to fabricate major new instruments and reconfigure existing ones, the Institution requests that MSI funds for these projects be kept available until they are spent.

For more than 50 years, astronomers have used innovative instrumentation to make fundamental discoveries about the universe, such as the existence of more than 1,000 planets around nearby stars and the bizarre remnants of dead stars that emit large quantities of x-rays in the Milky Way Galaxy. Scientists have determined that the universe is 13.7 billion years old and that it is populated with billions of galaxies, many of which have supermassive black holes at their centers. Research has produced strong evidence that the expansion of the universe is accelerating due to a mysterious and invisible “dark energy.” Today, SAO scientists use advanced technologies to produce a coherent story of the cosmos from the Big Bang to the origins of life on Earth. MSI funds are used to meet this objective.

Three SAO projects are included in the FY 2017 MSI line item: the Greenland Telescope; the Submillimeter Telescope Array (SMA) on Mauna Kea, Hawaii; and instrumentation for the converted Multiple Mirror Telescope (MMT) at SAO’s Fred L. Whipple Observatory at Mt. Hopkins, Arizona.

The FY 2017 Budget request includes an increase of \$2,000,000 for the Greenland Telescope.

MEANS AND STRATEGY

SAO’s mission is to engage in astrophysical research and discovery. Observational astrophysics is the basic science responsible for the understanding of the universe and its components beyond Earth. SAO has made leading contributions to many key discoveries in astrophysics, including: 1) the remarkable discovery that the universe is accelerating; 2) the discovery of enormous patterns traced by galaxies in the universe; 3) the most compelling demonstration of the existence of supermassive black holes at the centers of most galaxies; 4) the discovery of very high-energy gamma rays; 5) the most convincing observational evidence for the existence of dark matter; and 6) the discovery of planets orbiting other stars. SAO scientists contributed to these discoveries by using key facilities that enable observations in several different bands of the electromagnetic spectrum (i.e., the broad range of light that is emitted by objects in the universe). These contributions have put SAO in the forefront of this generation of astronomers and astrophysicists.

SAO’s pre-eminence is underscored by the recognition that its researchers receive from leading scientific organizations. For instance, a senior SAO scientist won the 2014 Karl Schwarzschild Medal in recognition of a lifetime of outstanding

contributions to astrophysics. Another senior SAO scientist won the Grote Reber Prize for Radio Astronomy, the highest award for radio astronomy. Other major awards received by SAO scientists during 2015 included the Gold Medal of Merit from the Institute of Applied Astronomy of the Russian Academy of Sciences, the Henry Norris Russell Lectureship, the highest honor of the American Astronomical Society (AAS), the Newton Lacy Pierce prize, also from the AAS, and the Gold Medal of the Pultusk Academy of Poland. Together with its partner, the Harvard College Observatory, SAO is the top choice of graduate- and postdoctoral-level young scientists for studying astrophysics. Federal support makes this continued leadership possible.

In recognition of SAO's expertise, the AAS recently named SAO scientist Christine Jones-Forman as its new president.

SAO's strength in observational astrophysics depends on its major ground-based facilities, the SMA and MMT, and the National Aeronautics and Space Administration's (NASA) space-based facilities, including the Chandra X-ray Observatory, the Spitzer Space Telescope, and the Solar Dynamics Observatory. Access to both ground- and space-based observatories enables SAO scientists to conduct research that would be impossible with either type of observatory alone. SAO's future strength in ground-based observational astrophysics is dependent on equipping the SMA and MMT with powerful new instruments and establishing the new Greenland Telescope. In turn, this leadership depends on developing specialized instruments and facilities that do not now exist. A team of talented scientists and engineers must work together, over a period of several years, to bring these tools into being with support from multi-year MSI funding.

Greenland Telescope (Base: \$500,000; FY 2017 Request: +\$2,000,000)

SAO, in partnership with the National Science Foundation (NSF) Division of Polar Programs, has identified a high, dry, northern site on the Greenland ice sheet as the ideal place for high-frequency radio astronomical observations that require excellent atmospheric transmission and exceptional atmospheric stability.

The NSF Division of Polar Programs is redeveloping the Greenland Summit Station to better isolate current clear air and snow research from other activities. The development of astronomical activities at the site is a key element of redevelopment plans. Retrofitting and commissioning of the telescope, which was transferred to SAO from NSF Astronomy, is being undertaken by SAO's partner institution, the Academia Sinica Institute for Astronomy and Astrophysics (ASIAA) in Taiwan. These investments by NSF and our Taiwanese collaborators will be greatly leveraged by the SAO contribution.

Significant funding to support instrument development for the telescope is being provided by external partners, including the international academic community. The Smithsonian considers this an excellent opportunity to capitalize on a highly leveraged use of federal funds with high-value science returns on the investment.

The Greenland Telescope will form the northernmost node of a Very Long Baseline Interferometer (VLBI), operated jointly with the SMA (Hawaii) and the ALMA telescope array (Chile), to make unprecedented observations of the event horizon of the supermassive black hole (six billion times the mass of our sun) at the heart of the giant galaxy M87. This will complement the observations to be made in the southern hemisphere of the less massive black hole (only four million solar masses) at the center of our own Milky Way Galaxy. The combination of these observations will revolutionize our understanding of gravity where it is at its strongest, the very edges of black holes, and provide pioneering data for astronomers and physicists to analyze as they pursue the Smithsonian's Grand Challenge of Unlocking the Mysteries of the Universe. When the Greenland Telescope is not connected to the VLBI network, it will exploit its high, dry location and stable atmosphere to make sensitive measurements of molecules in space at the highest frequencies accessible from the ground.

In FY 2017, SAO and ASIAA will establish the antenna in Thule, Greenland, at the United States Air Force (USAF) base. Preliminary science operations will commence immediately, and SAO scientists will begin preparing for the move to Summit Station. At the same time, a small radio capability will be established at Summit Station so that researchers can start astronomy on the plateau and gain experience with the logistical challenges of operating in that harsh environment.

Submillimeter Telescope Array (Base: \$1,718,000)

The SMA is a pathfinder instrument that operates at wavelengths between the radio and the infrared and will have a major impact in exploring the cool universe. During this past year, scientific studies have continued to focus on the study of the distant universe, high-energy phenomena, planet-forming disks, and star formation, including the important role that magnetic fields play in star formation and the dynamics of molecular clouds. In this last area, the SMA leads the field due to polarimetry instrumentation developed at SAO, which we plan to further enhance during the coming year.

The SMA is the only submillimeter instrument in the world that can respond rapidly to alerts of rare or unique events detected by other observatories. This past summer, NASA's Fermi and Swift satellites detected unusual activity in the transient black hole binary system in V404 Cygni, and the SMA formed part of a worldwide observation campaign to monitor the outburst. V404 Cygni was briefly the brightest object in the x-ray sky, and the SMA captured a corresponding increase in the submillimeter brightness by a factor of more than 50 times in less than an hour.

The SMA is a key element of the Event Horizon Telescope, linking several submillimeter observatories, on continental scales, to examine the black hole at the center of the Milky Way at high angular resolution. The Greenland Telescope will join the Event Horizon Telescope once the former is established in Thule, and will enable key observations of the supermassive black hole at the center of galaxy M87.

The capacity to conduct a particular scientific observation with the SMA depends on three factors: the collecting area or size of the telescope array, the weather, and the sensitivity and number of receivers in operation during an observation. The collecting area of the telescope array is fixed at 8 x 6-meter-diameter antennas and cannot be augmented without significant additional funding. However, because the SMA is located at a premium site for submillimeter astronomy, its observations can be calibrated to account for real-time weather conditions.

The sensitivity of the SMA depends on the instrumentation that processes the incoming signals. SAO is developing new capabilities which will ultimately make the entire SMA 12 to 24 times more sensitive than it was when commissioned. (This is the equivalent of making each of the telescopes 12–24 times larger! Note that the range of enhancements depends on the operational model of the array.) Funds are specifically requested in FY 2017 to enable the array to become 6–12 times more sensitive, and take a significant step toward the full enhancement.

Multiple Mirror Telescope (Base: \$1,900,000)

The MMT, a joint project of SAO and the University of Arizona, dedicated in 1979, was originally made up of six identical 1.8-meter telescopes in a single altitude-azimuth (naval-gun-type) mount. The multiple-mirror design provided a state-of-the-art solution to the technological limitation in casting large mirrors at that time. Following advances in mirror-casting technology developed by the University of Arizona in the 1990s, SAO replaced the six smaller mirrors of the original MMT with a single mirror 6.5 meters in diameter. This large mirror more than doubled the light-gathering capability of the telescope, and a set of large corrector lenses increased its field of view 400 times.

The converted MMT is an extremely powerful telescope, but requires sophisticated instruments to analyze the light it collects. Binospec, an imaging spectrograph with dual 8'x15' fields of view, will replace two generations of earlier spectrographs and is expected to become the dominant instrument used during dark moon phases when the best observations can be made.

SAO is finding Binospec to be a “game-changer,” enabling the MMT to compete on an equal footing with the largest telescopes in the world. Binospec’s huge light grasp enables SAO scientists to carry out pioneering explorations of the structure and evolution of galaxies, the structure of the Milky Way, and the nature of dark matter and dark energy. Binospec’s nimbleness in moving between spectroscopy and imaging allows Smithsonian scientists to lead in observing transient events like supernova explosions and gamma-ray bursts to map the geometry of the universe and accurately detect objects at the furthest reaches of the universe. The scientific opportunities opened by Binospec are attracting the critical next generation of astrophysicists who will exploit the power of the Giant Magellan Telescope for the next 20 to 30 years.

In FY 2017, MSI funds will be used to complete the commissioning of Binospec and to enable the transition to full scientific operations. Binospec will be shipped to the MMT to begin commissioning in September 2016.

MSI funds will also be used to advance the design of the major new Giant Magellan Telescope — Consortium Large Earth Finder spectrograph (or G-CLEF). G-CLEF will be a groundbreaking instrument capable of detecting evidence of life on planets orbiting other stars. G-CLEF will ultimately be moved to Chile and installed on the Giant Magellan Telescope.

SAO's expertise in building large and powerful instruments is a crucial capability in this era of extremely large telescopes. Continued MSI funding will enable SAO to conduct this research and maintain the United States' lead in this important scientific field.

EXPLANATION OF CHANGE

Greenland Telescope (+\$2,000,000)

The FY 2017 Budget requests an increase of \$2 million to help develop, in partnership with NSF, the existing Greenland Summit research station to support astronomy in preparation for installation of the Greenland Telescope. The telescope, a 12-meter radio antenna, will be the first major astronomy project in Greenland. The funds will be used to support the Smithsonian's interests in this effort, including the initial deployment at the U.S. Air Force base in Thule, to establish a preliminary science operation at the Summit Station, and other required infrastructure.

These funds are highly leveraged by the much larger investment (of more than \$15 million) made by SAO's Taiwanese partner, ASIAA.

The Greenland Telescope will conduct groundbreaking observations of supermassive black holes, as part of the only "mid-scale" priority in the 2010 National Research Council "Decadal Survey of Astronomy." Specifically, very long baseline observations will be made in conjunction with telescopes in Chile and the Smithsonian's SMA in Hawaii. The telescope will also be used to perform high-frequency radio observations of the cold universe. These will be the first such observations in the northern hemisphere.

Introduction, *Understanding and Sustaining a Biodiverse Planet*

The Smithsonian will use the resources of its scientific museums and research centers to significantly advance our knowledge and understanding of life on Earth, respond to the growing threat of environmental change, and sustain human well-being.

RESEARCH Goal: The Smithsonian advances and synthesizes knowledge that contributes to the survival of at-risk ecosystems.

ACCESS Goal: The Smithsonian inspires all generations of learners to turn knowledge of life on Earth into awareness and action aimed at improving sustainability.

UNITS primarily associated with this Grand Challenge:

- **National Museum of Natural History**
- **National Zoological Park**
- **Smithsonian Environmental Research Center**
- **Smithsonian Tropical Research Institute**

NATIONAL MUSEUM OF NATURAL HISTORY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	343	47,992	32	5,679	54	14,983	10	3,761
FY 2016 ENACTED	343	48,503	32	5,860	56	21,200	11	4,150
FY 2017 REQUEST	343	49,205	32	5,950	58	26,700	11	4,200

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	115	16,856	115	17,100	0	244
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	4	482	4	489	0	7
Public Programs						
Provide reference services and information	14	1,699	14	1,723	0	24
Exhibitions						
Offer compelling, first-class exhibitions	50	6,865	50	6,965	0	100
Revitalizing Education						
Education						
Engage and inspire diverse audiences	30	3,461	30	3,512	0	51
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	95	14,245	95	14,451	0	206
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	4	821	4	833	0	12
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	177	1	179	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	15	2,178	15	2,209	0	31
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	560	4	568	0	8
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	7	729	7	739	0	10
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	330	3	335	0	5
Modernize the Institution's financial management and accounting operations	1	100	1	102	0	2
Total	343	48,503	343	49,205	0	702

BACKGROUND AND CONTEXT

The mission of the National Museum of Natural History (NMNH) is to understand the natural world and our place in it. We seek to inspire curiosity, discovery, and learning about nature and culture through outstanding research, collections, exhibitions, and education. Building upon its unique and vast collections and associated data, field research stations, specialized laboratories, and internationally recognized team of staff scientists, research associates, federal agency partners, and Fellows, the Museum provides fundamental research information to a wide array of constituencies ranging from federal agencies to the public. The Museum's particular strengths are in all four of the following Smithsonian Grand Challenges: Unlocking the Mysteries of the Universe; Understanding and Sustaining a Biodiverse Planet; Valuing World Cultures; and Understanding the American Experience. The Museum's research provides new understanding and relevance to broader national and international scientific agendas, looking at such important societal issues as global change, biodiversity, cultural conflict, and natural hazards.

The Museum's stewardship of its collections, making up more than 127 million natural history specimens and human artifacts, is at the core of its mission. This set of collections, the largest of its kind in the world, is an unparalleled resource for collections-based research on the diversity of life on Earth, including plants, animals, fossils, minerals, and human activity. These anthropological, biological, and geological specimens and objects are the foundation for all of the Museum's scientific products. With their unparalleled spatial breadth and temporal depth, the collections promote analyses and interpretations that enable scientists to connect observations of contemporary phenomena with the past and around the world so that we can better understand our planet and the effect of human activities on it. The Museum's collections capture the imagination and stimulate the next generation of scientists, and are important for maintaining the Institution's intellectual infrastructure and the

Administration's continuing goal of competitiveness in international science and the application of scientific knowledge. NMNH collections and their attendant information are a dynamic resource used by researchers, educators, and policy makers worldwide.

In addition, NMNH's collections serve as critical reference materials for U.S. Government agencies. These resources are actively and collaboratively used by staff members of the Departments of Defense, Commerce, Agriculture, and Interior, who are housed in NMNH facilities. For example, tens of thousands of insects urgently requiring identification are sent to NMNH from ports of entry each year. Scientists at the U.S. Department of Agriculture and NMNH consult the collections and rapidly provide identifications to border control agencies so that U.S. agricultural and economic interests are kept secure from damage by potential invasive species. The NMNH bird collections provide answers to the Federal Aviation Administration (FAA) and the U.S. Department of Defense, revealing the species of birds that damage aircraft, and leading to improved habitat control around airports and better aircraft and engine design.

In addition, the National Cancer Institute relies upon NMNH as a trusted repository for plant specimens that must be kept as vouchers for pharmacological and biomolecular research. Similarly, the U.S. Department of the Interior Bureau of Ocean Energy Management relies on the NMNH as a trusted repository for the ecologically significant invertebrate animals it collects in the course of its research. Meteorites collected from Antarctica are deposited at NMNH by the Johnson Space Center and the National Aeronautics and Space Administration (NASA).

In the area of law enforcement, the Federal Bureau of Investigation benefits from the identifications and analyses conducted by experts in the Department of Anthropology, who consult the human skeletal collections when providing answers about the remains of crime victims. In the area of public health, analyses of the collections have provided vital clues regarding the spread of H5N1, the Avian Flu virus, and the etiology of past influenza epidemics.

NMNH's first-class research supports its exhibitions and educational outreach. As one of the most visited museums in the world, NMNH provides diverse public audiences with presentations on every aspect of life on Earth. In FY 2015, the Museum hosted more than seven million visitors, and, through many affiliations and partnerships, NMNH takes its science, exhibitions, and public programs to other museums and non-traditional exhibition venues, such as libraries, schools, and universities across the country. With a growing network of interactive websites (which hosted more than 15 million unique visitors), distance-learning experiences, social media and software applications (apps), the Museum is transforming itself into a true electronic classroom, which is potentially accessible to everyone — free of charge.

The FY 2017 Budget request includes an increase of \$702,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

To achieve the strategic goals of Broadening Access and Revitalizing Education, funding will be used to maintain and upgrade permanent exhibitions, replace outdated exhibits with multi-disciplinary, interactive exhibitions on the Mall and in other venues through traveling exhibits, and to conduct more electronic outreach across the country. Both the permanent and traveling exhibitions reflect best practices in visitor experience upgrades and informal science education, and these exhibits are developed as part of an array of public outreach activities.

In September 2015, the Museum inaugurated a stunning new setting and interpretive exhibit for the great African bush elephant that has been the central icon in the Rotunda since 1959. Banded in marble to harmonize with the original building materials, the setting allows visitors to get much more “up close and personal” with the elephant than the previous display. New graphics, video, interactive components, and a diorama invite visitors to imagine themselves in the African savannah in the company of these magnificent animals, and to learn how they can help prevent their further endangerment. Vistas have been opened up and nearly 750 square feet of floor area has been returned to public use, including a marble medallion at the center of the Rotunda not seen since 1959.

The Museum also completed the deinstallation of the former Dinosaur Hall and is finalizing design for the new *David H. Koch Hall of Fossils — Deep Time*. This major exhibit space overhaul included the renovation of the 30,000-square-foot Fossil Halls in preparation for the *Deep Time* exhibit scheduled to open in 2019. This project required removing and conserving about 2,000 paleontological collections. The specimens are now being remounted for display when the exhibit opens. In addition to these major projects, donated funding supports scientific updates and visitor experience upgrades throughout the Museum’s 300,000 square feet of public space.

The Museum has several new exhibits which will be opening and on display in FY 2017. These exhibits include *Life in One Cubic Foot*, which explores what a cubic foot of land or water — a biocube — reveals about the amazing biodiversity on our planet. The exhibit follows Smithsonian scientists and photographer David Liittschwager into the ocean, as well as students exploring closer to home, to see how this simple measurement is enriching what we know of the world. *Objects of Wonder: From the Collections of the National Museum of Natural History* will be a long-term but temporary exhibit, scheduled to open in early 2017, featuring spectacular, rare, and awe-inspiring objects that tell stories of the extraordinary science that goes on behind the scenes at NMNH. *Narwhal, Ice and Inuit in a Changing Arctic*, slated to open in the summer of 2017, will feature life-sized

narwhal models, real tusk specimens, hands-on explorations, and traditional knowledge and objects gathered in close cooperation with Inuit elders and hunters. *Outbreak!* will examine the ways infectious diseases reveal an intricate interconnectedness of humans, animals, their environments, and microbes — why infectious diseases emerge where they do, how they spill over from animals to people, why they can amplify and spread so quickly, and where to look for the next one. This exhibit will draw on the combined expertise of Smithsonian biologists, anthropologists, and National Zoo veterinarians, as well as Dr. Daniel Lucey, a Georgetown University physician who has worked overseas to limit Ebola, MERS, influenza, and SARS outbreaks. *Primordial Landscapes: Iceland Revealed* explores the diverse and raw beauty of Iceland's extraordinary landscapes through striking images by photographer and naturalist Feodor Pitcairn and the inspired words of Icelandic geophysicist, author, and poet Ari Trausti Guðmundsson.

In 2017, the NMNH will continue to inspire public appreciation of and engagement with science and the natural world through efforts in our education, outreach and visitor experience programs. In FY 2015, more than 150 expert-led programs allowed visitors from around the world to engage with a huge diversity of NMNH researchers, postdoctoral students, collections managers, scientific illustrators, and other staff about the real stories behind cutting-edge Smithsonian research. The Museum's partnership with the National Oceanic and Atmospheric Administration (NOAA) brought in additional experts from around the country, including biologists, economists, and meteorologists, to help connect visitors with the latest information on rising sea levels and their impact on fisheries, changing storm patterns, and the ties between ocean health and human health.

Meanwhile, Q?rius, The Coralyn W. Whitney Science Education Center — the Museum's science, technology, engineering, and mathematics (STEM) learning facility — brings NMNH research and collections assets to the forefront, allowing for public participation on site, online, and through classrooms. In FY 2017, Q?rius programs will be designed to inspire, nurture, grow, and diversify the next generation of STEM professionals by helping citizens become aware of their connection to current issues affecting the natural and cultural world. To achieve this, the Museum will create opportunities for visitors to participate in learning experiences based on current research and authentic collections in Q?rius.

Also, in FY 2017, NMNH will continue implementing its public engagement plan to coordinate its many outreach efforts. This plan focuses the Museum's permanent and temporary exhibitions, educational and outreach programs, and Web outreach on the major research themes identified in the Science Strategic Plan: Understanding the formation of the Earth and similar planets, discovering and understanding life's diversity, and exploring human diversity and cultural change.

In 2017, NMNH will continue to make available the Museum's science experts and collections from behind the scenes, and provide the public with opportunities to engage with scientists, their research, collections, and research-

grade scientific equipment, with programs such as “The Scientist Is In” and “The Artist Is In” series. In addition, the Museum will continue to host special themed days and festivals that bring the public and NMNH science experts together to focus on a specific area of natural history and science work, such as National Fossil Day, World Ocean Day, International Polychaete Day, Invasive Species Awareness Day, Mount St. Helens Day, Pollinator Week, the Orchids Festival, the Environmental Film Festival, Boy Scout Day, the Innovation Festival, and the Smithsonian-wide National Math Festival.

The Museum will continue to reach out to a growing local, national, and international audience, including children and families, students and teachers, adults, and especially teenagers who visit the Museum on the Mall or its extensive presence online. Outreach activities will include traveling exhibitions, distance learning, and in-depth, online resources, including the Ocean Portal, Human Origins and Q?rius websites, and digitized collections, as well as long-standing programs of lectures, films, and teacher education.

These NMNH programs and resources will continue to inspire citizens by making them aware of current issues related to the natural and cultural world, helping them understand their role in addressing those issues, and enabling them to participate in experiences that inspire stewardship, conservation, and protection of natural and cultural diversity. In addition, Museum staff are focusing their efforts to build new youth audiences and increase youth participation in a continuum of opportunities that inspire, nurture, grow, and diversify the next generation of STEM professionals. Through innovations in educational technology, these efforts will serve visitors to the nation’s capital as well as millions of people around the world who cannot visit the Museum in person. NMNH will continue to study the effectiveness of its public education and outreach efforts with focused audience research and evaluation.

A critical element of NMNH’s plans for FY 2017 is the Museum’s commitment to the stewardship of its federal scientific collections in support of the Smithsonian’s strategic goal of Strengthening Collections. As underscored by a recent survey of federal collections, these resources play an important role in public health and safety, homeland security, trade and economic development, medical research, and environmental monitoring. They also provide the foundation for the Museum’s diverse research, exhibits, and public outreach programs. NMNH will continue to strengthen its commitment to cutting-edge research and state-of-the-art stewardship of the collections, in partnership with affiliated federal agencies such as the Departments of Defense, Commerce, Agriculture, and the Interior. Federal funding is the linchpin for maintaining and preserving these priceless collections and their valuable information for future generations, while also supporting their use for important ongoing research that, for example, facilitates recovery efforts after natural disasters such as volcanic eruptions and the associated loss of biodiversity. The breadth of NMNH research and its collections of biological, geological, and anthropological objects foster an

interdisciplinary environment that attracts other academic institutions, foreign researchers, and national and international policy makers.

Furthermore, the NMNH has a long history of training future scientists here and abroad to examine and monitor biodiversity in their own countries, among their other research endeavors, which also strengthens the NMNH collections and connections with these countries. The NMNH is committed to training future generations of scientists by increasing the number of its postdoctoral Fellowship awards and providing an entry-level research experience for the most talented undergraduates in the Earth and life sciences as well as anthropology. Collaboration with foreign students and colleagues will continue to be emphasized to broaden the Museum's international science network.

In FY 2017, the NMNH will achieve the Smithsonian's strategic goal of Strengthening Collections by continuing to emphasize: collections preservation and access projects related to strategic initiatives in preserving indigenous languages through preservation of manuscripts, recordings and moving images, and photographs; preserving and digitizing fossil collections and associated paper records; and preserving biological specimens at ultra-cold temperatures to document biodiversity as part of the Global Genome Initiative.

Collections Care Initiative funding will support replacement cabinetry, biorepository freezer repair, digitization of collections ownership records, a survey of archival collections, and technical assistance with the herbarium specimen rapid-digitization project that will make 500,000 botanical specimens digitally available.

NMNH's Department of Paleobiology is participating in two major digitization projects through the National Science Foundation's (NSF) Advancing Digitization of Biodiversity Collections (ADBC) program: the Fossil Insect Collaborative and the Fossil Marine Invertebrate Communities of the Eastern Pacific initiative. Although NMNH does not receive funding through the program, the Museum is participating in project workshops and digitizing these fossil specimens to add to the projects' datasets in the national biodiversity data portal, iDigBio.

Labeling and re-housing of tissue samples collected prior to the Global Genome Initiative, or 'legacy tissues,' continues in the Biorepository. To date, more than 21,000 bird and 7,300 mammal tissues have been transferred from prior storage conditions to more stable liquid-nitrogen storage, and entered into NMNH's inventory system.

The Museum's education collection continues to be developed for use in Q?rius and other programmatic venues. More than 2,225 new catalogue records have been added to databases, specimen housing improvements have been made, and more than 150 botanical specimens were processed and mounted for educational use.

The NMNH will continue to significantly increase the number of specimen records in its electronic databases for scientists and the Research and Collections Information System (RCIS), and to expand the availability of these valuable and unique assets via the Internet to worldwide researchers, policy makers, and the public. Lessons learned from recent pilot efforts to speed the rate of digitization will be used to increase the number of selected plant and insect records available online. NMNH's digitization priorities will continue to be guided by its digitization plan, focusing on selected plant, insect, vertebrate, and artifact collections. In addition, the Museum will continue to develop a streamlined data-capture system for use when collecting specimens in the field.

To achieve the Smithsonian's goal of Excellent Research in FY 2017, NMNH continues to focus on basic research in geology and mineralogy, paleobiology, systematics, genomics, evolutionary biology, ecology and its relationship to biodiversity, and anthropology, and successful major initiatives such as *Deep Time*, *Recovering Voices* and Genomics. Increasing the number of digitized specimens will enable researchers to leverage the knowledge inherent in the diverse collections to address many of today's pressing issues regarding invasive species, disease vectors, and the impact of humans on biodiversity and climate. As a result, NMNH publications will have an even more integrated quality to provide insights from all viewpoints of the Museum on pressing national and international topics.

The NMNH's strengths in research have been diversified and infused with some exciting hires in the past few years. Areas focused on, which also link directly to the Smithsonian's Grand Challenge areas of research, are as follows: maintenance, documentation, and analysis of indigenous languages of Mesoamerica; the analysis of microbial production of certain minerals in polluted environments to identify remediation strategies; the evolution of pelagic invertebrates that swim up off the sea floor, as opposed to their ancestors that actually lived on the sea floor; the evolution of ferns; the evolutionary and ecological histories of some four-limbed marine tetrapods that made the great transition from life on land to sea; the evolutionary history of parasitic worms, especially leeches and tapeworms; and the paleoecology of whales and dolphins.

A combination of federal and private funding will be used in FY 2017 to advance the NMNH's goals of investing in the next generation of scientists and researchers. Through the Museum's academic programs, it will continue to create a staircase of academic opportunity to mentor the next generation of museum scientists and professionals. These programs take students and young professionals from the early stages of exploration in high school to the postdoctoral peak of stepping into the role of being professional scientists, by offering various Fellowship and internship programs for undergraduates, graduates, and postgraduates.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of administrative personnel, development and business activities, and other program-related costs. The Museum raises funds from private sources to support research, exhibitions, public programs, and administrative functions. This includes securing donations from special events to promote new exhibitions and educational initiatives, and public outreach. Donor/sponsor-designated funds are vital to support exhibition hall renovations, such as the major gifts that have helped to fund the major renovations of the *Fossil Hall* and *Human Origins Hall*, establish Fellowship programs at the Museum, and educational activities and programs such as Q?rius, the STEM education and experience center. In addition, significant endowment gifts support internships and Fellowships which will introduce more students to the natural sciences, as well as help the Museum maintain and update its educational programs for the *Ocean Hall*, and study of human origins. Other examples include the Ernest S. (“Tiger”) Burch, Jr. Endowment, which promotes and interprets the multi-disciplinary study of Arctic peoples and their cultures, past and present. Additionally, the Harold Robinson and Vicki Funk Fund supports the creation of an award to fund and sustain the work of Fellows, researchers and curators conducting research involving Compositae (or Asteraceae) collections in the U.S. National Herbarium within the NMNH. These endowments are important in providing operational and research support to scientists as they conduct their important work. In addition, the Museum continues to receive grants and contracts from both non-Government and Government institutions. The NMNH was awarded 62 external grants and contracts totaling \$7.3 million in FY 2015. These funds support both cutting-edge research and exhibitions, and demonstrate both international and cross-agency collaboration on shared projects and issues.

In FY 2017, the NMNH will continue the Global Genome Initiative (GGI) to collect genomic samples and voucher specimens from every major branch of the NSF Tree of Life decadal program. Biodiversity genomics is at the forefront of innovation and discovery due to technological advances resulting from the Human Genome Project. In addition, GGI is promoting a global network of well-managed biorepositories, collections of genomic tissue samples from across the Tree of Life, benefiting society through biodiversity research, and the development and conservation work of the Global Genome Biodiversity Network (GGBN). This will foster collaborations among repositories of molecular biodiversity to ensure quality standards, improve best practices, secure interoperability, and harmonize the exchange of material in accordance with national and international legislation and scientific conventions.

The NMNH had a successful FY 2015, raising \$18.4 million in private funds. In addition, leadership gifts included a significant \$13 million donation from Coralyn W. Whitney to endow the ongoing operations of Q?rius: The Coralyn W. Whitney Science Education Center.

NATIONAL ZOOLOGICAL PARK

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	204	25,420	19	5,764	31	7,697	14	1,808
FY 2016 ENACTED	208	26,382	31	5,000	24	7,000	7	1,700
FY 2017 REQUEST	213	27,252	31	5,000	25	7,200	7	1,700

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	25	2,617	25	2,661	0	44
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	5	764	5	774	0	10
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	2	262	2	266	0	4
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	159	19,606	163	20,320	4	714
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	5	799	5	807	0	8
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	4	821	4	828	0	7

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	6	1,113	7	1,192	1	79
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	0	116	0	116	0	0
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	284	2	288	0	4
Total	208	26,382	213	27,252	5	870

BACKGROUND AND CONTEXT

In FY 2017, the Smithsonian’s National Zoological Park (NZP) will mark the mid-point of the NZP strategic plan, “Our Plan to Save Species.” With the Strategic Plan as the roadmap, the focus in FY 2017 will be to:

- **Fortify and Focus Science, Animal Care, and Collections Management to Advance Global Conservation and Sustainability**

As the National Zoo, NZP is a leader within the American Zoological Association (AZA) community and for all zoos in North America. Sustaining genetically viable live collections to ensure the diversity of species’ populations held in zoos is a challenge; no one zoo can accomplish this feat on its own. It is only through the coordination and collaboration of all zoos — facilitated by the AZA — that North American zoos can continue to thrive. One of NZP’s key contributions to ensuring the survival of endangered species is the work that occurs at NZP’s 3,200-acre Conservation Biology Institute (SCBI) in Front Royal, Virginia.

NZP is world-renowned for its heroic efforts to research, breed, and reintroduce some of the world’s most critically endangered species. More than 300 species are exhibited at the Rock Creek Park campus and 21 species at Front Royal. Both locations house and care for some of the world’s most endangered animals, such as kiwi, clouded leopards, red pandas, and cheetahs, among others. Some of these animals enter NZP’s facility when little is known about them and they are already moving toward extinction.

NZP researchers work to identify solutions to threats facing endangered animal populations and develop standards or best practices for medical care, husbandry, and safety for zoo animals. These efforts have been a key contributing factor in raising the bar of husbandry standards for all animals throughout the AZA community and worldwide. NZP’s accomplishments range from protecting elephants and their caretakers to understanding the specifics of cheetah reproduction.

One important consideration in ensuring the collection's safety is introducing more intensive animal quarantine and screening procedures to prevent disease transmission from wildlife to livestock, people, and other animals in the Zoo's collections — these practices are now part of the standard of care. New veterinary medical procedures, diagnostics, and testing keep animals healthy and able to breed. More sophisticated medical equipment is being used and new and labor-intensive approaches are increasingly deployed to provide life-saving veterinary care and hand-rearing that means the difference between life and death for these very rare animals. NZP develops and shares this expertise as well as breeding and research protocols throughout the AZA and the worldwide zoo community.

However, all of these new protocols, tests, and management practices are resource intensive. When almost every birth at Front Royal is of an endangered animal whose individual survival contributes to the overall survival of that species, these resources are well-spent. For these reasons, NZP must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — staff who are essential for ensuring that the Zoo succeeds in its vital mission of saving species.

The extensive space available at the Front Royal facility and the capability it allows to appropriately house and raise endangered species according to their particular needs has been instrumental to NZP's exceptional success in species preservation. Yet, with 3,200 acres, there is a cost associated with this species preservation on such a large campus. Activities such as fence maintenance (18 miles of perimeter, 36 miles of cross, eight miles of electric) and gate maintenance (207 manual, nine electric), snow removal, mowing nearly 500 acres of pastures and 19 acres of holding yards, and maintaining the 10 miles of overhead and underground power lines are vital to ensure the health, safety, and welfare of the Front Royal research and breeding collection.

Highlights from the past year include an SCBI scientist being named "cheetah species survival plan coordinator" for all accredited zoos in North America. In this role, SCBI coordinates a nationwide "breeding centers coalition," a nine-facility consortium that manages the most genetically valuable cheetahs in spacious, naturalistic enclosures. The result was increased cheetah reproduction in 2014, with an impressive total of 41 cubs from 13 litters. To date, in FY 2016, there have been two litters. Scientific studies led by SCBI have further contributed to improvements in animal management techniques; one study demonstrated that allowing multiple males to live together as they would in the wild improves reproductive qualities, including sperm production.

This dual emphasis on animal management and research is applied every day to other rare species. For example, SCBI scientists are using their expertise in collaboration with the Patuxent Wildlife Breeding Center to improve recovery of the endangered whooping crane. Despite this species experiencing a reduction to

fewer than 20 individuals in the 1960s, SCBI studies have revealed no adverse effect on male fertility. Meanwhile, NZP scientists are developing new sperm freezing and hormonal monitoring methods so that artificial insemination programs can be more effective in reproducing under-represented species of birds. These innovative tools also are being applied to conservation programs for rare Asian crane species maintained in SCBI's animal collection at Front Royal, including the white-naped and hooded cranes. Seventeen white-naped crane chicks have been produced by artificial insemination of genetically valuable adults that could not breed naturally. These accomplishments increase total animal numbers and put these populations of rare species on a trajectory to sustainability.

NZP science does not stop at the borders of the Front Royal campus or Rock Creek Park facility. For example, NZP and its partners are working hard to develop techniques to preserve more than 11 species of corals. Their techniques have enabled corals to be frozen and subsequently thawed to enable out-planting of new corals. Thousands of juvenile corals produced from cryopreserved material are currently being raised at the National Sea Simulator in Australia. Other highlights include participation in the largest study of elephant welfare, which has had a direct impact on captive elephant husbandry techniques, and the collection and cryopreservation of semen from the threatened lowland tapir (*Tapirus terrestris*) in Brazil and Paraguay.

- **Expand Our Reach and Impact**

Science alone cannot solve the planet's extinction crisis. NZP has an important role in teaching both the public about its role in preventing the extinction crisis and the next generation of researchers and scientists who are trained at the Smithsonian-George Mason University School of Conservation (SMSC) and serve as interns, Fellows, residents, and postdoctoral students throughout the Zoo.

Teaching and mentoring programs impact a growing number of students. The SMSC continues to expand its reach through the Smithsonian-Mason Semester Program (undergraduate), which has educated 689 students to date, representing students from 39 different majors across both the biological and social sciences and 34 colleges and universities. The SMSC Graduate/Professional program has 523 alumni to date, with 29 having completed two or more courses. NZP restructured its internship program to ensure that these important learning opportunities are as effective as possible. In FY 2015, NZP hosted 192 interns who worked side by side with the animal team, scientists, and researchers at both Rock Creek Park and Front Royal. Also, a specialized summer program for high-school juniors and seniors takes place on the Front Royal campus and complements the Friends of the National Zoo (FONZ) camp, providing an introduction to conservation field studies and careers.

NZP also works hard to engage the millions of people who visit the National Zoo in Rock Creek Park. In FY 2015, NZP leveraged increased visitation

(due to the birth of giant panda cub Bei, and wonderful weather) to increase public awareness of species under threat. As giant pandas are notoriously difficult to breed, Bei Bei's arrival is the result of a continued multi-disciplinary approach pioneered by NZP — including hormone monitoring, detailed understanding of the giant panda reproductive cycle, and assisted artificial insemination techniques — that is itself an educational experience for the public. Five months after his birth, Bei was introduced to the public in January 2016. During their visits, guests are also introduced to other flagship species. Flagship species such as pandas act as goodwill ambassadors to help the public support conservation of that species and their habitat, and by doing so protect other species that share the same habitat or are vulnerable to the same threats.

FY 2015 saw an increase in collection animals at Rock Creek (from 1,768 to 2,083 animals). Significant mammal acquisitions include a screaming hairy armadillo and tamandua — both education/program animals; four Allen's swamp monkeys and three Schmidt's red-tailed monkeys on exhibit at the Zoo's Think Tank; four ring-tailed lemurs on exhibit at Lemur Island; gibbon and gorilla females for breeding; two spectacled bear births and a male sea lion for breeding. Bird numbers were reduced as the Zoo prepared for upcoming renovations of the Bird House. Fish numbers are up dramatically and include 32 new species as the Amazonia pool populations are revitalized.

New arrivals encourage the public to visit or return to the Zoo, but once they arrive NZP deploys multiple outreach channels to further engage the public. Our surveys tell us that interaction with a keeper or interpreter has the most impact in educating the public. Keeper demonstrations are the most impactful of all interactions, so each day the keepers host a variety of experiences, from fish feeding in Amazonia to elephant training and the daily sea lion demonstrations. Since keepers have many other responsibilities and their availability is limited, NZP organizes and focuses the energy of an extensive volunteer community, using resources from concessions income. Volunteer interpreters are on the front lines of engaging the public in connecting to the animals that they see. Paid staff train the interpreters to focus on messages most relevant to the animals that visitors see and assure that interpreters are well-versed on the challenges facing these species in their native environments.

However, neither keepers nor interpreters can be available for each and every visitor. During FY 2015, NZP completed a digital signs pilot program throughout the Park. Digital signs accomplish multiple goals, one of which is to provide an early warning system for events that need to be communicated quickly, such as adverse weather conditions, an escaped animal, or other security incidents in the Park. On a daily basis, digital signs help provide visitors with maps of exhibits and facilities, schedules of activities such as keeper demonstrations, and more in-depth information about the animal collection. The digital sign pilot program was successful and, as funds become available, we will continue permanent installations of this new signage.

Even more visitors come virtually through our active website. For about the first month of Bei Bei's life (August 22 – September 15, 2015), NZP's website experienced an 81 percent increase over the prior year and a 384 percent increase in users. In FY 2015, NZP webcams were viewed more than 40 million times by in excess of 14 million people — seven times the number of visitors in the Park. In FY 2016, NZP is launching a revamped website using new technology that will be more mobile friendly, allow for easier updating of content, and enable us to leverage the interest in our site with a deeper engagement. NZP webcams attract and retain visitors, but also serve a dual function at NZP. First and foremost, webcams allow keepers to safely monitor animals during critical times such as illness, pregnancy and birth. Second, the public webcams bring the animals to the public even when they cannot visit in person.

NZP leverages the website for citizen science as well. NZP is the co-creator and leader of eMammal, a regional wildlife project that uses citizen scientists and trail cameras to monitor wildlife across public lands in the mid-Atlantic states. In the past two years, volunteers have captured more than two million wildlife images that have been checked by experts and deposited within a Smithsonian digital repository. In October, *Discover* magazine recognized the program as one of the top citizen science programs in the country.

- **Strengthen Core Foundations of People, Places, and Fiscal Resources for Mission Success**

Past years have seen significant upgrades to NZP's capital infrastructure. FY 2016 will mark the completion of the North Road/General Services Building (GSB) project, utility upgrades at the Front Royal campus, and safety upgrades, including the planning and design for a safer circulation pattern at the lower part of the Rock Creek campus, as well as the planning for needed upgrades to restrooms. Although mostly invisible to the visiting public, these infrastructure improvements are important building blocks for the NZP master plan.

The next planned public-facing exhibit renovation is of the historic 1928 Bird House and surrounding plateau, which will turn the facility into an educational celebration of birds and bird migration. FY 2016 will mark the completion of the design phase for this first-of-its-kind zoo attraction that immerses visitors in birds' miraculous annual journeys. It will engage visitors directly in NZP's world-renowned and pioneering research led by scientists at the Smithsonian Migratory Bird Center, while also inspiring the public to participate in protecting migratory birds and their shrinking habitats. It was an NZP scientist, along with more than 20 other conservation organizations, who developed *The State of the Birds 2014* — the most comprehensive review of long-term trend data for U.S. birds ever conducted. The report finds bird populations declining across several key habitats and includes a "watch list" of bird species in need of immediate conservation help. This exhibit is essential to tell that important story.

Planning a Zoo renovation is a major undertaking that must ensure the safety of the existing live collection while expanding the number and variety of the species on exhibit. In FY 2016, the collection will be transferred to a suitable location so that construction can safely begin.

- **Adapt the Organization, Workforce, Culture, and Operating Practices to Promote Teamwork, Innovation, and High Performance**

The priorities under this goal are far-reaching in their own way. Security enhancements during periods of high visitation are an important ongoing goal. Recognizing that, despite the best efforts of multiple parties and partners, violence did occur during NZP's busy spring break period in FY 2014, NZP, together with the Smithsonian's Office of Protection Services, undertook a thorough review of existing security measures. A task force was created, a security consultant hired, and multiple stakeholders, including the staff, neighborhood, and civic organizations, were consulted. After much deliberation, the decision was made to set up temporary access controls and perform visitor screening (such as bag checks) during the busy spring period, beginning in FY 2015 and continuing each year thereafter. With heightened security awareness and extensive communications to the public on the new screening procedures, there were no significant security incidents in FY 2015.

NZP has been tightly focused on safety as well as security. NZP was a leader in the AZA move to ensure protected contact for all interactions with elephants and has been developing and sharing its protocols for working with dangerous carnivores, including lock-out protocols and two-person rules. A study was performed for visitor safety needs — with a particular emphasis on the human-animal interface. The barrier around the lion/tiger exhibit was identified as the highest priority for improvement and work was completed in that area. FY 2016 will see improvements in the barriers for the *Great Apes* exhibit, with additional improvements in other areas to follow.

NZP works to inspire the public to care about conservation and climate change, so it is important that these values are embraced and acted upon for our own needs. NZP's largest utility cost is for water. A concentrated effort has reduced water usage by more than 50 percent at Lemur Island (which has a large waterfall feature) and by more than 40 percent at the Bird House. With many acres of grounds, the Zoo's horticulture department has reused 120 cubic yards of wood chips for landscaping, distributed 1,900 pounds of browse for animal enrichment, and created perching and climbing structures using trees that need extensive pruning. In addition, storm-water interceptors were installed as part of the GSB/North Road project, reducing run-off to Rock Creek. The pest management group has reduced the use of insecticides throughout the Zoo by more than 77 percent and rodenticide by more than 82 percent compared to 2011.

To showcase our sustainability improvements to the public, a demonstration rain garden was installed near the carousel to reduce storm water flowing into Rock Creek. It also teaches the public about storm water, and provides visitors with information on concrete actions they can take to protect their local ecosystem. More information is woven into our daily animal keeper demonstrations and interpreter talks, and NZP's progress in this area was celebrated on special occasions such as Conservation Science Day, the International Migratory Bird Festival, and the Autumn Conservation Festival at Front Royal.

The FY 2017 Budget request includes an increase of \$870,000 and 5 FTEs. The increase includes \$370,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$500,000 and 5 FTEs to support the welfare and care of the animal collection.

MEANS AND STRATEGY

The health, well-being, and safety of both the animals and staff of the NZP are its highest priority. The Zoo's Conservation Biology Institute (SCBI) is world-renowned for its efforts to research, breed, and reintroduce some of the world's most critically endangered species, including the Przewalski's horse, golden-lion tamarin, black-footed ferret, scimitar-horned oryx, red-crowned cranes, and many others. Accepted standards or best industry practices for medical care, husbandry, and safety for zoo animals are continually increasing. For example, federal and state regulations require intensive animal quarantining and screening procedures to prevent disease transmission to livestock, people, and other animals in the Zoo's collection.

In addition, increased diverse threats, such as Highly Pathogenic Avian Influenza, require more staffing to respond to new requirements and maintain a viable collection. Additionally, new veterinary medical procedures, diagnostics and testing require increased medical equipment and expertise, and breeding and research protocols designed to save endangered species from extinction require new, more time-intensive, sophisticated management approaches to ensure the safety of animals and staff. Finally, when every birth of an endangered animal may impact the survival of a species, new and labor-intensive approaches are increasingly needed to provide life-saving veterinary care and hand-rearing that means the difference between an animal's life and death. For these reasons, the Zoo must strategically augment staffing with a select number of well-trained animal care professionals and veterinarians — staff who are essential for ensuring the Zoo successfully achieves its vital mission of saving species and enlisting public support for that purpose.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$870,000 and 5 FTEs. The increase includes \$370,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$500,000 and 5 FTEs to support the welfare and care of the animal collection, as detailed below.

Animal Welfare (+\$500,000, +5 FTEs)

Maintaining a live and diverse collection of mostly endangered species is a significant expense for both the animal care and facilities management teams. Accordingly, NZP requests an additional \$500,000 for animal care and science support for SCBI.

More specifically, SCBI faces increased personnel needs for animal care to meet the more labor-intensive requirements associated with hand-rearing endangered species, increased health standards, and animal quarantine procedures. NZP is requesting a veterinarian, three animal keepers, and a support staff position. The additional veterinarian and keeper positions are consistent with zoo best practices relating to the care of quarantined or hospitalized animals to minimize the risk of transferring disease to the rest of the collection. In addition to staffing, an additional \$87,000 per year is required for animal care (e.g., animal bedding, enrichment) and for veterinary pharmaceuticals (e.g., vaccines, medicine) needed to maintain the SCBI's living collection.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of the director and general operational requirements for adequate animal care, professional training in conservation sciences, and animal acquisitions. Donor/sponsor-designated funds support the costs related to specific programs and projects, including field and captive studies on Sahelo-Saharan antelopes, amphibians, cheetahs, giant pandas, Asian elephants, tigers, and clouded leopards; ecological studies on migratory birds; and the documentation and monitoring of biodiversity and habitat quality in selected sites around the world. A large percentage of these funds supplement federal funding for renovating and modernizing the Zoo. Private donations to bring bison back to NZP or fund the Bird House renovation fund a portion of construction costs and support all exhibit interpretive design and implementation. Government grants and contracts support a wide array of scientific studies on the biology and habitats of endangered and threatened species. Concessions, such as food and retail shop sales, fund the NZP Information Technology Support and Help Desk, exhibit maintenance, visitor services, volunteer programs, and the communications team.

SMITHSONIAN ENVIRONMENTAL RESEARCH CENTER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	32	3,909	9	892	11	1,571	36	5,145
FY 2016 ENACTED	32	3,956	8	950	10	1,700	40	5,000
FY 2017 REQUEST	32	4,171	8	950	10	1,700	40	5,000

STRATEGIC GOALS: EXCELLENT RESEARCH; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	24	3,073	24	3,235	0	162
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	118	1	124	0	6
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	546	4	573	0	27
Modernize the Institution's financial management and accounting operations	3	219	3	239	0	20
Total	32	3,956	32	4,171	0	215

BACKGROUND AND CONTEXT

The Smithsonian Environmental Research Center (SERC) is a leader in research on land and water ecosystems in the coastal zone. SERC's innovative research and unique setting advance basic environmental science in the zone where most of the world's population lives, and provides society with the knowledge to solve the environmental challenges of the 21st century.

Research and discovery remain the core activities at SERC. Scientists use the unique site on the shore of the Chesapeake Bay, and other sites, including the Smithsonian Marine Science Network, to investigate the ecological

interconnections of aquatic, terrestrial, and atmospheric components of complex landscapes, with comparative studies on regional, continental, and global scales.

SERC maintains a vigorous professional training program dedicated to producing the next generation of scientists. Through its efforts to achieve extramural funding and establish external partnerships, SERC hosts a large number of undergraduate interns, graduate students, postdoctoral Fellows, and visiting scientists, with success in reaching candidates from underserved communities.

SERC will redevelop its programs for public engagement. School-based programs, serving thousands of children annually, continue to be a major emphasis of SERC's public efforts. In addition, SERC continues to expand its public outreach by incorporating new citizen science programs and enhanced volunteerism.

SERC will continue to update and streamline management systems and functions, and advance construction of its Facilities Master Plan. In FY 2017, SERC will complete work on its 1.5-mile entrance to the main campus, which is necessary for the safe travel of staff and visitors in passenger vehicles and school buses. In addition, SERC plans for the next phase of implementation, including design of the Information Commons that will be the Institution's first "Net-zero energy" building. Other projects include design of the Green Village to provide more housing for a growing number of visiting and collaborating scientists and students, and much-needed new support facilities for the Smithsonian Facilities staff.

The FY 2017 Budget request includes an increase of \$215,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

SERC has an advantage in furthering its research goals and priorities by operating its 2,650-acre site on the Chesapeake Bay. Using the unique assemblage of streams, shoreline, forests and agricultural fields, its scientists investigate the interconnections of aquatic, terrestrial, and atmospheric components of complex landscapes. SERC's research campus also supports research efforts of other collaborators and agencies (e.g. U.S. Department of Agriculture, U.S. Geological Survey, U.S. Fish and Wildlife Service, and many universities and state agencies). SERC develops innovative approaches and instrumentation to measure environmental changes at four ecological levels (i.e., global change, landscape ecology, ecology of coastal ecosystems, and population and community ecology), and has developed unique, long-term, and experimental data sets on environmental change. SERC has been a leader in developing the Smithsonian's Marine Science Network of sites along the western

Atlantic Ocean for comparative coastal studies, as well as in developing the Tennenbaum Marine Observatories Network. SERC is a partner site in the National Ecological Observation Network (NEON). As such, in FY 2015 construction of a new sampling tower array, to support a node for environmental data collection that will feed a national network established to observe and interpret changes in terrestrial environments, was completed. During its 50-year history, SERC has built a reputation for world-class research, producing many publications that are rich in data and multi-disciplinary and integrative in analysis.

SERC's research, education, and outreach efforts are closely aligned with the Smithsonian's Strategic Plan. By building on existing strengths and special programs, SERC enhances its successful research on the following topics: land-sea linkages of ecosystems; landscape ecology of coastal watersheds; estuarine ecology; invasive species (especially in coastal ecosystems); global change impacts on biotic and chemical interactions; biocomplexity of structure and processes in key ecosystems; and community and population ecology.

During the next five years, SERC research on coastal marine ecology will focus on four key, interrelated areas: the structure and dynamics of marine food webs; the integrity and biodiversity of crucial marine ecosystems; linkages of ecosystems at the land-sea interface; and the ecological regulation of marine biodiversity. SERC seeks to expand its expertise in the ecology of invasive species and how they affect coastal ecosystems. To implement these goals, SERC will link its research with national and international research networks and enhance the Marine Science Network and the Tennenbaum Marine Observatory Network, conceived to coordinate and align the extensive marine research efforts throughout the Smithsonian. SERC is also developing scientific and technological capabilities in analytical chemistry, remote sensing, and instrumentation in coastal watersheds and connected ecosystems. In addition, SERC is working with partners in the National Museum of Natural History and the regional research community to develop DNA barcode libraries for all of the species of fishes and major groups of invertebrates of the Chesapeake Bay. This will become a shared resource for tracking biodiversity, species distributions, and foodweb structures in the nation's largest estuary.

SERC has strengthened its public outreach programs and continues to participate in the National Park Service's Chesapeake Gateways Network. Through partnerships with various agencies in the Maryland state government and the Gateways program, SERC has continued developing a series of new trails and visitor experiences on the historic 575-acre Contee Farm, which was acquired in 2008. In addition to providing a lecture series, workshops, and expert consultation for the public, teachers, and public officials, SERC remains open to the public six days a week. Also, in addition to offering formal programs to the public, SERC encourages visitors to explore the Center's many trails through forests and fields, as well as more than 12 miles of shoreline along the Chesapeake Bay.

SERC continues to implement its comprehensive Facilities Master Plan through projects that provide critical infrastructure improvements and allow for controlled and operationally sustainable growth during the next decade. One of the key components of the plan is the focus on reducing energy and water consumption across the campus. The incorporation of sustainable improvements at the campus will ensure long-term savings in operating costs and a reduction in SERC's carbon footprint. For example, the Charles McC. Mathias Laboratory, opened in 2015, has achieved a Leadership in Energy and Environmental Design (LEED) Platinum designation — the highest measure of environmental sustainability afforded by the U.S. Green Building Council. The project was further recognized by receiving a Presidential GreenGov Award in FY 2016. SERC expects future projects to reach similar design standards as the Center establishes its leadership in the areas of innovative design and functionality.

SERC has established management controls to ensure proper accounting for its research activities, including indirect cost recovery in its sponsored research program. Moreover, the staff strives to maintain an excellent record of safety and protection for all staff and visitors. In conjunction with the Institution's central administrative offices, SERC maintains its excellent record of property management and protection of sensitive information and data.

NONAPPROPRIATED RESOURCES — General trust funds support fund raising and internship/Fellowship programs. In addition, core administrative support is funded through an indirect cost recovery derived from extramural research and education awards. Donor/sponsor-designated funds provide critical operating support related to specific programs and projects in research, public education, and professional training. Most of SERC's scientific research program of \$5.5 million annually is supported by Government grants and contracts, including the National Ballast Information Clearinghouse, which was established by Congress as part of the National Invasive Species Act of 1996.

SMITHSONIAN TROPICAL RESEARCH INSTITUTE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	202	14,025	62	2,803	46	4,516	15	1,836
FY 2016 ENACTED	202	14,166	62	2,809	32	4,518	15	2,000
FY 2017 REQUEST	202	14,344	62	2,810	32	4,518	15	2,000

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	120	9,070	120	9,184	0	114
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	3	169	3	171	0	2
Public Programs						
Provide reference services and information	10	531	10	539	0	8
Revitalizing Education						
Education						
Engage and inspire diverse audiences	2	367	2	367	0	0
Mission Enabling						
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	15	541	15	547	0	6
Provide a safe and healthy environment	2	147	2	154	0	7
Information Technology						
Modernize the Institution's information technology systems and infrastructure	6	362	6	367	0	5
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	10	1,124	10	1,132	0	8
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	6	316	6	321	0	5
Modernize the Institution's financial management and accounting operations	13	807	13	817	0	10

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	3	265	3	265	0	0
Modernize and streamline the Institution's acquisitions management operations	13	468	13	479	0	11
Total	202	14,166	202	14,344	0	178

BACKGROUND AND CONTEXT

In 1910, Smithsonian Secretary Charles Walcott requested and received permission from President William Howard Taft to send a scientific expedition to Panama to study the environmental impact of the Panama Canal. The President of Panama, Pablo Arosemena, invited the Smithsonian to extend its study to the entire isthmus (1910–1912), establishing a relationship that more than 100 years later continues to be a remarkable scientific resource for both countries and the world. The Smithsonian Tropical Research Institute (STRI) is now the principal U.S. organization dedicated to advancing fundamental scientific discovery and understanding of biological diversity in the tropics and its contribution to human welfare. STRI plays a critical role for the U.S. Government and the Smithsonian by maintaining world-class research facilities in Panama, where each year approximately 1,300 resident and visiting international scientists access the diverse tropical environments STRI stewards. Of these, STRI most notably serves as the official custodian for the Barro Colorado Nature Monument (BCNM) in Panama under the terms of the Convention on Nature Protection and Wildlife Preservation in the Western hemisphere, ratified by the U.S. Senate in April 1941. The BCNM is the only mainland tropical reserve under U.S. stewardship and served as the original base of operations for the 1910 expedition.

Why is the Smithsonian in Panama? What is now Panama was under water until about three million years ago. The rise of the Isthmus of Panama changed the world. It connected North and South America and separated the Atlantic from the Pacific, setting into motion global change that dramatically impacted marine and terrestrial life. STRI has been located at the heart of this event for more than a century. Its nine research facilities, situated throughout Panama's diverse ecosystems, serve as an unparalleled field research platform to investigate the critical events that shaped the world and its tropical diversity.

Scientific Productivity

The relevance, quality, and performance of STRI scientists is top tier, and is regularly evaluated by a Visiting Committee of outside experts. In their last review, the Visiting Committee used National Research Council criteria to measure the productivity and impact of STRI science compared to 142 of the best university research departments in the United States; STRI scientists ranked first in all measures of scientific relevance (e.g., publication citations), quality (e.g., scientific honors), and productivity (e.g., publication numbers). In addition, the number of young scientists who choose STRI as the

base for their graduate and postgraduate research training provides an annual measure of the relevance and quality of STRI science to the future of tropical biology and policy.

STRI's 25 staff scientists and 160 research assistants-in-residence share our science platform with scientists from U.S. and international organizations. Each year, approximately 1,400 visiting scientists conduct research at STRI facilities with STRI scientists who are leaders in their fields. This collaborative effort has produced more than 11,000 scientific publications of record over the past century. In recent years, STRI scientists have published an average of 400 articles in peer-reviewed journals annually.

Scientific Direction

The long-term research conducted by STRI scientists and collaborators is a critical contribution to the Smithsonian Institution's 2010–2017 Strategic Plan, "A Smithsonian for the 21st Century," set forth in 2009, particularly through its contributions to the Grand Challenge, Understanding and Sustaining a Biodiverse Planet. However, STRI also contributes to Unlocking the Mysteries of the Universe through its paleontology program, and to Valuing World Cultures through its anthropology and archeology programs. In addition to investigating animal behavior, ecology, physiology, and the evolutionary changes that have occurred in the tropics, STRI has invested for the long term in several other core research directions. These include:

Environmental and Human Health

The Panama Canal Watershed provides drinking water for more than one million Panama residents. Much of the watershed has been deforested. STRI's Agua Salud Project uses the Panama Canal's central role in world commerce to focus global attention on the ecosystem services provided by tropical forests in comparison with other types of land cover, providing rigorous quantitative data on a critical topic much debated by policy makers. The hydrology portion of the project focuses on the roles of forests on water-related ecosystem services such as flood and drought mitigation and water purification.

STRI's geographical position on the narrow Isthmus of Panama, which is a migratory route for North American birds to and from South America, combined with STRI's outstanding relationships with Panama's Health Ministry, led the National Institutes of Health (NIH) to fund development of regional surveillance and diagnostic capabilities for avian influenza. This effort couples STRI expertise in avian population biology and the Gorgas Institute (Panama Ministry of Health) expertise in virology to improve surveillance and early detection of zoonotic disease in the Western hemisphere.

Panama Amphibian Rescue Conservation Project

Amphibians are disappearing around the world. A systematic global assessment of all 5,743 known amphibian species found that one-third of all species surveyed are in danger of extinction. What is particularly alarming to conservationists is that 122 amphibian species are believed to have gone extinct since 1980, compared to just five bird species and no mammals during the same time period. The main cause of this massive extinction is the pathogenic chytrid fungus *Batrachochytrium dendrobatidis* (Bd), which causes a disease called Chytridiomycosis.

In response to the massive loss of Panama's amphibian biodiversity, due mainly to the chytrid fungus, STRI has partnered with African Safari, Houston Zoo, Cheyenne Mountain Zoo, the New England Zoo, Defenders of Wildlife, and the Smithsonian Conservation Biology Institute (SCBI) to found the Panama Amphibian Rescue Conservation (PARC) project. PARC has several key goals to: prevent species extinctions by establishing ex-situ (quarantine) assurance colonies of endangered amphibians threatened with extinction from a deadly fungus decimating amphibians worldwide; develop tools to mitigate the disease and lead to reintroductions in the wild; and engage constituents to support conservation of amphibians and habitats. To date, the project has invested \$1.5 million to build two ex-situ facilities in Panama, and bred more than 10 endangered amphibian species, including the Panamanian Golden Frog, a conservation flagship species now extinct in the wild. STRI scientists actively monitor disease and frog populations in the wild, use the latest molecular tools to find beneficial skin bacteria to help frogs fight Chytridiomycosis infections, research genetic mechanisms of chytrid resistance in Panamanian Golden Frogs, and develop assisted reproduction technologies to breed frogs in captivity and cryopreserve their gametes for future use.

Monitoring Forest Health and the Global Carbon Cycle

Combining private and federal support, STRI collaborates with the Smithsonian Environmental Research Center (SERC), National Zoo/SCBI, National Museum of Natural History (NMNH) and the Smithsonian Astrophysical Observatory (SAO) to create the Smithsonian Institution Global Earth Observatories (SIGEO), the largest terrestrial-based Earth observation system in the world. Additional U.S. partners and supporters include the National Science Foundation (NSF), National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration (NOAA), the U.S. Department of Agriculture (USDA) Forest Service, the U.S. Geological Survey (USGS), and the Centers for Disease Control and Prevention, as well as 80 partner institutions. STRI's Center for Tropical Forest Science (CTFS), now named ForestGEO, coordinates research activities in 24 countries on 63 standardized forest parcels, ranging from two to 50 hectares, in which each tree is mapped and measured every five years. This partner-based global network provides rigorous, widely available, systematic data on forest dynamics and carbon budgets. These data are used by scientists and decision makers around the world to improve our understanding of tropical forests and to address climate change policy. The expanding network allows for global comparisons and has yielded important new findings such as the discovery that old trees play an important role in carbon sequestration, which was previously unknown.

Monitoring the Oceans: MarineGEO

The great success of ForestGEO led to the creation of MarineGEO, a new cross-bureau program that is developing a network of marine data-collection sites studying near-shore environments. MarineGEO is the first long-term, worldwide research program to focus on understanding coastal marine life and its role in maintaining resilient ecosystems around the world. By specializing in coastal ecosystems — where marine biodiversity and people are concentrated and interact most — this initiative will provide policy makers with the science to support innovative solutions and advance management and protection of our oceans. The overall research questions are generic at this stage, and will lead to improved understanding of a range of marine habitats and the species of plants and

organisms that reside in these locations. The network concept includes monitoring basic parameters; i.e., water acidity, temperature, salinity, specific conductivity, dissolved oxygen, and chlorophyll, with the intent of making all data available on the Web in real time. This network and the associated data sets will improve the characterization of biodiversity and ecosystem processes. To collect this information, STRI has installed sensors at MarineGEO sites on the Caribbean and Pacific coasts of Panama.

Paleontology and Earth Science

The long history of partnership with the Panama Canal Authority, coupled with a STRI leadership eager to seize research opportunities, permitted STRI scientists to take advantage of new canal excavations by bringing modern tools to study the geology and fossils of the region. This once-in-a-century research opportunity allows scientists to better understand one of the great geological events in the history of the planet — the rise of the Isthmus of Panama three million years ago, which established a biological bridge between the North and South American continents and a land barrier between the previously connected tropical Pacific and Atlantic Oceans.

STRI is important because of its mission, the Institute's location in the mainland tropics on the narrow Isthmus of Panama, and its relationship with the Government of Panama. Beyond its mission for the Smithsonian, two examples of collaboration with U.S. agencies underscore the important role STRI plays in Panama. The security and facilities infrastructure of Barro Colorado Island led the USGS to establish seismic monitoring equipment as part of its Caribbean Tsunami Warning System. In addition, the Continuously Operating Caribbean GPS Observational Network (COCONet) project, funded by the NSF, has partnered with STRI in developing a large-scale geodetic and atmospheric monitoring infrastructure in the Caribbean. This new infrastructure forms the backbone for a broad range of geoscience and atmospheric investigations and enables research on process-oriented science questions with direct relevance to geohazards. U.S. and international partner agencies use STRI's marine station in Bocas del Toro as a COCONet site to monitor sea level rise and plate tectonics — the movement of Earth's crustal plates that can trigger major earthquakes.

Marine Invasions

New data are filling gaps in the understanding of the rise of the isthmus and its changing role in invasion biology, biodiversity, and global climate. Trade through the Panama Canal will increase by approximately 20 percent, starting in 2016, with the completion of the canal lock expansion project. STRI scientists and colleagues at the SERC in Maryland are documenting the distribution of invasive marine organisms, providing an unparalleled platform to understand the biology of invasive species on a scale comparable to that of the Great American Interchange of terrestrial organisms that occurred when Panama first linked North and South America three million years ago. Such research has profound implications for mitigating the problems of invasive species in the great seaways of the world, from the Panama Canal to the Great Lakes.

Marine Mammal Conservation

STRI scientists are radio-tracking humpback whales and other marine mammals, and recent findings, published in the peer-reviewed literature, revealed that the whales —

notably mothers with calves — were at high risk of being struck by ships entering or exiting the Panama Canal. With support from Panama's maritime and Canal authorities, the International Maritime Organization approved a traffic separation scheme (TSS) in May of 2014, and officially implemented it as international policy in December of 2014, with the recommendation that ships should maintain speed of not more than 10 knots from August 1 to November 30 every year, through two designated ship traffic lanes approximately five miles wide. This type of marine conservation work is a U.S. State Department priority and showed that the TSS could reduce potential collisions between ships and cetaceans by 95 percent. Additionally, the work has led the governments of Colombia, Ecuador, and Peru to collaborate with STRI and request the Institute's scientific expertise and counsel on this topic.

The Budget request includes an increase of \$178,000 for necessary pay for existing staff funded in this line-item.

MEANS AND STRATEGY

STRI is the only major research institute to locate modern scientific instrumentation and facilities at the edges of tropical forests and coral reefs. STRI staff members lead internationally respected research while also assisting visitors with visas, collecting permits, transportation, housing, computing, and library needs, and by mentoring students from universities across the United States and around the world. Superb Panamanian staff and the supportive Government of Panama have fostered Smithsonian research in Panama for more than 100 years and STRI has been an exceptional ambassador of goodwill for the United States in Panama and throughout Latin America.

As part of its core mission, STRI will continue to enhance the Smithsonian's platform for long-term research on biodiversity, ecosystems, and the impacts of environmental change through novel research, education of the next generation of scientists, and the dissemination of those findings to our audiences.

Global climate systems and life on the planet are in flux. Policy makers and scientists need long-term data on fluctuations in the primary productivity of forests around the globe, as well as information on changes in the abundance and distribution of biological diversity, to distinguish the components of global change that can be ascribed to planetary processes from those that may be caused by human activity. The Smithsonian Institution is building on its unique research infrastructure to provide the required data by expanding its global network of dynamic, long-term tropical forest plots into the temperate zone, and by collecting additional data on vertebrates, insects, and soil micro-organisms, in addition to the trees that scientists have monitored for more than three decades. Smithsonian researchers are answering the following questions: Does environmental change significantly alter forest biomass, and does the rate of carbon sequestration by forests vary with latitude, hydrological condition, and soil fertility? How are the diversity and the relative abundance of forest organisms changing over time and space? What components of observed changes are due to human activities? How can people modify their behavior and economies to ameliorate any changes detrimental to global society?

STRI shares knowledge, experience, and expertise with the next generation of tropical scientists. In particular, STRI hosts more than 800 pre- and postdoctoral students each year. For many, their experience at STRI is their first real opportunity to be full-fledged scientists. The experience is transformational. As mentors, the Institute's researchers guide these future investigators, encouraging their curiosity and challenging them to develop the scientific rigor required to make new discoveries, and to share them for the welfare of humankind.

STRI continues to work with primary school science teachers to inspire wonder and critical thinking skills in the classroom. In Panama and through digital partnerships with school districts in the United States, STRI continues to explain field and laboratory science and make it accessible to teachers and students.

ENABLING STRI'S MISSION THROUGH ORGANIZATIONAL EXCELLENCE

STRI continues to advance the vision detailed in the 20-year plan for upgrading its facilities, many of which date back to the pre-World War II era of Panama Canal defense. The 20-year STRI facilities plan represents a spectacular opportunity for the Smithsonian to provide its world-class group of tropical scientists with the modernized, sustainable, and state-of-the-science facilities needed to face the challenges of the 21st century, when biological challenges are playing a central role in global events.

STRI also offers important facility resources for federal agencies and universities. For terrestrial research, STRI serves as the headquarters for ForestGEO, and as a base for tsunami-monitoring equipment installed by the USGS. The Institute provides the Environmental Protection Agency with sites to monitor mosquitoes and their role as disease vectors, and assists the NIH with its funded projects to survey birds as carriers of avian influenza. For marine research, the two-ocean stage provided by STRI marine facilities permits scientists to move between experiments in the eastern Pacific Ocean and the Caribbean Sea in a few hours, and represents a principal component of the Smithsonian MarineGEO network that extends from the Chesapeake Bay to Florida, Belize, and Panama. The recurring two-ocean theme in marine science at STRI has resulted in landmark studies of the evolution and ecology of tropical marine species and communities, as well as research funded by NSF and NIH for the ecologically guided discovery of new pharmaceutical compounds. STRI's MarineGEO site in Bocas Del Toro (Caribbean) and the Naos Marine Laboratories (Pacific), provide direct access to two oceans, and take on increased importance as experimental platforms for studying the impact of climate change and ocean acidification on coastal coral reefs, sea grasses, and mangroves.

STRI's primary research facility on the Pacific coast of Panama is Naos Laboratories, which provides easy access to key coastal, marine, and off-shore environments. It is situated in a unique location that provides ready access to two very different marine ecosystems, in the Gulf of Panama and the Gulf of Chiriqui, including areas impacted by human activities. This facility is a key resource for a highly productive team of researchers, led by nine STRI scientific staff members working in fields such as marine biology and ecology, animal behavior, evolutionary and molecular biology, species-

host interactions, species invasions, archaeology, paleontology, and climate change, among others. It is also mission critical to the Smithsonian's Marine Global Earth Observatories.

STRI is also supported by the Galeta Laboratory. The Galeta Laboratory is the oldest scientific facility on the Caribbean coast of Panama, hosting a long-term monitoring environmental data operation, including the most thoroughly documented recovery from a major oil spill. The current infrastructure allows staff scientists and scientific visitors to carry out research in coastal ecosystems such as mangroves, coral reefs, and sea grass beds, and on invasive species, due to its proximity to the Panama Canal entrance. Galeta is also home to one of STRI's more dynamic and successful public outreach programs.

Research conducted at both laboratories has greatly contributed to the increase of our understanding of tropical biodiversity. STRI will continue to support scientific research at these sites because of a unique and unparalleled opportunity to conduct evolutionary and ecological studies in contrasting environments, including comparisons of marine habitat, ecosystems, and species dynamics between these two oceans.

Managing growth is an enviable challenge and STRI continues to position itself for scientific and educational success by focusing on the need to maintain operational excellence. FY 2017 will be another year in which STRI continues to more efficiently use its available resources while at the same time adapting to work in the ever-expanding economy of Panama. STRI's organizational efforts will include continued upgrading of its physical plant by seeking to reduce deferred maintenance and by doing more design planning. In addition, STRI will implement its restructured organization, including its Information Technology department and Finance and Administration areas, to better meet the needs of its scientific computing community as well as the business needs of its administrative departments. Lastly, STRI will continue to find innovative ways to allocate available resources for novel research that helps the Smithsonian meet the Grand Challenge of Understanding and Sustaining a Biodiverse Planet.

NONAPPROPRIATED RESOURCES — General trust funds support salaries for a small percentage of STRI employees involved in research, public outreach, and fund raising. Donor/sponsor-designated funds support specific programs and projects to investigate key indicators of global environmental health.

More specifically, donor-designated support also provides an endowed chair for the director of STRI, an endowed staff position in tropical paleoecology, and an endowed chair for the director of ForestGEO. The chair in paleoecology currently investigates climate change during the last 60 million years, in part by taking advantage of the multi-billion-dollar expansion of the Panama Canal, which is exposing new fossils and geology during the massive excavations. Donor-designated support also funds postdoctoral studies of the relationship between brain size and behavioral complexity, and postdoctoral Fellowships in tropical marine biology, using STRI's Bocas del Toro and Galeta field stations in the Caribbean and its Naos Laboratories and Rancheria Island field station in the eastern Pacific Ocean.

Introduction, Valuing World Cultures

As a steward and goodwill ambassador of cultural connections, with a presence in some 145 countries and expertise and collections that encompass the globe, the Smithsonian will build bridges of mutual respect and present the diversity of world cultures and the joy of creativity with accuracy and insight.

RESEARCH Goal: The Smithsonian contributes insights into the evolution of humanity and the diversity of the world's cultures, arts, and creativity.

ACCESS Goal: The Smithsonian will inspire audiences to explore the cultural and artistic heritages of diverse peoples.

UNITS primarily associated with this Grand Challenge:

- **Arthur M. Sackler/Freer Gallery of Art**
- **Center for Folklife and Cultural Heritage**
- **Cooper Hewitt, Smithsonian Design Museum**
- **Hirshhorn Museum and Sculpture Garden**
- **National Museum of African Art**

ARTHUR M. SACKLER GALLERY/FREER GALLERY OF ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	45	6,049	8	1,516	55	12,164	0	0
FY 2016 ENACTED	45	6,111	8	2,332	65	14,201	0	0
FY 2017 REQUEST	45	6,197	8	2,335	65	14,236	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	6	1,429	6	1,435	0	6
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	0	20	0	30	0	10
<i>Public Programs</i>						
Provide reference services and information	3	265	3	265	0	0
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	16	2,144	16	2,164	0	20
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	5	425	5	430	0	5
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	12	1,367	12	1,387	0	20
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	35	0	40	0	5
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	143	1	153	0	10
Modernize the Institution's financial management and accounting operations	2	283	2	293	0	10
Total	45	6,111	45	6,197	0	86

BACKGROUND AND CONTEXT

The Freer Gallery of Art and the Arthur M. Sackler Gallery (FSG) celebrate the artistic traditions of Asia and hold what are widely regarded as among the most important collections of Asian art in the world. The Museums collect, study, exhibit, and preserve exemplary works of Asian art, as well as works by Whistler and other American artists of the “Aesthetic Movement” as represented in Charles Lang Freer’s original gift. The combined resources of the Museums are directed toward programs that advance the understanding of the arts of Asia and of the Museums’ collections.

In FY 2017, the FSG will re-open the Freer Gallery of Art with a public celebration after a year-and-a-half-long closure to fully renovate its heating, ventilation, and air-conditioning (HVAC) system and reinvigorate its galleries, public auditorium, and visitor amenities. The FSG will also build on the excitement generated from the innovative exhibitions initiated in the Arthur M. Sackler Gallery which contextualize its growing permanent collection. International loan exhibitions and complementary public programs will provide audience engagement with both historical and contemporary topics, and access to some of the finest works of art from Asia. The Museums will also further the goal of Broadening Access by realigning resources in FY 2017 to position FSG as a world leader in digital collections management initiatives. This will be done by maintaining 100 percent digitization as its collections grow, improving the FSG website with a new content management system that will allow linkages between thousands of different types of records and media, and a new search tool for online collections. FSG will continue to increase the digitization of its publications, and enhance the visitor experience with new ways to access its research and wealth of assets. The new programming effort for the International Gallery in the S. Dillon Ripley Center, managed jointly by FSG and the National Museum of African Art, enters its fourth year. This gallery, with links to both Museums, allows programmatic collaboration, provides a testing ground for new types of exhibitions, and affords new opportunities to achieve the Institution’s strategic goals of Broadening Access and Revitalizing Education.

The FSG will achieve the goal of Excellent Research by maintaining its impressive record of hosting research Fellows and scholarly visitors, through its publications, and by searching for new funding sources for research.

In addition, the FSG will address the strategic goal of Mission Enabling by continually assessing and enhancing staff development and oversight of internal controls.

The FY 2017 Budget request includes an increase of \$86,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

To achieve the goal of Broadening Access, the FSG continues to direct resources to raise attendance and assert its pre-eminence in the field of Asian art by mounting and traveling high-profile exhibitions. In 2017, continuing and planned exhibitions will make strong connections to the Museums’ permanent collections and recent important gifts

and bequests. In the fall of 2016, the first major exhibition on the Qur'an in the United States — from the Museum of Turkish and Islamic Art in Istanbul, which holds one of the world's greatest collections — will open with more than 50 sacred texts from the Arab Middle East, Iran, Turkey, and North Africa and will trace the history of the Qur'an over 900 years. The FSG will continue to present important Japanese exhibitions, when, in the spring of 2017, three major works by Kitagawa Utamaro will be reunited for exhibition for the first time since the 19th century. Smaller exhibitions contextualizing important works in the collection within contemporary art (*The Power of Red*), other creative disciplines (*Chinese Music*), or scientific research (*Unveiling the Invisible*) will be in preparation and/or on view.

Meanwhile, the innovative juxtaposition of contemporary artist Darren Waterston's immersive interpretation of the Freer's famed Peacock Room, *Filthy Lucre*, and contemporary ceramicist Walter McConnell's large-scale sculptures evocative of Buddhist stupas — the first exhibition in the renovated Sackler north galleries — close in the second quarter of the year. Also, planning is under way for a FY 2018 installation of Buddhist art, using new interpretive approaches and immersive content, with audience testing and research taking place in FY 2017.

Exhibitions drawn from recent promised gifts and bequests to FSG collections are slated for national travel in 2017, including the Paul Singer Collection of ancient Chinese art, and the Tibetan Buddhist Shrine. FSG continues to develop major research and exhibition projects with international scholars and institutional partners in China, Japan, Korea, Turkey, and India.

Most importantly, in the spring of 2017, the Freer collections will be reinstalled after a one-and-a-half year closure for a major capital building project. Old favorites and new gems will be displayed in refreshed galleries with new interpretive content that will enhance visitors' understanding of the breadth and beauty of Asian art. The reinvigorated Freer Gallery of Art will include more welcoming visitor entrances, careful incorporation of digital technology within the Museum, a renovated Meyer Auditorium, and increased amenities to offer visitors a more welcoming environment and gallery experience. The renovation of the Meyer Auditorium will include simulcast capabilities for sharing programs with partners around the globe.

Turquoise Mountain: Artists Transforming Afghanistan concludes its presentation in the Ripley Center International Gallery at the end of the first quarter of FY 2017. This exhibition — a bold FSG experiment — aligns with two Smithsonian strategic goals — Broadening Access and Revitalizing Education — through its use of an immersive installation and digital technology to present an inspirational story of the resilience of artistic beauty and the human spirit. The exhibition is enhanced by rich public programs, with the participation of visiting Turquoise Mountain artisans, to create an emotionally stirring experience of the stories presented.

The FSG will further broaden access by reaching new and diverse audiences through its groundbreaking educational and scholarly programs on the arts of Asia. These involve hosting a series of international conferences and workshops, and

collaborating within the Smithsonian and with outside organizations such as the National Museum in Beijing, the Hermitage Museum in St. Petersburg, Russia, the Uffizi in Florence, Italy, and the British Museum in London.

Enabling the Museums to be the center for public engagement on the arts of Asia, the Museums' website continues to undergo refinements to allow greater access to our collections, which are now fully digitized. With the help of a major Getty Foundation grant, an online publication of the Pulverer Collection of Japanese books was recently launched. In addition, in the past several years, the FSG has collaborated with Ritsumeikan University to digitize more than 100,000 images of Japanese books of art.

The FSG will achieve the Institution's goal of Excellent Research by coordinating its own collections more vigorously with researchers in universities in the Washington, DC area, as well as internationally, and ensuring that the FSG has appropriate distribution, in print and online, of scholarly publications.

The Museum's newly formed department of public and scholarly engagement, which is responsible for the public-facing activities of the FSG in the areas of public programs education, media relations and advertising, will launch new initiatives developing effective visitor engagement strategies as a result of a year-long visitor study of the Freer. As part of its goal to advance Revitalizing Education initiatives, and to provide greater access to high-quality educational resources, the FSG will re-examine state, county, and municipal educational mandates to ensure that the Museums' programs support public schools' curricula. In addition, the FSG will devote more resources to develop long-term teaching materials based on the Museums' world-renowned collections, and to add more educational content on the FSG website to make it the premier online U.S. resource for information on the arts of Asia.

The FSG will achieve the strategic goal of Strengthening Collections by continuing to devote resources to its internationally renowned conservation department and laboratory. The department is led by a director who is one of the most respected figures in the field. In FY 2017, curators and researchers will continue to study and publish new research on the collections, including ancient Chinese art from Dr. Paul Singer's collection. With a grant from the Andrew Mellon Foundation, the FSG established an endowment for a mid-level position for Chinese painting conservation, and, in collaboration with the Mellon Foundation, is building a nexus of institutions in the United States, China, and Europe to ensure adequate succession planning in a field where many leading practitioners are due to retire within a very few years of each other. Additionally, the FSG will continue its research into Nazi-era provenance issues, further strengthening international ties developed in previous years. FSG is also collaborating with the Carnegie Museum of Art to develop a linked-open-data facility for provenance research that is expected to be of major benefit to the entire field.

To meet the goal of Mission Enabling, the FSG will continue to improve its administrative efficiencies and reporting mechanisms, ensuring that its workforce is efficient and skilled, and to adopt best practices for safeguarding Smithsonian resources. The FSG continues to dedicate training funds to leadership and supervisory training to

equip our managers and supervisors with the information, skills, and tools to make effective decisions. An impressive proportion of senior management has gone to leadership training at the Center for Creative Leadership, and more than 80 percent of staff have attended project management training. The FSG strategic plan continues through FY 2017 and aligns with the Smithsonian's overall strategic plan in terms of both timing and goals. The FSG continues to closely track progress against its strategic plan through the use of its management tracking system commissioned from AchieveIT. This new system enhances accountability by linking the strategic plans and goals of the Museums directly to departmental activities and outputs.

NONAPPROPRIATED RESOURCES — General trust and donor/sponsor-designated funds are generated from memberships, revenue sharing from Museum shop sales and the Smithsonian Channel; participation fees from traveling exhibition venues; special events; unrestricted and restricted gifts and grants; and endowment income. The Museums are highly dependent upon nonappropriated sources of income to provide the quality of exhibitions, programs, and publications expected by visitors and scholars, both online and on site.

CENTER FOR FOLKLIFE AND CULTURAL HERITAGE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	17	2,503	9	1,724	3	471	5	2,262
FY 2016 ENACTED	17	2,581	14	2,588	7	2,200	0	1,100
FY 2017 REQUEST	18	3,122	12	1,716	14	5,500	0	500

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	2	435	2	439	0	4
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	1	120	2	203	1	83
Exhibitions						
Offer compelling, first-class exhibitions	6	870	6	1,078	0	208
Revitalizing Education						
Education						
Engage and inspire diverse audiences	2	217	2	219	0	2
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	2	226	2	456	0	230
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	0	215	0	217	0	2
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	100	0	102	0	2
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	129	1	131	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	60	1	62	0	2
Modernize the Institution's financial management and accounting operations	2	209	2	215	0	6
Total	17	2,581	18	3,122	1	541

BACKGROUND AND CONTEXT

The Center for Folklife and Cultural Heritage (CFCH) is a research, collections, education, and public programming unit of the Smithsonian Institution with the mission to “promote greater understanding and sustainability of cultural heritage across the United States and around the world.” It is the largest of a triumvirate of federal offices (with the Library of Congress’ American Folklife Center and National Endowment for the Arts, or NEA’s, Folk and Traditional Arts program) that supports traditional arts and culture in the United States and abroad. For nearly five decades, the CFCH has accomplished this mission through research, documentation, preservation, presentation, education, social enterprise, and publication. It has collaborated with thousands of organizations, foundations, and governments in the United States and worldwide. The Smithsonian Folklife Festival and Smithsonian Folkways Recordings are its most visible products, reaching more than 66 million people each year and earning major recognition, including one of the first Best Practice Citizen Diplomacy awards from the U.S. Center for Citizen Diplomacy, 26 Grammy Award nominations, seven Grammys, one Latin Grammy, and 26 Independent Music Awards.

The CFCH, with its highly qualified staff, nearly one-quarter of whom hold doctoral degrees, and first-rate production capabilities for public events, also produces multi-media website features and publications, exhibitions, documentary films, symposia, print publications, educational materials, and more. Ethnographic research and documentation are fundamental to all of its products and anchor its active engagement in high-profile international cultural heritage policy forums. Its Ralph Rinzler Folklife Archives and Collections house, preserve, and provide access to its world-class collections. Professional training efforts offer opportunities for more than 130 interns each year and include hosting advanced study Fellows from countries around the world.

The FY 2017 Budget request is for an increase of \$541,000, including \$28,000 for necessary pay and other related salary costs for existing staff funded under this line item. Additionally, the request includes an increase of \$230,000 to rent new space that will provide adequate storage for national collections. There is also an increase of \$200,000 for the annual Folklife Festival to comply with rigorous new National Park Service regulations governing the use of the National

Mall. All of the above increases are explained in the Fixed Costs section of this budget. The request also includes \$83,000 and 1 FTE for digitization.

MEANS AND STRATEGY

Research, production capacity, and entrepreneurial resource leveraging are the keys to how the CFCH accomplishes its core mission. Earned revenues are used to employ half of its staff, create its public products, and deliver them to a broad national and international public of tens of millions. Institutional collaboration and major public impact nationally and internationally are also key to fulfilling its mission. Institutional collaborations (more than 100 partnerships in the past five years), fund raising, and mission-driven business activities leverage the Center's modest federal investment many times over to reach millions of people per year.

The CFCH achieves this through the Smithsonian Folklife Festival (with 4.4 million visitors on site and online), Smithsonian Folkways Recordings (with more than 44 million listeners via recordings, radio programs, downloads, and audio streams), websites and social media (18 million visits), the Smithsonian Cultural Sustainability Initiative, and other products. The CFCH also periodically applies its event production capacity to put on other major, national cultural events consistent with its mission, such as the National World War II Reunion, the First Americans Festival for the opening of the National Museum of the American Indian, and programs for the Olympic Games and Presidential inaugurations. In 2014, the CFCH finalized a new strategic five-year plan, which sets ambitious goals for the future and harmonizes its work with the Strategic Plan of the Smithsonian as a whole; this realignment can be seen in the reallocation of funds across program categories. As of 2016, the CFCH is making remarkable progress at meeting these goals, which include specific metrics for publications, reaching new audience members, and partnerships. In 2016 and 2017, the CFCH will collaborate with at least nine Smithsonian units, 15 nonprofit organizations, at least two other federal agencies, and three foreign countries to create and deliver programmatic content.

The summer of 2017 marks the 35th anniversary of the NEA National Heritage Fellowships and the 50th anniversary of the Smithsonian Folklife Festival. In partnership with the NEA, the Smithsonian Folklife Festival will present a major program, *America's Living Treasures: Celebrating the National Heritage Fellows*, to shine a spotlight on the rich array of exemplary individuals and groups that have been honored by the NEA's National Heritage Fellowships, the nation's highest award for excellence in the traditional arts. In addition, the Festival will feature two other programs. *Circus Arts* will tell the remarkable story of the immigrant families that carried circus arts to the United States, the unique community they forged, and the contemporary renaissance in circus arts; this program is being done in a partnership with the Ringling Museum, which is part of Florida State University. *Cuba: Convergence, Creativity, and Color* will

highlight the rich cultural diversity of Cuba, where Iberian traditions have mixed for centuries with African, indigenous, Asian, and Arab ways of life to produce one of the most vibrant and complex cultures in Latin America. Because the National Mall will be reopened after its renovation, the Festival will take place once again on the Mall between 7th and 14th Streets.

Also in 2016 and 2017, the CFCH will further harness the power and reach of the Web to broaden access to Festival content far beyond Washington, DC, through programmatic features proceeding, during, and following the 10-day Mall event. The CFCH will accomplish this by further increasing the interactivity of its websites, aggressively aiming to increase visits to all of its websites by two million in 2017, for a total of 21 million. The CFCH is also continuing its partnership with e-Pals, a social learning platform that provides a course on cultural heritage developed by the Center and tied to the core curriculum, to reach one million teachers and 11 million students around the globe.

Smithsonian Folkways Recordings will release more than 100 productions in FY 2016, including 100 albums from the UNESCO Collection of Traditional Music from dozens of countries around the world. In 2015, it produced a five-CD boxed set of Leadbelly's music. Folkways will continue its *African American Legacy* and *Tradiciones/Traditions* series of African American and Latino music, producing at least six albums of new material. A multi-disc box set on hip-hop traditions will be released in 2016 to coincide with the opening of the National Museum of African American History and Culture (NMAAHC), and the CFCH will also release a major box set to highlight the enduring musical contributions of Pete Seeger.

In addition, Folkways will continue to extend its reach to millions more listeners, distributing its 3,000 album titles and 48,000 tracks of audio to teachers, students, scholars, and the general public. Digital distribution will expand further, opening new horizons for the creation and delivery of the Center's educational content via downloadable audio streams, "podcast" feeds, and multi-media video features. Folkways will also bolster its million-plus circulation of digital content from non-Smithsonian websites such as iTunes U, now available in more than 67 countries. It will expand its collaboration with private partners to deliver the entire Folkways collection to more than 560 libraries throughout the continent and beyond. The *Musica del Pueblo* virtual exhibition will expand its offerings of American and Latin American content by featuring even more video and audio recordings as well as text from and about Latino roots musical traditions. This mission-critical content will also generate additional revenues through online and retail sales.

A third signature program, the Smithsonian Cultural Sustainability Initiative, invigorates the Center's long-established commitment to community engagement, cultural documentation, and support of cultural vitality. Three new five-year programs respond to the urgency of the need to save endangered

languages and cultural expressions and the associated loss of their knowledge: a USAID-funded “Integrated Development Program to Preserve Cultural Heritage and Improve Sustainable Livelihoods in Ethnic Tibetan Communities in China” and “My Armenia,” which is linking cultural heritage preservation with sustainable tourism development in innovative ways. The CFCH has also launched a major, privately funded initiative for “Sustaining Minority Languages in Europe” (SMiLE), which is part of the Smithsonian’s larger Recovering Voices Initiative.

Center curators and research staff will continue to publish books, articles, and Web features, and make professional presentations at gatherings of specialists. In addition, we have set aggressive publication targets for the entire Center. The CFCH’s cultural heritage policy team will continue its vital participation in U.S. and UNESCO cultural heritage policy formulation by consulting with the U.S. Department of State, cooperating with UNESCO, and collaborating with other national and international organizations.

The yield from ethnographic research and multi-media primary sources will add to the Ralph Rinzler Folklife Archives and Collections’ strategically important holdings of music and cultural traditions from the United States and around the world. Both the Folklife Festival and Smithsonian Folkways draw from and contribute to the world-class holdings of the Ralph Rinzler Folklife Archives and Collections. Containing a dozen record labels, more than a half century of documentary research, and extraordinary records of grassroots cultural traditions from around the globe, it provides a *sine qua non* folklife resource for both researchers and the public alike. In recognition of its important holdings, UNESCO designated the Frances and Moses Asch Collection as part of its History of the World in 2015. The Folklife Archives will tackle three main challenges in 2017 — receiving a plethora of incoming ethnographic research; ingesting the vast collections associated with the acquisition of Arhoolie Records; and assessing, cataloguing, preserving, and making available endangered, valuable, multi-media holdings through prioritization of delicate and critical collections materials. Central funds from within the Institution will further support the Rinzler Archives’ digitization and dissemination efforts.

Through these activities, the CFCH will take major steps to fulfill the Smithsonian Grand Challenges of Understanding the American Experience and Valuing World Cultures. The CFCH will contribute to the Smithsonian’s strategic goals of Broadening Access and Mission Enabling by continuing to improve its information technology infrastructure and related project budgeting and planning.

EXPLANATION OF CHANGE

The FY 2017 Budget request is for an increase of \$541,000, including \$28,000 for necessary pay and other related salary costs for existing staff funded under this line item. Additionally, the request includes an increase of \$230,000 to rent new space that will provide adequate storage for national collections. There

is also an increase of \$200,000 to comply with rigorous new National Park Service regulations governing the use of the National Mall. All of the above increases are explained in the Fixed Costs section of this budget. The request also includes +\$83,000 and +1 FTE for digitization.

Digitization (+\$83,000, +1 FTE)

The Budget request includes an increase of \$83,000 and 1 FTE to provide the necessary support to create and sustain a robust digitization program. The increase will enable CFCH to: 1) interface with Digitization Program Office (DPO) staff in planning and executing mass-digitization projects; 2) support implementation of the unit digitization plans; 3) provide access to unit collections, research, and programs by creating, managing, and promoting the museums' digital assets; and 4) provide responsible stewardship of digital assets. The additional funds will increase access to the national collections for visitors, scholars, students, and learning communities worldwide.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of approximately one-quarter of the CFCH's personnel, and revenues from Folkways Recordings pay nearly half of staff salaries and expenses. Donor/sponsor-designated funds cover costs related to specific projects such as the Smithsonian Folklife Festival and several other educational programs. With the support of the Smithsonian National Campaign, the CFCH has raised \$3.79 million (or 94.9 percent) of its \$4 million goal to increase private funds in support of the Center's mission.

COOPER HEWITT, SMITHSONIAN DESIGN MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	36	4,755	28	3,712	24	10,886	0	118
FY 2016 ENACTED	36	4,810	29	4,535	21	8,600	0	100
FY 2017 REQUEST	40	5,105	29	4,580	21	8,685	0	100

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	4	342	4	347	0	5
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	104	1	107	0	3
<i>Public Programs</i>						
Provide reference services and information	1	124	1	125	0	1
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	4	312	4	315	0	3
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	257	3	260	0	3
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	7	1,939	9	2,086	2	147
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	11	1,099	13	1,225	2	126
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	168	1	170	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	109	1	110	0	1
Modernize the Institution's financial management and accounting operations	2	267	2	270	0	3
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	89	1	90	0	1
Total	36	4,810	40	5,105	4	295

BACKGROUND AND CONTEXT

Cooper Hewitt, Smithsonian Design Museum (CHSDM), in New York City, is one of two Smithsonian museums located outside of Washington, DC. CHSDM is the only museum in the nation dedicated exclusively to historic and contemporary design. Its collection is international in scope and encompasses 212,000 objects representing 30 centuries of design, from China's Han Dynasty (200 B.C.) to the present. The Museum presents compelling perspectives on the impact of design on daily life through educational programs, exhibitions, and publications.

As the design authority of the United States, CHSDM's programs and exhibitions demonstrate how design shapes culture and history — past, present, and future. To achieve the Institution's strategic goals of Broadening Access and Revitalizing Education, the Museum will continue its dynamic exhibition programming and active roster of educational and public programs, as well as expand the number of programs offered in venues outside the New York metropolitan area in 2017. Together, these programs will help CHSDM engage larger, more diverse audiences, and fulfill its mission to serve as a catalyst for design education throughout the nation and internationally.

The Museum devotes resources to ensure the advancement of knowledge in the humanities by fostering a greater understanding of the role of design in everyday life and its impact on shaping the built environment of the past, present, and future; and to encourage the "by-products" of design thinking — such as creative problem solving and teamwork — in other disciplines and areas of life, through interactive, engaging, in-person and online experiences.

The FY 2017 Budget request includes an increase of \$295,000. This increase includes: \$136,000 for two additional curatorial positions; \$100,000 for two facilities custodial positions; \$51,000 for necessary pay and other related salary costs for existing staff funded under this line item; and \$8,000 to support rent costs, which is explained in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

In FY 2017, Cooper Hewitt will continue to transform the Museum visit from passive to participatory with the most innovative, educational, and interactive exhibitions for the public, focusing on the design process. The Museum will present several exhibitions, among them *Design with the Other 90%: USA*, the third exhibition in the Design with the Other 90% humanitarian design exhibition series and the first to focus on conditions in the United States, and *Jazz Age: Art & Decoration in 1920's America*, the first major museum exhibition to focus on the role of the United States on the world stage of design and decoration during the exhilarating years of the 1920s. The Museum will also produce publications to accompany these exhibitions.

CHSDM resources will continue to support the strategic goal of Excellent Research, ensuring the advancement of knowledge in the humanities through exhibition-related scholarly research to create the most innovative and educational exhibitions for the public.

To achieve the goal of Strengthening Collections, the Museum expects to have completed the digitization of the entire collection by FY 2017. The Museum will also continue to support an on-site graduate program with the New School/Parsons on the history of design and curatorial studies, which will enable students and scholars to access objects in CHSDM's collections.

CHSDM will achieve the goal of Revitalizing Education by continuing to engage and inspire diverse audiences through efforts locally in the Museum and through continued national outreach. Cooper Hewitt offers a wide variety of educational opportunities and programs, most of which are free. The goal across all of the programs is to engage K–12 students in the design process through active observation, critical discussion, creativity, and presentation. The programs foster collaboration among students, teaching them how to work in teams, and to define problems and find solutions, while improving their verbal and written communication skills. Cooper Hewitt will welcome students to the Museum and continue to bring design workshops into classrooms in New York. The national pilot program in Cleveland, Minneapolis, New Orleans, San Antonio, Los Angeles and Washington, DC has resulted in collaborations in multiple cities and provided data that will help the continued expansion of this program across the country.

The Museum will also continue to offer an expanded Smithsonian Design Institute program nationally as well as in New York City. This program is geared to K–12 educators, which draws a steadily increasing national and international audience each year, and is the core of the Museum's training model.

CHSDM plans to make its educational opportunities available to a much broader audience in FY 2017 through greater use of the Web and fortified partnerships across the nation. In particular, the Museum plans to devote

resources to increase the accessibility of educational programs through its website for K–12 teachers, (www.educatorresourcecenter.org), expanded components of the *City of Neighborhoods* educational programs, and Smithsonian Design Institute educational programs, to make program resources available to broader audiences. The Educators' Resource Center is a website that uses downloadable lesson plans aligned to national standards to show K–12 teachers how design-based learning works with diverse learning styles. These online tools provide educators with the resources they need to engage in the design process and use it effectively in their classrooms.

To further the Smithsonian's goal of Mission Enabling, CHSDM will enhance its reputation, and that of the Smithsonian, by continuing to secure significant media coverage across national and international print and digital platforms such as *The New York Times*, *The Washington Post*, and *The Wall Street Journal*, as well as general interest publications and those relating to all fields of design, and increase the Museum's social media presence. Cooper Hewitt will maintain and cultivate substantive relationships with the public, its existing membership community, state and local governments, children, educators, business leaders, and designers.

EXPLANATION OF CHANGE

The budget estimate includes an increase of \$295,000. This increase includes \$136,000 for two additional curatorial positions, \$100,000 for two facilities custodial positions, \$51,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$8,000 to support rent costs, which are explained in the Fixed Costs section of this budget submission.

Collections Scholarship (+\$136,000, +2 FTEs)

With 60 percent more gallery space in the renovated Museum and CHSDM's ambitious digital initiatives, additional collection support is required for collections scholarship and management. These positions will support cataloguing, research and publications about the collection objects. The positions will support acquisition research and preparation, and provide assistance with upcoming exhibitions and gallery rotations with a strong emphasis on digital content.

Facilities Custodial Positions (+\$100,000, +2 FTEs)

To provide a high-quality experience for visitors to the Museum and the renovated garden which is now open to the public, CHSDM requests two facilities custodial positions to support the upkeep of the 6,000 square feet of public space gained from the renovation, the public garden and the Museum offices.

NONAPPROPRIATED RESOURCES — Nonappropriated resources support 70 percent of the Museum’s operating budget. General trust funds are generated from memberships, Museum shop sales, admissions, special events, and unrestricted contributions. General trust funds support salaries and benefits of administrative personnel, development and business activities, and other program-related costs. The Museum also raises funds from private sources to support research, exhibitions, public programs, and administrative functions. This includes securing contributions for new exhibitions, educational initiatives, and public outreach. Donor/sponsor-designated funds are critical to support exhibitions and educational initiatives. In addition, significant endowment gifts support research, exhibitions, public programs, and administrative functions.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	37	4,301	3	1,395	20	3,782	0	0
FY 2016 ENACTED	37	4,414	3	1,676	20	5,939	0	0
FY 2017 REQUEST	41	4,913	3	1,676	20	5,939	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	2	196	2	199	0	3
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	1	115	3	403	2	288
Public Programs						
Provide reference services and information	2	180	2	183	0	3
Exhibitions						
Offer compelling, first-class exhibitions	11	1,500	11	1,521	0	21
Revitalizing Education						
Education						
Engage and inspire diverse audiences	3	328	3	332	0	4
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	7	911	9	1,073	2	162
Mission Enabling						
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	78	1	79	0	1
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	95	1	97	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	201	2	204	0	3
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	160	2	163	0	3
Modernize the Institution's financial management and accounting operations	3	387	3	393	0	6
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	263	2	266	0	3
Total	37	4,414	41	4,913	4	499

BACKGROUND AND CONTEXT

The Hirshhorn Museum and Sculpture Garden (HMSG) is a leading voice for contemporary art and culture, providing a national platform for the art and artists of our time. The Museum seeks to share the transformative power of modern and contemporary art with audiences at all levels of awareness and understanding by creating meaningful, personal experiences in which art, artists, audiences, and ideas converge. The HMSG enhances public understanding and appreciation of contemporary art through acquisition, exhibitions, education and public programs, conservation, and research.

The Museum allocates resources to further the Institution's goals so that progress toward one goal advances work toward the others. For instance, through its efforts to pursue the goal of Excellent Research, the HMSG has developed a deep expertise in conserving time-based media works that are at the forefront of contemporary art, and this knowledge enables the Museum to sustain these works under the strategic goal of Strengthening Collections, and to display these works in compelling exhibitions under the goal of Broadening Access.

The HMSG dedicates a significant portion of its resources to the Institution's goal of Broadening Access, primarily through its presentation of insightful, deeply researched exhibitions of modern and contemporary artists, many of them with novel thematic interpretations that win critical and public acclaim. The HMSG supplements these exhibitions with an active roster of public programs, scholarly publications, and carefully selected images in original catalogues, and through continued progress in digitizing images of every work in the collection and highlighting them on the Museum's redesigned website.

The Museum's extensive collection is central to its purpose, and, pursuant to the Institution's goal of Strengthening Collections, the HMSG dedicates another substantial portion of its resources to the preservation of its thousands of artworks. These artworks have been highlighted in several collection shows, such as *At the Hub of Things*, *Le Onde*, and *In the Beginning* in FY 2016. *In the*

Beginning will continue into FY 2017. The strength of this collection and the need to preserve it will be highlighted significantly as the Museum moves into its fifth decade, with plans for additional showcases of its unique collection. Moreover, the HMSG continues to make these artworks available to museums around the country with a very active loan program, and lends staff expertise on conservation matters to arts organizations worldwide.

The Museum contributes to the strategic goal of Revitalizing Education with ARTLAB+ and numerous educational programs, including a gallery guide program that serves the Museum's diverse audience and encourages viewers to learn about various fields of contemporary culture. The educational programs also make strong efforts to bring senior, non-museum education professionals into the Museum to expand on the HMSG's didactic approaches. ARTLAB+ is a digital media studio for local teenagers, giving them access to professional technology and art, and connecting them to artist mentors who build a community of young creators. ARTLAB+ has been a signature achievement of the Museum and has received critical acclaim from the broader educational community and from one of its primary funders, the MacArthur Foundation, as well as support from the Pearson Foundation and the Smithsonian Youth Access Grant. The Museum also pursues the goal of Mission Enabling by constantly improving its financial and administrative management tools and procedures.

The FY 2017 Budget request includes an increase of \$499,000. This increase includes \$63,000 for necessary pay and other related salary costs for existing staff funded under this line item, \$150,000 for Collections Scholarship, and \$286,000 for Digitization Support.

MEANS AND STRATEGY

In FY 2017, Excellent Research continues as the Museum further develops a major public forum on the intersections of art, design, technology, and education, featuring international subject-matter experts and an interactive online component, effectively extending participation to audiences far beyond the walls of the Museum. Also, the Museum will continue to expand its series of online and on-site programs dealing with the role of technology and new media in contemporary art, museum culture, and digital education.

FY 2017 exhibitions will remain at the forefront of the HMSG's missions to broaden access to the arts and, specifically, to increase public understanding of and engagement with modern and contemporary art. FY 2017 exhibitions will include:

- The Museum will open the fiscal year in October 2016 with *Ragnar Kjartansson*. Organized by the Barbican Centre in London, this exhibition will be the first mid-career survey of the Icelandic artist's wide-ranging projects in film, performance, painting, and drawing. Kjartansson's work explores the boundaries between fact and fiction, as well as myth and identity.

- In November 2016, Los Angeles artist Mark Bradford will transform the Museum's galleries on the third floor with a special, site-specific commission installed along the full 400-foot circumference of the inner wall. Referencing a speech written for, but never delivered at, the 1963 civil rights March on Washington, Bradford's community-driven work will be augmented by complementary public programming being developed in partnership with Howard University.
- In February 2017, the Hirshhorn will serve as the premiere venue for *Yayoi Kusama: Infinity Mirrors*. Spanning more than five decades of creative output, the exhibition, which is anticipated to attract large crowds, will focus on the evolution of the Japanese artist's immersive, multi-reflective *Infinity Mirror Room* installations, exploring the meaning of the mind-bending works within the larger arc of the artist's oeuvre, including painting, sculpture, and other works. The Hirshhorn is organizing the exhibition and developing plans to tour it nationwide.
- Coinciding with the 2017 Smithsonian Folklife Festival's anticipated focus on Cuba, and co-organized by the Hirshhorn, the Museum of Fine Arts in Houston, the Walker Art Center, and the Cisneros Fontanals Art Foundation, *Adiós Utopia* will be the first major historical survey of postwar Cuban art in the United States. The exhibition will bring together more than 100 works — painting, graphic art, photography, video, installation, and performance — created in Cuba during the past 65 years, shedding light on important moments in Cuba's modern history; from the 1959 Revolution to the present.
- FY 2017 will close with the opening of two major projects, yet to be announced, which will carry into FY 2018: a thematic exhibition exploring the commodification and mechanization of art objects during the 1980s, and a large-scale, 360-degree projection by a major artist covering the façade of the Hirshhorn's iconic building.

The major exhibitions presented in FY 2017 will be complemented by a combination of public tours led by gallery guides and invited specialists, lectures and other public programs, as well as brochures, catalogues, and online educational resources.

With a redesigned website, the Museum will further the goal of Broadening Access by engaging with local and remote audiences as they draw information from individualized knowledge portals. The HMSG will also refine its communication procedures to diffuse deep knowledge of contemporary art and culture, whether presented in the Museum or elsewhere, and not merely describe events in superficial terms. The Museum will continue to publish original catalogues to complement the viewing of its exhibitions as well as other books that examine modern art, design, and cultural shifts of the early 21st century.

The Museum will support Revitalizing Education with a range of programs geared toward people with varying levels of art experience and cultural interests, and by expanding or revising the concept of a museum as a center of learning. As in previous years, one or more working artists will lead youth and teacher workshops for K–12 teachers and students. Artists will also present their ideas and inspirations to people of all ages in the “Meet the Artist” programs and “In Conversation” interviews and panel discussions. The Museum will draw upon a wide pool of artists, researchers, and experts from unexpected fields to provide interpretive tours in Friday Gallery Talks. It will present Washington’s most thought-provoking film series, portraying art and critical thought from independent artists and documentary film makers from around the world. In concert with educational foundation sponsors, the HMSG will expand the ARTLAB+ program throughout the Museum to create an environment where teenagers can attend workshops to learn about and explore digital media. The Museum will also sustain its “Interpretive Guides” program, which brings advanced art students into the galleries to aid visitors’ critical experience with art on display, and which develops the students’ own education objectives and teaching skills.

In FY 2017, the Museum’s main action to achieve the strategic goal of Strengthening Collections will involve the planning and fundraising effort to reconfigure the office and storage space on the fourth floor, and move the Conservation Lab from the basement to the fourth floor, where natural light will greatly enhance the Lab’s activities. In addition, the HMSG will further develop itself as a center for research and preservation of time-based media (e.g., film, digital video, and audio) artworks, by integrating the work of conservation and exhibits to provide leading-edge presentation and responsible stewardship of the analog and digital time-based media artworks in the Museum’s collection.

The Museum will also continue its efforts to photograph and catalogue the entire permanent collection, bringing more of the collection to the public via extensive search features on the HMSG public website.

Under the goal of Mission Enabling, the Museum will continue to pursue capital projects that merge the functional with the artistic through the inclusion of artists and designers with central Smithsonian engineering staff. The Museum will continue to refine its public spaces for visitors who apply mobile technology in every facet of life, and expect access to Web-based knowledge and social media platforms to enliven their interpretive experience as they explore Museum galleries. The HMSG administration will continue to institute long-range program planning reviews to improve resource allocation, funds management, and more effective cost sharing with outside organizations that help support major exhibitions and programs. By identifying and working with partners in the private sector, HMSG senior leaders leverage the Museum’s federal appropriations to the maximum extent possible.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$499,000. This includes \$63,000 for necessary pay and other related salary costs for existing staff funded under this line item. The request also includes programmatic increases of \$150,000 and 2 FTEs for Collections Scholarship and \$286,000 and 2 FTEs for Digitization Support, as detailed below.

Collections Scholarship (+\$150,000, +2 FTEs)

The Budget request includes an increase of \$150,000 and 2 FTEs for additional curators. The Museum's current curatorial staff has significant gaps in their ability to research, interpret, exhibit, and care for the national collections. These gaps include critical subject areas, chronological periods, and program execution. In recent years, the Museum has lost a significant number of curatorial personnel, which has seriously depleted the HMSG's scholarly foundation. The Museum must rebuild its curatorial strength to support excellent research, exhibitions, and the digitization of the nation's vast collection of artifacts. Specifically, these positions will fill the highest priority gaps in our scholarly foundation. The Museum needs expertise to manage its current collections, expand its collections to new areas, and provide the scholarly resources to meet its goals for exhibitions, publications, and educational outreach. This investment in rebuilding the Museum's collections scholarship foundation is proposed as a federal-private partnership. The Museum is seeking endowed positions, supported by private donors, to match the federal investment.

Digitization Support (+\$286,000, +2 FTEs)

This Budget request of \$286,000 and 2 FTEs will provide the necessary support to create and sustain a robust digitization program. The increase will enable the Hirshhorn to: 1) interface with Digitization Program Office (DPO) staff in planning and executing mass-digitization projects; 2) support implementation of the unit digitization plans; 3) provide access to unit collections, research, and programs by creating, managing, and promoting the Museum's digital assets; and 4) provide responsible stewardship of digital assets.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of administrative and development personnel, as well as some programs and public relations staff, development activities, and exhibition and program-related costs. Donor/sponsor-designated funds support development, exhibitions, public programs, communications, and marketing.

NATIONAL MUSEUM OF AFRICAN ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	27	4,227	5	1,263	6	1,725	0	0
FY 2016 ENACTED	28	4,399	4	940	8	975	0	0
FY 2017 REQUEST	29	4,576	4	940	8	975	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	2	299	2	305	0	6
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	1	126	1	129	0	3
Public Programs						
Provide reference services and information	3	514	3	523	0	9
Exhibitions						
Offer compelling, first-class exhibitions	8	1,465	8	1,496	0	31
Revitalizing Education						
Education						
Engage and inspire diverse audiences	4	519	4	531	0	12
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	5	645	6	746	1	101
Mission Enabling						
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	198	1	201	0	3
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	4	633	4	645	0	12
Total	28	4,399	29	4,576	1	177

BACKGROUND AND CONTEXT

Africa — the cradle of humanity — is part of everyone’s heritage. The mission of the National Museum of African Art (NMAfA) is to inspire conversations about the beauty, power, and diversity of Africa’s arts and cultures worldwide. The Museum’s vision is to be the world’s leading center of scholarly and artistic excellence on the arts of Africa. The Museum accomplishes its mission and vision through effective use of its unparalleled collections, exhibitions, programs, publications, and educational initiatives, which are widely accessible and strengthened through collaborations with African, diasporic, and global arts communities. The Museum collects and exhibits ancient to contemporary works of art from the entire continent of Africa and follows best practices, including rigorous provenance research, in carrying out this work. The NMAfA’s activities and programming support the Grand Challenges of the Smithsonian’s Strategic Plan, particularly in the areas of Valuing World Cultures and Understanding the American Experience.

To achieve the goal of Broadening Access, the NMAfA dedicates resources to the Web and to the Museum’s social media capabilities, integrates accessible strategies and digital technology in exhibitions, provides online educational resources, and promotes public access to the Museum’s art and photographic collections. With the funds requested, the Museum will also implement measures to promote diversity and inclusion at NMAfA, at the Smithsonian, and at art museums generally. A key component of Museum operations is the creation of temporary and semi-permanent exhibitions of artworks from its own collection and from other museum and private collections. In FY 2017, the Museum will continue to present two temporary exhibitions, which opened in FY 2016. *Market Symphony* is a sound installation by Emeka Ogboh, a contemporary artist from Nigeria, and *Senses of Time* is a contemporary, time-based video exhibition developed in collaboration with the Los Angeles County Museum of Art (LACMA), where it will also be shown concurrently at the Wellin Art Museum at Hamilton College.

In FY 2017, a portion of the NMAfA’s 2014–2016 exhibition *Chief S.O. Alonge: Photographer to the Royal Court of Benin, Nigeria* will open at the National Museum in Benin City, Nigeria. The exhibition in Nigeria, which includes copies of Alonge photographs, exhibition text panels, and other materials, will remain on view indefinitely in Nigeria and involves collaboration with Nigeria’s National Commission of Museums and Monuments as well as training of Nigerian museum colleagues and outreach to communities in Benin City. The exhibition includes a scholarly publication with essays by NMAfA staff and invited scholars.

Selections from the Museum’s permanent collection will also remain on view, with periodic rotations, in the Museum’s *African Mosaic* gallery, which is dedicated for this purpose. The Museum revised its popular *Looking at African Art* gallery guide to assist visitors in understanding the forms, materials, and

messages of Africa's traditional and contemporary arts. In addition, in FY 2017, the Museum's *Walt Disney-Tishman Highlights* exhibition will be reinstalled, along with other works from the permanent collection, in the Museum's gallery. The exhibition will feature cross-cutting themes and will include selected open storage areas that feature permanent collections. The Museum will also continue to present a small exhibition entitled *Water*, which features aquatic-themed artworks from the permanent collection. The NMAfA will also implement a multi-year scholarly publication plan, developed in FY 2016, devoted to artists and objects represented in the permanent collection.

The Museum will continue developing an exhibition and publication on Ethiopian devotional art, slated for FY 2017 or FY 2018. The Museum will also prepare to open a small exhibition on Senegalese jewelry in the NMAfA's *Point of View* (POV) gallery. It will feature selected works from the Senegalese jewelry collection of Marian Johnson, which was donated to the Museum in 2012. The NMAfA staff will continue to develop exhibition plans for gallery space that is jointly shared with the Freer Gallery of Art and the Arthur M. Sackler Gallery.

In addition, the Museum will plan for an exhibition focused on African contemporary women artists, which may open in late FY 2017 or FY 2018. Finally, in FY 2017 or FY 2018, the Museum expects to work with an outside institution to host at least one traveling exhibition of African art.

The Museum will develop programming and educational outreach in connection with the above-mentioned exhibitions as well as its Teen Ambassador Program, in which area teenagers learn about the arts of Africa, engage with visitors through tours and outreach, and gain familiarity with museum careers. The Museum will present new educational programs online and expand its outreach to local communities and underserved or new audiences, particularly African immigrant communities and young adult audiences. Expanded educational outreach to U.S. schools is planned via videoconferences. Outreach to Ethiopian communities is planned in connection with the Museum's forthcoming temporary exhibition on Ethiopian devotional arts. In addition, the Museum will continue to catalogue objects and images from its collections for online access. In keeping with the Smithsonian's Strategic Plan, the NMAfA will forge meaningful collaborations within and outside the Smithsonian, and strengthen its networking nationally and internationally — particularly on the continent of Africa.

The NMAfA will achieve its goal of Broadening Access through organizational excellence by continuing to improve information technology (IT) operations, staff performance, and media relations and marketing. A comprehensive IT plan will integrate all of the Museum's IT operations. The Museum's website is updated regularly and continues to provide access to NMAfA collections, scholarship, and programming. A media and marketing strategy, renewed annually, will expand NMAfA's visibility and membership, and

promote its programs locally, nationally, and internationally. A fundraising plan, also renewed annually, will enhance the Museum's sustainable capacity to offer outstanding exhibitions, publications, programs, and outreach activities. Furthermore, the Museum will continue to assess its effectiveness in reaching out to educators, scholars, and the public by using visitor surveys and other performance evaluation tools.

As a way to establish the staff as stakeholders in the success of the NMAfA, the goals of the Museum's strategic plan and the Secretary's goals will continue to be integrated into the performance plans of all staff members. Emphasis will be on public visibility and customer-centered performance. At the same time, quality programming and ongoing research will continue to be the foundation for all NMAfA programs, including exhibitions.

The Museum will continue to increase its public visibility and fulfill its mission to various stakeholders, including students, teachers, cultural community organizations, the diplomatic corps, African immigrant groups, scholars, collectors, and volunteers located in the metropolitan Washington, DC area. An enhanced Web presence and social media capabilities will expand the Museum's visibility and impact nationally and internationally.

The FY 2017 Budget request includes an increase of \$177,000 and 1 FTE. This includes \$97,000 for necessary pay and other related salary costs for existing staff funded under this line item and a program increase of \$80,000 and 1 FTE for collections management.

MEANS AND STRATEGY

The NMAfA will achieve the goals of Broadening Access and Revitalizing Education by directing resources to activities that will result in consistently high-quality programs and larger audiences. The Museum will provide greater Web and digital access to NMAfA collections through enhanced navigation features via eMuseum and multi-media applications, and by completing additional image and object catalogue records for the Museum's public access database. The Museum's website will continue to add content such as podcasts, blogs, Facebook, Twitter, and other social media options, as well as online educational resources and activities for teachers and younger audiences.

The Museum will continue to seek visitor feedback on exhibitions and programs, and implement performance assessments of its public programs. The NMAfA will also continue to engage with our diverse audiences through programming and, in particular, through outreach with teachers of primary, secondary, and college students, as well as with representatives from the Museum's African Immigrant Advisory Group and local community groups, and to seek input from these groups for exhibitions, programs, and activities. These efforts will result in more effective planning and development of programs and

services, which will enable the Museum to reach its target groups and expand its audience base. In addition, marketing strategies will be reviewed and tested to determine the most effective ways to communicate with diverse audiences.

Ongoing educational programs will include musical and dance performances, programs geared to younger visitors and family groups, such as reading, storytelling, and art-making activities, exhibition-related teacher/student workshops and teleconferences, and an annual Community Day. To attract mixed-generation and adult audiences, the NMAfA will present lectures with scholars and artists, gallery tours, community discussions, and film series linked to the ideas and themes explored in the Museum's current exhibitions and reflecting current trends in African-oriented and diasporan scholarship. In addition, the Museum will continue its successful Director's Series, featuring the NMAfA's director talking with leading figures associated with Africa and its diasporas.

The Museum will continue its quarterly Conservation Clinics to educate the public about conservation and the important relationships linking science, technology, and art. Ongoing quarterly Curatorial Clinics will continue to provide opportunities for members of the public to learn about African art forms, styles, materials, and contexts of use as part of museum connoisseurship and object quality assessments. To educate casual and serious collectors of African art, the Museum's website will include more helpful tips on object identification, assessment, and care.

To achieve the goal of Strengthening Collections, the Museum will continue online cataloguing of its art and photographic collections, with a focus on recent acquisitions, the Museum's collection of contemporary art, the Walt Disney-Tishman African Art Collection, and the Eliot Elisofon Photographic Archives. Digital access to these materials will facilitate research and study by students, teachers, scholars, conservators, and the public. The Museum will continue to integrate contextual photographs from the Eliot Elisofon Archives with related objects in the collection.

The Museum's *Walt Disney-Tishman Highlights* exhibition will be reinstalled in FY 2017, along with other works from the permanent collection, in a major reinstallation in the NMAfA's gallery. Thematically-organized, self-guided tours will be developed by Museum staff to facilitate greater public understanding of the arts of Africa. The NMAfA will also continue to use its *Looking at African Art* gallery guide, revised in FY 2015, to assist visitors in understanding the forms, materials, and messages of Africa's traditional and contemporary arts.

In FY 2017, the Museum will continue to present *Market Symphony*, a sound installation by Emeka Ogboh, a contemporary artist from Nigeria, and *Senses of Time*, a contemporary, time-based video exhibition developed in collaboration with the Los Angeles County Museum of Art (LACMA).

The Museum will continue developing an exhibition and publication on Ethiopian devotional art, slated for FY 2017 or FY 2018. The Museum will also prepare to open a small exhibition on Senegalese jewelry in the NMAfA's *Point of View* (POV) gallery. In addition, the NMAfA staff will continue to develop exhibition plans for gallery space that is jointly shared with the Freer Gallery of Art and the Arthur M. Sackler Gallery. The Museum will implement a multi-year scholarly publication plan, developed in FY 2016, that is devoted to highlighting artists and objects featured in the NMAfA's permanent collection.

In FY 2017, the Museum will also devote staff resources to the planning of exhibitions in FY 2018 and beyond, including possible exhibitions on the Mechanics of Art, Visionary Leadership, African Minimalism, the Creativity of Work, and possible loan shows developed by outside institutions. Staff members will also enhance displays of permanent collection artworks, with particular attention paid to audience engagement strategies. The Museum's emphasis on selected works from the NMAfA's permanent collection is cost-effective and designed to attract general audiences, collectors, and scholars, as well as local school groups that rely on consistently available works of art for their themed tours and curriculum projects. The Museum will continue to develop rotating exhibitions from the permanent collection for the small *Point of View* gallery and an adjacent gallery.

In addition, the Museum will plan for an exhibition focused on African contemporary women artists, which may open in late FY 2017 or FY 2018. Similarly, in the same time frame, the Museum expects to host at least one traveling exhibition of African art developed by an outside institution.

To address the strategic goal of Broadening Access, the NMAfA is focusing resources in several areas: IT operations, staff performance and accountability, and relations with the media. The Museum's IT plan has integrated information technology functions for administration, collections management, exhibitions, and public access. The IT plan will continue to be reviewed on an annual basis, with updates made as needed. Museum administrators will continue to use the strategic plan and feedback from visitor surveys to update NMAfA's operational plan and ensure quality public programs and experiences for all audiences.

The Museum integrates its strategic goals and operational plans, in concert with the Secretary's annual goals, into the performance plans for all NMAfA staff members. In addition, personnel and programmatic management responsibilities have been incorporated into the performance plans of all department heads to provide more effective review of programs, activities, and relevant projects. Educational brochures and special webpages will increase the educational value of NMAfA exhibits. Finally, the Museum will continue to forge strong relationships with the news media, corporations, foundations, community interest groups, and congressional representatives. Museum staff will accomplish

this by expanding the NMAfA's contact base and distributing more information than ever before about Museum activities, events, and programs.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$177,000 and 1 FTE. The increase includes \$97,000 for necessary pay and other related salary costs for existing staff funded under this line item and a programmatic increase of \$80,000 and 1 FTE for collections management.

Collections Management (+\$80,000, +1 FTE)

Recent Inspector General audit reports have identified a need to fill high-priority positions to care for and preserve collections, including ensuring full inventory control over collections, providing proper protection for collections at risk, and supporting a robust digitization program to make collections available online to national and international audiences. The NMAfA requires additional staff to assist with research and public collections inquiries; expand loan and digitization capacities to meet the growing demand for physical and digital access to collections; conserve fragile and at-risk collections, including time-based media and digital art; research and process new acquisitions and catalogue backlogged acquisitions; meet the expanding requirements of preparing exhibitions; improve collections emergency management and professional development training; and achieve and sustain inventory and preservation controls in support of responsible collections stewardship.

The funds requested (+\$80,000 and +1 FTE) will support the hiring of a collections information specialist and help the Museum enhance its capacity to complete object data records, establish and implement changes and authorities regarding terminology and data classification, alleviate a backlog of complete object data entry, and identify and correct errors in data entry — all of which will enable the NMAfA to achieve the strategic goals of Broadening Access to the public and Strengthening Collections in the process. Without this increase, the existing backlog will continue to grow and the Smithsonian will continue to fall behind in meeting its obligations to be responsible stewards of the national collections.

NONAPPROPRIATED RESOURCES — General trust funds support staff salaries, benefits, and travel. Funds raised from individual and corporate donors will support the NMAfA's major exhibition efforts, including exhibition-related publications, educational programming, and outreach initiatives. Corporate and foundation sponsorships support the planning and development of exhibitions, including installation expenses and exhibition-related public programming, travel, and curatorial collaborations.

Introduction, *Understanding the American Experience*

America is an increasingly diverse society that shares a history, ideals, and an indomitable, innovative spirit. The Smithsonian will use its vast resources across disciplines to explore what it means to be an American and how the disparate experiences of individual groups strengthen the country as a whole, and to share our story with the peoples of all nations.

RESEARCH Goal: The Smithsonian advances and synthesizes knowledge that contributes to understanding the American experience, particularly with regard to its history, art, and culture, as well as its connections to the rest of the world.

ACCESS Goal: The Smithsonian turns knowledge into awareness, action, and results, and encourages American cultural vitality.

UNITS primarily associated with this Grand Challenge:

- **Anacostia Community Museum**
- **Archives of American Art**
- **National Museum of African American History and Culture**
- **National Museum of American History, Behring Center**
- **National Museum of the American Indian**
- **National Portrait Gallery**
- **National Postal Museum**
- **Smithsonian American Art Museum**

ANACOSTIA COMMUNITY MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	18	2,093	3	592	0	221	0	136
FY 2016 ENACTED	19	2,252	3	636	0	155	0	25
FY 2017 REQUEST	19	2,329	3	651	0	160	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	2	324	2	333	0	9
Ensure the advancement of knowledge in the humanities	1	139	1	147	0	8
Broadening Access						
Public Programs						
Provide reference services and information	3	404	3	414	0	10
Exhibitions						
Offer compelling, first-class exhibitions	3	387	3	399	0	12
Revitalizing Education						
Education						
Engage and inspire diverse audiences	1	72	1	76	0	4
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	4	429	4	450	0	21
Mission Enabling						
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	2	223	2	230	0	7
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	90	1	92	0	2
Modernize the Institution's financial management and accounting operations	1	92	1	94	0	2
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	92	1	94	0	2
Total	19	2,252	19	2,329	0	77

BACKGROUND AND CONTEXT

FY 2017 will mark the 50th anniversary of the Anacostia Community Museum (ACM). Founded on September 15, 1967 as the first federally funded, community-based museum, ACM has become a valuable cultural resource for the region and the country, setting a groundbreaking direction in terms of expanding on traditional museological thought and practice. The Museum's mission is to enhance understanding of contemporary urban experiences and strengthen community bonds by conserving the past, documenting the present, and serving as a catalyst for shaping the future. Its vision is to challenge perceptions, generate new knowledge, and deepen understanding about the ever-changing concepts and realities of communities.

The ACM focuses on community engagement and has adapted this philosophy in its approach to museum practices. From the Museum's inception, local residents — predominantly African American (currently approximately 90 percent) — have been concerned with the documentation, preservation, and interpretation of history and culture from a community-based perspective. Drawing on this background, ACM was the forerunner in developing collaborations with different sectors of its surrounding communities, including local historical sites, religious institutions, and arts, cultural, and civic organizations. Its mission resonates with similar communities throughout the region, nation and the world. Museum staff provide technical assistance to help community entities organize, document, and preserve their cultural heritage through research, exhibitions, education, and training programs.

For more than 10 years the Washington, DC metropolitan area has seen subtle but dramatic shifts in local demographics. With input from a broad range of stakeholders, the focus of the Museum was revised. The current ACM mission moves from a specifically local ethnic focus to one that examines issues impacting urban communities from a global perspective. The Museum is focused on the documentation and interpretation of the impact of historical and contemporary social and cultural issues on communities east of the Anacostia River and similar urban communities throughout the region, the country, and the world. Although the Museum's new identity is a return to its original charter as a community museum, the new direction focuses on addressing issues such as the environment, housing, health, education, urban development, and other cross-sections of community life that go beyond ethnicity.

The FY 2017 Budget request includes an increase of \$77,000 for necessary pay and other related salary costs for existing staff.

MEANS AND STRATEGY

The ACM will continue to work toward accomplishing the Institution-wide goal of inspiring generations through knowledge and discovery. The ACM will also continue to embrace the Smithsonian Grand Challenges and use its

resources, strengthened through collaborative efforts, in research, exhibitions, collections, and public and other education programs. Using resources which engage the broad range of Smithsonian and external partners, the ACM will draw upon specific things that bring groups of people together — social, ethnic, religious, geographic, and other commonalities. Specifically, the Museum will work with community partners to document and preserve local heritage, identify cultural materials at risk, document significant local cultural materials, and develop an interpretation and appreciation of them through regionally based educational activities, publications, and exhibitions. Through its website, the Museum will disseminate information on heritage and community preservation projects and provide access to its collections and research.

ACM staff have begun work on two major research projects: “Neighborhood Change” and “Unconventional Gateways,” each culminating with exhibitions to be mounted in December of 2016 and September 2017, respectively.

“Unconventional Gateways” takes a comparative look at contemporary Latino urban experiences in cities that are not readily associated with large immigrant populations. The exhibition will portray Latino urban experiences in Washington, DC, Raleigh and Charlotte, North Carolina, and Baltimore, Maryland, in terms of urban immigrant gateways, diverging from traditionally researched areas of Latino settlement in order to probe contemporary Latino urban issues of citizenship, racialization, and civil rights. This project will investigate the encounters between and among various cultural groups, concentrating on the dynamic human relationships and cultural products that emerge from Latino communities within these defined urban spaces. Research activities include interviews, oral histories, community meetings, photographic documentation, and focus groups, and will result in a Museum exhibition, publications, public programs, and other products.

Leading up to — and marking — the Museum’s 50th anniversary, the broad-based “Neighborhood Change” project is a culmination of the ACM’s longstanding commitment to researching, preserving, and presenting the history and issues of urban communities. The “Neighborhood Change” project will examine transformations in the urban neighborhoods and communities of Washington, DC from the perspective of residents and various stakeholders. It will investigate, document, and present research on how resident-collaborators have engaged and are continuing to engage with stakeholders and decision makers around changes in their immediate urban environment. The ACM will bring scholarship and formal research to this inquiry, as well as engage the memories and insights of community residents and of others directly involved. The Community Documentation Initiative provides the framework for the community-based documentation and research efforts for this project and includes oral history interviews, community-based collecting, and archival research, as well as ongoing collaboration with local civic organizations and residents. This initiative is expected to result in an exhibition and the delivery of

collections and research through online media, traditional publications, and the creation of ongoing public programs.

The Museum will mount the following three on-site exhibitions in FY 2017:

- *Unconventional Gateways* will be on view in the main gallery from December 5, 2016 through August 6, 2017.
- The second exhibit, yet unnamed, will complement *Unconventional Gateways* and will be mounted in the ACM Community Gallery. It will feature holdings from the Museum's permanent collection as they relate to immigration. It will be on view from October 17, 2016 through April 23, 2017. Drawing upon items from the permanent collection will require additional support for materials processing and preparation.
- The third exhibition, *Neighborhood Change*, will be on view from September 18, 2017 through September 16, 2018. The content will be directly linked to the 50th anniversary project of the ACM Community Documentation Initiative (CDI) and will include details of the Museum's history. This exhibition will examine transformations in the urban neighborhoods and communities of Washington, DC from the perspective of residents and various stakeholders. It will use case studies to explore specific community efforts in each quadrant of the city, and will enhance the capacity of neighborhood groups to recover and preserve their community histories by sharing Museum research and documentation results through public programs and online media.

The semi-permanent exhibition, *Bridging the Americas*, which opened in 2015, will remain on view in the ACM Program Room through 2018. In addition, the outdoor exhibition on baseball's Negro Leagues is now slated to be installed at Washington's Nationals Stadium prior to the team's season opener in April 2017.

The ACM is committed to applying a portion of its resources to engagement with the children and youth within the southeast Washington, DC community and beyond. Accordingly, the Museum Academy Program (MAP) out-of-school-time component will continue for students in the third through fifth grades. Currently housed at the Savoy Elementary School, by FY 2017 the plan is to replicate this program at the Rocketship Charter School now under construction across the street from the Museum.

NONAPPROPRIATED RESOURCES — FY 2017 general trust and other non-designated trust funds support the salaries and benefits of the Museum director, director of advancement, and development officer. These trust funds also support donor cultivation and fundraising activities that assist efforts to reach the ACM's Smithsonian Campaign fundraising goal.

ARCHIVES OF AMERICAN ART

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	17	1,859	2	528	17	2,076	0	0
FY 2016 ENACTED	17	1,880	3	682	14	2,068	0	0
FY 2017 REQUEST	18	2,005	2	610	13	1,978	0	0

STRATEGIC GOALS: BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	4	390	5	489	1	99
<i>Public Programs</i>						
Provide reference services and information	2	176	2	177	0	1
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	90	1	88	0	-2
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	8	934	8	928	0	-6
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	290	2	323	0	33
Total	17	1,880	18	2,005	1	125

BACKGROUND AND CONTEXT

Founded in 1954, the Smithsonian's Archives of American Art (AAA) is the world's pre-eminent and most widely used resource for original papers and other primary records documenting the visual arts in the United States. By collecting, preserving and making available more than 20 million unique letters, diaries, photographs, financial records, sketchbooks, scrapbooks, and the like, AAA shares and exemplifies the Smithsonian's mission for "the increase and diffusion of knowledge."

To achieve the Institution's goal of Broadening Access, AAA continues its ambitious digitization program, begun in 2005, to provide online access to a significant portion of its extensive holdings. AAA's website will continue to improve delivery of unprecedented numbers of new digital files, the core of which represents AAA's innovative work to digitize entire archival collections, representing hundreds of linear feet of materials, along with descriptive information, and provide engaging content, online exhibitions, and robust search and reference services. AAA's Lawrence A. Fleischman Gallery in the Donald W. Reynolds Center (DWRC) continues to reach new and diverse audiences.

The strategic goal of Strengthening Collections will be achieved by continuing to implement preservation actions based upon results derived from comprehensive and systematic collection assessment surveys. Particular focus will be on decreasing the backlog of unprocessed collections and audiovisual and born-digital holdings.

AAA will accomplish the goal of Mission Enabling through organizational excellence by continually assessing and enhancing staff development and maintaining conscientious oversight of internal controls.

The FY 2017 Budget request includes an increase of \$125,000 and 1 FTE. The increase includes \$29,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$96,000 and 1 FTE to support the digitization program.

MEANS AND STRATEGY

AAA will achieve the Institution's goal of Broadening Access by continuing to direct resources to optimize its presence in the DWRC and specifically by presenting compelling exhibitions in its Lawrence A. Fleischman Gallery. The exhibitions planned for FY 2017 include highlights from the Archives' African American collections in conjunction with the opening of the National Museum of African American History and Culture; an exhibition focusing on the odd jobs artists take to make ends meet; and an exhibition drawn from the papers of feminist artists to reflect the culmination of our recent feminist collections initiative.

In addition, through public programs, professional presentations, online exhibitions, and loans to other museums and institutions worldwide, AAA will continue to widen its audience and provide the public with a greater understanding of the history of visual arts in the United States.

In FY 2016, the Archives continued to redesign its website with a new visual identity using the flexible, open-source Drupal content management system. In FY 2017, the website will continue to be enhanced to promote public access and engagement. The staff, working with focus groups, will refine the collections search and browse interface and social media, incorporating

emerging trends and technologies as well as responsive design. AAA will continue to encourage public visits to its website by adding finding aids for processed collections; tens of thousands of images of digitized documents; transcripts and audio of interviews conducted for the Archives' Oral History Program; audio and video recordings; and online exhibitions.

Also, in FY 2017, AAA will continue to develop the Terra Foundation Center for Digital Collections with ongoing support from the Terra Foundation for American Art and other funding streams in the private sector. This effort, in combination with digitization completed for reference requests, exhibitions, loans, and special projects, will add an estimated 150,000 digital image files and continue to bring increased public Web access to AAA collections. In addition, AAA will continue developing its internal digitization and Collections Information System (CIS) application to ensure proper collections documentation and support increasingly complex workflows, including digitization on demand and use of the Aeon patron request management software launched in FY 2014 and FY 2015. These efforts will enable AAA to track the life cycle of the collections and oral histories from pre-acquisition to storage and access. AAA's investment in the digitization of its collections will be preserved by fully participating in the Smithsonian's Enterprise Digital Asset Network (EDAN) architecture, the Digital Asset Management System (DAMS), the Smithsonian Transcription Center, and other Smithsonian digitization program initiatives.

In FY 2017, the Archives' goal will be to process at least 10 percent of our backlog, or about 800 to 900 linear feet of materials, resulting in new, fully searchable finding aids added to AAA's website. In addition to preparing collections for full digitization and enhancing online finding aids to better support Digitization on Demand, this work will include processing numerous previously hidden and at-risk audiovisual collections. When possible, staff will continue to apply accelerated processing and preservation strategies to diminish AAA's backlog and digitize new accessions within one year of receipt. In FY 2017, a primary goal will be to maintain full implementation and documentation of processing strategies to provide enhanced access to born-digital content through online finding aids, similar to our earlier, successful strategies with audiovisual content.

AAA will continue to strengthen its collections stewardship through its ongoing, comprehensive collections assessment surveys, begun in 2004 for manuscript collections, and subsequently expanded to include at-risk audiovisual and born-digital holdings. Reports generated from this data provide valuable information about AAA's backlog and holdings so that the Archives' staff can make informed decisions about the best way to prioritize and allocate limited resources. AAA will take a leadership role in working with the larger Smithsonian archival community to initiate Institution-wide backlog processing projects that result in documented methodologies and tactics, shared contract services, and reduction in backlogs at participating units.

AAA will continue to provide researchers with access to its collections and microfilm in its Washington, DC and New York City research centers, as well as affiliated U.S. research centers, by providing remote reference services through its Web-based “Ask Us” form and interlibrary loan program.

The goal of Mission Enabling through organizational excellence will be addressed by continuing to implement the strategic goals of the Smithsonian, and by adopting best practices to safeguard and make the most cost-effective use of Smithsonian resources.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$125,000 and 1 FTE. The increase includes \$29,000 for necessary pay for existing staff funded under this line item and a programmatic increase of \$96,000 and 1 FTE to support the digitization program.

Digitization (+\$96,000, +1 FTE)

This requested increase of \$96,000 and 1 FTE will provide the necessary support to create and sustain a robust digitization program. The increase will enable AAA to: 1) interface with Digitization Program Office (DPO) staff in planning and executing mass-digitization projects; 2) support implementation of the unit digitization plans; 3) provide access to unit collections, research and programs by creating, managing and promoting the museums’ digital assets; and 4) provide responsible stewardship of our digital assets. The added funds will increase access to our collections for visitors, scholars, students, and learning communities all over the world.

NONAPPROPRIATED RESOURCES — General trust funds support AAA’s development office, including salaries and benefits. Donor-designated funds support specific programs and projects, including exhibitions, internships, production of oral history interviews, collections and media processing, and publication of the *Archives of American Art Journal*. In FY 2017, the Archives will work closely with its advisory board to continue to position the *Journal* as the leading scholarly journal in the field of American art history, by working closely with its advisory board to increase the number of high-quality submissions and by strengthening its relationship with the University of Chicago Press for the distribution and online publishing of the *Journal*.

Also in FY 2017, the Archives will continue to develop strategies for sustaining its digitization program by building an endowment to support critical staff and implementing improved rapid-capture technologies and techniques. Funding from the Terra Foundation for American Art supports AAA’s digitization program, new oral history interviews, and website development. AAA will continue to participate in the Smithsonian Institution’s National Campaign to raise money for digitization, oral history projects, collections management, and general operating expenses.

NATIONAL MUSEUM OF AFRICAN AMERICAN HISTORY AND CULTURE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	139	40,648	11	1,014	8	2,734	0	0
FY 2016 ENACTED	165	41,347	8	1,012	8	2,171	0	0
FY 2017 REQUEST	165	41,564	5	790	5	3,315	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	0	65	0	613	0	548
Ensure the advancement of knowledge in the humanities	32	2,693	32	2,996	0	303
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	9	2,614	9	2,614	0	0
Public Programs						
Provide reference services and information	15	1,255	15	1,255	0	0
Exhibitions						
Offer compelling, first-class exhibitions	11	4,450	11	3,771	0	-679
Revitalizing Education						
Education						
Engage and inspire diverse audiences	12	1,512	12	1,512	0	0
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	14	4,833	14	4,158	0	-675
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	5	4,841	5	4,622	0	-219
Security and Safety						
Provide a safe and healthy environment	1	88	1	88	0	0

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Information Technology						
Modernize the Institution's information technology systems and infrastructure	11	6,183	11	7,128	0	945
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	12	1,602	12	1,466	0	-136
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	711	3	711	0	0
Modernize the Institution's financial management and accounting operations	10	1,640	10	1,578	0	-62
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	5	1,610	5	1,690	0	80
Modernize and streamline the Institution's acquisitions management operations	5	396	5	396	0	0
Ensuring Financial Strength						
Secure the financial resources required to carry out the Institution's mission	20	6,854	20	6,966	0	112
Total	165	41,347	165	41,564	0	217

BACKGROUND AND CONTEXT

The National Museum of African American History and Culture (NMAAHC) was established by Congress to document, collect, conserve, interpret, and display the historical and cultural experiences and achievements of Americans of African descent. In late 2016, NMAAHC, the first environmentally sustainable, "green" museum on the Mall, will open to the public, providing a national meeting place for all people to learn about the history and culture of African Americans and their contributions to every aspect of American life. This effort will encompass the period of slavery, the era of Reconstruction, the Harlem Renaissance, the civil rights movement, and other periods of the African American Diaspora. The mission of the NMAAHC is to help all Americans remember the past and, by remembering, stimulate a dialogue about race and to foster a spirit of reconciliation and healing.

FY 2017 will mark the continuation and expansion in scope of major initiatives such as the building of a national collection, the development of the information technology (IT) program, making the Museum the first fully digital museum on the Mall, and the development and implementation of a robust research and education program.

The FY 2017 Budget request includes an increase of \$217,000 for necessary pay and other related salary costs for existing staff funded under this line item.

As authorized by Public Law 108–184, these funds are requested to remain available until expended.

MEANS AND STRATEGY

In FY 2017, NMAAHC's top priority will be to implement the first phase of its information technology (IT) program that will make the Museum the first fully digital museum on the Mall. For the grand opening, NMAAHC will present an initial phase of interactive, online, and mobile offerings that will include innovative and engaging content and functionality to connect visitors to collection objects and topics of interest. The Museum-Wide Mobile platform will extend the Museum's digital presence with applications that enhance the gallery experience and allow visitors to engage with the Museum's content and themes anywhere, using a variety of devices. Both the digital program and the mobile platform will disseminate information, provide outreach to wider audiences, preview exhibitions and public and educational programs, and serve as the principal platform for the Museum's national membership program. IT digital content management systems and interfaces are being developed in cooperation with the Office of the Chief Information Officer (OCIO) as models for the rest of the Smithsonian Institution (SI) to use in other museums.

Also, in FY 2017, NMAAHC will continue to fulfill its mission of collecting and documenting African American history and culture with a special emphasis on programs on the African Diaspora, African American innovation and entrepreneurship, and faith. With generous grants from the Mellon and Lilly foundations, the Museum will establish a Center for the Study of the African Diaspora, a Center for African American Innovation and Entrepreneurship, and a Center for the Study of African American Religion. These centers will function as hubs to provide a critical platform of resources and opportunities to a global community of leaders, public audiences, practitioners, and scholars.

NMAAHC's second priority will be to engage in long-term planning for future operations. This will include the following activities: growing domestic and international partnerships to further generate support for the Museum; continuing development of Museum's interactive, online, and mobile offerings; designing and developing traveling exhibitions for display throughout the United States; expanding scholarly research in all areas of African American history and culture, along with the acquisition of historical artifacts, fine art, archival materials, photographs, film and other media collection areas; expanding the national collections; and making collections with images and contextual information easily available to the public online. NMAAHC will establish a robust special events unit to monitor and manage all special events within the Museum, as well as co-sponsored events with Museum partners. A social media unit will be created to reach out to new and distant audiences, as well as to stay connected with current audiences.

During FY 2017, the Museum will finish its capital campaign, including a successful national membership campaign, to raise the required matching private funds. Strategic plans include fundraising strategies to support the Museum's ongoing educational and public programs, exhibition development, and research.

To achieve the strategic goal of Excellent Research, the Museum will use its resources to build on ongoing areas of research.

In FY 2017, curatorial research will continue to focus on in-depth study of the Museum's historical artifacts, fine art, archival materials, photographs, film, and other media collection areas. The Museum will share this research with scholars and the public through Web-based platforms; public and educational programs; and publications.

Key initiatives include the following:

- The Museum, continuing collaboration on two separate, major projects, will share recent discoveries about the trans-Atlantic slave trade derived from the African Slave Wrecks Project and the Gorée Island Archaeological Digital Repository.
- The Museum is building on its collaboration with the National Archives and Records Administration and Family Search to digitize, index, and disseminate thousands of documents and a searchable genealogical database related to the 19th century Freedmen's Bureau. The records afford unparalleled opportunities to research the African American experience during the Civil War and Reconstruction eras. In FY 2017, the Museum and Family Search will complete the genealogical indexing of millions of digital images of the original records of the Freedmen's Bureau. The Museum will provide both on-site and online access to one of the largest searchable databases of the names of former slaves, and link those names to original Freedmen's Bureau documents which contain records on approximately four million individuals.
- In June of 2014, NMAAHC completed its collaboration with the Library of Congress to collect 137 video interviews for the Civil Rights History Project, mandated by Public Law 111–19, the Civil Rights Project Act of 2009. In FY 2017, the Museum will continue to make this material available via its Center for African American Media Arts (CAAMA), the NMAAHC website, and the Smithsonian's online Collections Search Center.
- CAAMA will open in FY 2017. A physical and virtual resource, the CAAMA was created to encourage the preservation and interpretation of photographs, film, video, and audio collections, and other media, by and about African Americans. In FY 2017, to help celebrate the Museum's opening, the CAAMA will sponsor a citywide African American film series.
- The Museum continues its active professional internship program to diversify the museum profession by providing opportunities for undergraduate and graduate students. In addition, the Museum encourages and supports students interested in African American history and culture through the Museum's internship program, along with the SI Minority Internship awards, Mellon Foundation-funded internships in conservation, Liljenquist-endowed

internships from Stanford University, and internships sponsored at Historically Black Colleges and Universities (HBCUs) by the Museum's Office of Community and Constituent Affairs.

- NMAAHC will continue working with the publication series, *Double Exposure*, a multi-volume series featuring selections from the Museum's photography collection. Volume 5, a collection of military photographs, is planned for issuance in April 2017 so that all five volumes will be available for the temporary exhibition opening of *Double Exposure*.
- Beginning in FY 2017, the NMAAHC Archives will provide archival reference, access, and other public services in the NMAAHC Library. The collection will be stored at the Pennsy Drive facility; however, some of the more heavily used materials may be kept in the NMAAHC Library on the National Mall for extended periods of time.

To achieve the strategic goal of Broadening Access, the NMAAHC will direct its resources as follows:

- **Digitization and Web Support**

- NMAAHC will continue to create searchable and accessible digital records for collection objects and high-quality digital surrogates, especially for the wave of acquisitions expected in FY 2017. The NMAAHC plans to make thousands of additional high-quality images with contextual records available to the public via the Smithsonian's Collection Search Center (<http://collections.si.edu/search/>) and the Museum's revamped website (<http://nmaahc.si.edu/>) and offer curated and user-generated selections of collections via digital portals in the Museum and on the World Wide Web.
- NMAAHC will continue to ensure that digital content, both collections- and research-based, is properly formatted and tagged for use across all digital delivery platforms. The Museum-Wide Mobile (MWM) platform and the Web presence will increase access to scholarship and information about the Museum's objects and help translate the inaugural exhibition content into engaging and personal experiences.
- NMAAHC's Education Department will continue to build upon its website, as well as interactive, online, and mobile experiences to promote visitor engagement. The Museum will add to its list of gallery-based indoor mobile tours, including an outdoor Mall-based tour focused on local African American history. The Museum will augment and refine the website so that it acts as a full-service communications, engagement, experiential, educational, and outreach arm of the Museum.
- In FY 2017, social media technology will be used to inform and transform "virtual visitors" into actual or "real-world" visitors, and create and develop a

sense of shared community among users. Social media will be used extensively in FY 2017 to expand the boundaries of the Museum nationally and internationally.

- The NMAAHC Library will open to the public in FY 2017. The goal of the Library will be to provide Museum visitors with contextual materials and information about objects seen on display. The NMAAHC Library will also provide programming around genealogical research, including orientations to genealogical research in the African American community, how to build and track family trees, and how to do further research using the resources of the National Archives and the Library of Congress.

- **Exhibitions**

In late 2016, permanent inaugural exhibitions documenting, examining, and displaying the history of African Americans from slavery to the present will be open to the public. Three principal areas of study are:

- **History**, which includes three exhibitions: *Slavery and Freedom; Defending Freedom, Defining Freedom: The Era of Segregation*; and *A Changing America: 1968 and Beyond*.
- **Culture**, which includes four exhibitions: *Cultural Expressions; Musical Crossroads; Taking the Stage*; and *Visual Art and the American Experience*.
- **Community**, which includes four exhibitions: *Power of Place; Sports: Leveling the Playing Field; Double Victory: The African American Military Experience*; and *Making a Way Out of No Way*.

In FY 2017, NMAAHC will be engaged in maintaining the permanent exhibitions. This will include producing new graphics, labels and mounts to accommodate object rotations due to the acquisition of new artifacts. The NMAAHC design and production department will produce all of this new material, as well as maintain all other signage in the building, the 152 media programs in the permanent exhibitions, and the low- and high-tech interactive components of exhibits. The department will also create and produce a series of smaller changing exhibitions within the building, including those in CAAMA, the new acquisition case on the main building concourse, the changing exhibition space in the *Visual Art and the American Experience Gallery*, and several small exhibition cases on the second floor. The Museum will maintain a dynamic program that rotates all of these smaller exhibitions on a regular basis, with designs and products created in-house. NMAAHC will also concentrate on preparation and installation of permanent collections to replace loaned objects on display.

In the spring of FY 2017, NMAAHC will begin developing its first exhibition, *Double Exposure*, to be featured in the *Changing Exhibition Gallery*. This exhibition

will feature photographs from NMAAHC collections, and will be based on the very well-received series of books with the same title and published by the Museum.

NMAAHC is leveraging its role as a national model for collaboration that strengthens institutional capacity and sustainability among African American and African Diaspora museums and cultural heritage organizations. Charter initiatives involve local, domestic, and international stakeholders and constituents. A few include:

- The Association of African American Museums (AAAM). NMAAHC was selected from a national bid to host the 2017 annual conference of the AAAM in Washington, DC. The 2017 program is slated to attract the highest attendance in the organization's nearly 40-year history.
- NMAAHC continues to take a leadership role, in collaboration with other SI units, to strengthen museum research and professional development collaborations with HBCUs, including the launch of an internship Fellowship program on site at NMAAHC.

Internationally, NMAAHC has formed the following partnerships worldwide:

- The Museum is a core partner in the African Slave Wrecks Project (ASWP), along with George Washington University (GWU), the National Park Service, the National Association of Black Scuba Divers, Southern African Heritage Resources Agency, and the Associated Museums of Cape Town, South Africa. NMAAHC and ASWP support training of advanced graduate students from the University of Dakar (Senegal) in maritime archaeology and archival research related to slave shipwrecks associated with the World Heritage Site at Gorée Island. In FY 2017, the ASWP will operate as a formal center within the Museum, with responsibility for fund raising, managerial and fiduciary oversight, and global activities with the ASWP's Operational Leadership Team. A primary goal of this signature project is to provide strategic leadership in modeling collaborations and partnerships.
- The Museum will again be a lead sponsor and presenter for the 2017 conference *Reinventado Nuestros Museos/Reinventing our Museums*, along with the arts organization Fundación TyPA. NMAAHC continues established work on strategic partnership and network development efforts with our Caribbean, Central and South American sister organizations, by focusing on African Diaspora communities in particular.

To achieve the strategic goal of Revitalizing Education, NMAAHC will build on ongoing educational initiatives offered off site for students, educators, and the general public, and begin offering programs on site at the new Museum. The NMAAHC will:

- continue to produce signature educational public programs in a variety of formats (e.g., musical performances, literary works, staged readings, dance programs, film series, poetry, food-ways, crafts, etc.) and will be able to host both large-scale and more intimate programs on site in the new building. The Museum will conduct Family Days and other programs. The Museum will open signature public programming to include NMAAHC Live! This program is in the style of a hosted variety program featuring public and civil rights leaders and provocative topics.
- launch early childhood education programs which will focus on identity formation and literacy.
- present on-site and traveling versions of the popular *Save Our African American Treasures* program, which will enable the Museum to continue engaging the American public in discovering, collecting, preserving, and sharing the material culture of African American heritage.
- offer unique youth programming onsite and via videoconferencing that will allow intimate access to the compelling stories highlighted in the exhibitions and which challenge young people to be active and productive citizens. The Museum will also continue to provide teen school-to-work programs and college on-site and virtual internships.
- work with the staff of the Center for Teaching and Learning to build signature programming to support educators nationwide. NMAAHC will also build upon successful educator programs to include the Learning Together series.
- create opportunities for visitors to engage with the Museum and its content through visitor services staff and visitor information advocate volunteers. Volunteers will be stationed at the Information Desk and strategically throughout the Museum. In addition, Smithsonian support staff will distribute mobile tour devices, facilitate large crowds, and conduct audience evaluation.
- launch special programming on race and reconciliation, supported by a generous grant from the Atlantic Philanthropies, to educate the public on issues of racial equity, in consultation with key actors in the field. A gift from Verizon Corporate Resources Group will enable NMAAHC to continue its educational public programs in support of its mission and exhibitions, helping visitors connect and engage with African American history and culture.

To achieve the strategic goal of Strengthening Collections, NMAAHC will use its resources as follows:

- The Museum will identify, acquire, and process collections to develop and refine its permanent collections. Collections management activities will focus on processing general collections not slated for the permanent inaugural exhibitions.

- NMAAHC will implement a collection strategy to acquire collections objects to replace loaned objects in permanent inaugural exhibitions.
- The oral history program will be expanded to capture both immediate and in-depth recordings from individuals whose stories and reminiscences will enhance NMAAHC's collections and research.
- As of FY 2016, the Museum has collected more than 35,000 items and nearly 900 cubic feet of archival collections. Approximately 3,000 collections items are featured in the Museum's exhibition galleries, a selection of archival collections are accessible at the Museum, and the balance of collection items and archival collections are housed in the Pennsy Drive facility in Maryland. With the completion of the Phased Renovation Plan, the facility now contains a 7,800-square-foot, multi-purpose conservation lab, and mount-making shop, in addition to cold-storage capacity, and a photography and digital imaging studio.

To achieve the strategic goal of Mission Enabling, NMAAHC will use its resources to continue developing its operating organizational structure and make organizational and staffing revisions as necessary to accomplish program goals. This includes:

- **Information Technology**

- The Museum's newly created IT department will continue to ensure and enable NMAAHC's mission to be a leader in IT, providing accessible digital records of collections, interactive exhibitions, education outreach, and accessible scholarly research.
- The Office of External Affairs' newly created social media unit will develop and implement an extensive social media program that will enhance the Museum's status as the premier digital museum on the Mall. Social media will enable the Museum to connect its exhibits, programs, research, and collections to a worldwide audience.
- IT initiatives will be expanded and continue to grow via a multi-year phased program. The implementation of the first phase of the digital program will occur in late 2016 as part of the grand opening. During FY 2017, the next phases of the digital program will occur, along with the implementation of new IT programs, to continue broadening public access to NMAAHC resources.

- **Management Operations**

- The Museum will expand its preliminary work with Smithsonian Enterprises to develop mission-related products, publications, and concessions so that

the gift shop and cafeteria are operating at full capacity after the grand opening.

- Facilities maintenance and operations, including mail services, security, and safety, will be implemented.

To achieve the strategic goal of Ensuring Financial Strength, NMAAHC will continue to direct resources to support an expanded national visibility campaign and leverage fund raising. More specifically:

- A key strategy in FY 2017 is leveraging the opening of the Museum to complete the capital campaign. The cultivation and solicitation of donors will help the Museum raise private funds to meet the ongoing cost of constructing and managing the new building and any remaining building costs.
- In 2017, strategic goals include planning and development strategies to include fund raising for support of Museum programs and research. Advancement staff will leverage visibility from the grand opening to motivate institutional and individual donors to fund the Museum's ongoing educational and public programs, exhibition development, and other activities.
- NMAAHC will continue to direct its resources to maintain its national visibility. In 2016, the public affairs department conducted an intensified marketing and public relations campaign, targeting the media and the general public in major cities across the country. In 2017, the Museum will capitalize on the visibility campaign locally and nationwide via an emphasis on the Museum website and social media.
- The Museum will continue to expand its national membership program to provide ongoing support for NMAAHC after its opening. The membership program currently has approximately 90,000 charter members across the country.
- In late 2016, NMAAHC will launch a special events unit to manage special events within the Museum and a co-sponsored special events program with Museum partners.

NONAPPROPRIATED RESOURCES — General trust funds support salary and benefit costs of the Museum director. Donor/sponsor-designated funds support staff, special events for exhibition openings, and costs related to specific programs and projects, including educational programs, donor-related special events, and outreach activities.

**NATIONAL MUSEUM OF AMERICAN HISTORY,
KENNETH E. BEHRING CENTER**

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	158	21,767	25	4,115	61	17,609	0	783
FY 2016 ENACTED	163	22,697	30	4,200	64	9,600	0	300
FY 2017 REQUEST	173	25,022	30	4,300	65	10,000	0	350

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	20	3,300	20	3,381	0	81
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	14	1,659	15	1,806	1	147
Public Programs						
Provide reference services and information	16	2,024	16	2,076	0	52
Exhibitions						
Offer compelling, first-class exhibitions	45	6,462	45	6,621	0	159
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	7	830	7	851	0	21
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	41	5,532	50	7,075	9	1,543
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	1	180	1	434	0	254
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	230	1	236	0	6

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Security and Safety						
Provide a safe and healthy environment	1	130	1	133	0	3
Information Technology						
Modernize the Institution's information technology systems and infrastructure	4	830	4	851	0	21
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	2	350	2	359	0	9
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	320	3	328	0	8
Modernize the Institution's financial management and accounting operations	8	850	8	871	0	21
Total	163	22,697	173	25,022	10	2,325

BACKGROUND AND CONTEXT

The National Museum of American History (NMAH), Kenneth E. Behring Center, inspires a broader understanding of our nation's history and its people through research, exhibitions, collections activity, education, and public programs. The Museum's primary goal is to tell an overarching American story that is inclusive of and respectful and compassionate to all the peoples in America who were here, who came here, and who were brought here. Through incomparable collections, rigorous research, and dynamic public outreach, the Museum explores the infinite richness and complexity of American history; NMAH helps people understand the past to make sense of the present and shape a more humane future. Looking toward the future, the Museum poses the question: What kind of people do we want to be?

More than four million people visit the Museum every year, in addition to more than seven million people who visit the Museum online annually, making NMAH the most visited history museum in the world. We present our history as substantial and challenging, inviting and accessible, inspiring and wonderfully human. Together with the American people, we wrestle with the hardest issues that we have faced, and do so in an inspirational manner, aiming to make a difference in the current life of the nation.

The revitalization of the NMAH continued with the completed renovation of the NMAH building's West Wing in 2015. The revitalization is a multi-phased effort that includes constructing new public spaces, redefining the visitor experience, modernizing and clarifying circulation, providing amenities to visitors, and bringing the Museum into compliance with current building codes. The West Wing renovation included three public floors and a mechanical room located on the fourth floor, totaling approximately 120,000 square feet.

The Museum enriched its presentation of the American Experience with new exhibits in the renovated West Wing. Each of the three exhibit floors will be focused

on an overarching and inclusive theme representing the ideas and ideals of the American Experience. The first floor, which reopened to the public in the summer of 2015, focuses on the theme of American innovation and enterprise; the second floor, reopening in 2017, will focus on two essential American stories — the origins of the American people and the evolution of their democracy; and the third floor, which is scheduled to reopen in 2018, will provide an examination of American identity through our culture. Previously, the NMAH renovated the building's central core and created a new chamber for the Star-Spangled Banner at the heart of the Museum, which reopened to the public in 2008.

The Museum is actively fund raising for the second and third floor West Wing exhibits and programs which will captivate visitors with compelling stories, invaluable objects, state-of-the-art media, public spaces, and new exhibitions to make American History vital, fascinating, and central to understanding and embracing the American Experience. The Museum's private fundraising goal of roughly \$91 million to \$150 million for the West Wing exhibits and programs will leverage the federal investment in the building renovation.

The FY 2017 Budget request includes an increase of \$2,325,000 and 10 FTEs. The request includes an increase of \$563,000 for necessary pay and other related salary costs for existing staff funded under this line item, \$250,000 for rent, and a program increase of \$1,512,000 and 10 FTEs for new staff: specifically, curators to strengthen the Museum's scholarly foundation and collections management, and digitization specialists to broaden access to NMAH collections.

MEANS AND STRATEGY

The NMAH is most closely aligned with the Smithsonian's Strategic Plan Grand Challenge of Understanding the American Experience. Through its research, scholarship, educational programs, exhibitions, and collaboration, the Museum shares with the public scholarly insights and historical views that illustrate the richness and depth of the American Experience. The Museum engages people in the telling of America's story — interweaving multiple stories of perseverance, triumph, and optimism with those of challenge and struggle.

The Museum has completed and issued a new strategic plan, establishing a vision and strategic direction from the present through 2018. The plan sets four key priority goals for the NMAH:

1. Lead the nation in understanding the American Experience
2. Expand, strengthen, and share our collections
3. Engage diverse national and international audiences
4. Strengthen our staff and Board of Directors, and revitalize our facilities

Goal: Lead the Nation in Understanding the American Experience

The NMAH places a priority on engaging the public through scholarship and quality research in American history. Research is the foundation for our exhibits and all of our programs, which portray significant eras and events from American history in the context of social, cultural, economic, political, scientific, and technological themes. The Museum experiments with innovative ways to think about and present American history as an encompassing, multi-faceted story, drawing on many strands, and illuminating a multitude of people, ideas, and experiences.

For example, in 2016 the Museum is focusing on the theme of “America Participates,” which encompasses citizens’ desires to shape their world through giving, voting, and volunteering. Initiatives, programs, and exhibits around these themes of civic engagement will open at the Museum throughout the year, including the following:

- ***Philanthropy Initiative: The Power of Philanthropy.*** The NMAH has committed to a long-term plan for collecting, researching, documenting, and exhibiting materials on the country’s philanthropic history and its role in shaping the nation. Highlights of the initiative include an annual symposium, an endowed curator position, and a permanent display, *Giving in America*, which will open to the public on Giving Tuesday, November 29, 2016. Using artifacts and contextual images from the 1700s to today, *Giving in America* will highlight how philanthropy has directly and significantly impacted the course of American history. Visitors will learn how major events, social movements, and everyday life have shaped and been shaped by men and women from all levels of American society engaged in philanthropic pursuits.
- ***Hooray for Politics!*** This display will juxtapose historic voting devices with contemporary candidate rally signs to encourage our visitors to reflect on the relationship between the nation’s democratic traditions and the current swirl of election news, and to draw visitors into conversations on the importance of civic engagement. Included in this display will be voting machines from the late 19th century to the more recent Votomatic devices, and an assortment of 19th and 20th century voting boxes and rally signs from current candidates.
- ***The Rewards of Service: Volunteer Firefighting in the 19th Century.*** This exhibit on the history of volunteer firefighting in the United States will open in August 2016 and will examine how, prior to the Civil War, American firefighting was the story of citizen volunteers drawn from their communities to protect their neighbors from the ever-present threat of fire. Firefighters were feted as heroic models of republican (and manly) virtue but they volunteered for practical reasons as well, such as financial benefits, or the shared bonds of fraternity that would extend long after the introduction of paid fire departments in major American cities.

In addition, in 2016 the Museum will open a unique exhibit, ***Norie Atlas and the Guano Trade***, that will display John Norie's rare book of sea charts dating to the early 19th century. The exhibit will provide the historical context of the guano and nitrate trades, in which many of the swiftest and strongest 19th century American square-rigged sailing ships sailed. Through the *Marine Atlas*, as well as images and models of American clipper ships and other historical documents, the visitor will learn about this important maritime enterprise.

The NMAH will open the second floor of the West Wing in 2017. In preparation for that event, Museum staff are engaged in scholarly research, object collection and conservation, exhibit development, and fund raising. The new exhibitions will examine the American Experience through explorations of our most enduring and defining declarations: *We the People* and *E Pluribus Unum*. The exhibits will affirm the nation's shared belief in the sovereignty of the people and recognize our nation's rich cultural diversity. The exhibitions include:

- ***American Democracy: A Great Leap of Faith***. Against all odds, 18th century Americans declared independence and launched a bold experiment to create a government "of the people, by the people and for the people." This exhibit will explore how a nation committed to the principles of popular sovereignty debated how to make this idealistic vision work, and what living in a democracy really means. Covering the American past from the Revolutionary War to the present, this exhibition will trace the unfolding of Americans' experiment through the Museum's rich collections to examine our founding political principles, forms of popular political participation, and citizenship in a pluralistic society. Objects on display will include Thomas Jefferson's *Declaration of Independence* writing desk, George Washington's farewell address lamp, the inkstand Lincoln used to draft the Emancipation Proclamation, and the table on which Elizabeth Cady Stanton wrote the *Declaration of Sentiments*.
- ***Many Voices, One Nation***. This exhibit focuses on the theme of our nation's great search for balance between unity and pluralism by presenting the 500-year journey of how many distinct peoples and cultures met, mingled, and created the culture of the United States. Migrations brought new peoples, new languages, new religions, new ideas, and new technological innovations into the American experience. The result was a dynamic society embodied in cultural and technological innovations. From its earliest beginnings to the 21st century, this exhibition maps the cultural geography of those unique and complex stories that animate the Latin emblem on the Great Seal and our national ideal: *E pluribus unum*, out of many, one.
- ***Religion in Early America***, which will be the inaugural exhibit in the *West Taubman Gallery*. This exhibition will trace the distinctive way that religion developed in the early American republic. It will focus on three themes: the diversity of religious traditions in early America; the principle of freedom of

religion that was incorporated in the U.S. Constitution's Bill of Rights and became a guiding American ideal; and the growth of different religions in the new American republic after the nation was formed. The exhibition will include a wide array of national treasures related to this topic, including the George Washington inaugural Bible, the Jefferson Bible, a church bell made by Paul Revere and Sons, manuscript pages from the first Book of Mormon, and a portable pulpit used by George Whitefield when he preached in open fields during the "Second Great Awakening."

In addition, the NMAH contributes to the discussion of the American Experience through its ongoing scholarship and research. Recently, the Museum learned that two publications have been selected by the American Library Association as Outstanding Academic Titles for 2015: *Time and Navigation* by Carlene Stephens and *First Smithsonian Collection* by Helena Wright. In 2016, Museum scholars produced more than 12 new publications, including books, articles, and musical recordings. Listed below are four examples:

- Paul Johnston. *Cleopatra's Barge in Hawaii*. College Station, Texas: Texas A&M Press.
- Ellen R. Feingold. *The Value of Money*. Washington: Smithsonian Institution Scholarly Press.
- Arthur P. Molella and Anna Karvellas, editors. *Places of Invention*. Washington: Smithsonian Institution Scholarly Press.
- Robert H. Kargon, Karen Fiss, Morris Low, and Arthur Molella. *World's Fairs on the Eve of War: Science, Technology & Modernity 1937–1942*. Pittsburgh: University of Pittsburgh Press.

In FY 2017, highlights of scholarly publications will include:

- Margaret Salazar-Porzio and Joan Fragaszy Troyano, editors. *Many Voices, One Nation: A Material History of the Peopling of America*. Washington: Smithsonian Institution Scholarly Press.
- William L. Bird, Jr., Lisa Kathleen Graddy, Harry R. Rubenstein, and Barbara Clark Smith. *American Democracy: A Great Leap of Faith*. Washington: Smithsonian Books.
- Margaret Salazar-Porzio. *The Edges of Empire: Public Memory in San Diego*. Nevada: University of Nevada Press, Urban West Series.
- Peter Manseau *Objects of Devotion*. Washington: Smithsonian Books.

Goal: Expand, Strengthen, and Share Our Collections

The NMAH is committed to sound collections stewardship through preservation, accountability, and increased digital access.

In FY 2016, the Museum will continue executing its collection stewardship plan by completing collections inventories of 12,500 objects from the Ceramics and Glass (7,500) and Musical History (5,000) collections. Also, longstanding concerns about collections access and accountability issues, as well as staff health and safety concerns in Garber Building 15, will be addressed by remediating lead contamination and substandard storage of collections, and NMAH staff will begin collections inventory of the approximately 5,000 decontaminated objects. A multi-year plan will be developed to inventory and assess the re-housing and storage needs required to move the estimated 50,000 objects that will be displaced by the East Wing renovation. Recommendations from the 2015 Collections Review Committee report will be prioritized and implementation will begin. Export of 60,000 Numismatics rapid-capture records to the Enterprise Digital Asset Network (EDAN) will be completed and 25,000 of those records will be sent to the Smithsonian Institution Transcription Center. In addition, 5,000 collection records will be exported to the EDAN and the Smithsonian Collections Search Center.

In FY 2017, the Museum will continue several initiatives which were started in FY 2016, including implementation of the plan for moving and re-housing the 50,000 objects that are now in the East Wing, in advance of that space's renovation, and continuing the inventory of approximately 5,000 decontaminated objects from Garber Building 15. For FY 2017, the Museum will begin to implement the plan to inventory, re-house, and move the estimated 50,000 objects that will be displaced by the East Wing renovation. The inventory of approximately 5,000 decontaminated objects from Garber Building 15 will continue. In addition, a plan will be developed to address collections contamination, accountability, and storage issues in Garber Building 18. Recommendations from the Collections Review Committee report will continue to be implemented. Based on information gleaned from the acquisitions digitization pilot project, the Museum will develop a plan to fund full-scale, mass digitization of the Museum's acquisition files in collaboration with other SI units. In addition, 5,000 collection records will be exported to EDAN and the Smithsonian Collections Search Center, although this number may increase as a result of Museum initiatives to provide greater access to collections information.

Goal: Engage Diverse National and International Audiences

The NMAH engages people of all ages on site and online, encouraging them to explore history through objects as well as programs, ideas, facts, and stories.

In December 2015, the Museum opened *Wegmans Wonderplace*, an early learning gallery. The gallery combines age-appropriate activities with Museum

collections and touchable objects to provide a gateway to history and a place for children six and under to exercise their curiosity. *Wonderplace* is the first exhibition on the National Mall designed for children aged six and under. This 1,700-square-foot space provides the youngest historians with age-appropriate activities and experiences. It has been very well received and operates at capacity.

In 2016, the Museum launched a multi-year collecting initiative, “Latinos and Baseball: In the Barrios and the Big Leagues,” to identify artifacts that reflect the social and cultural influence of the game on Latino communities. The Museum is currently working with 10 partner organizations as well as the Smithsonian Latino Center and the National Museum of African American History and Culture to carry out the “Latinos and Baseball” initiative. Three 2016 events in California and New York will reach out to local communities about preserving baseball history in the Latino community. The events are designed to generate interest in the initiative, build on community relationships, record oral histories, and identify objects for possible acquisition by local historical associations as well as for the national collections.

Each year the NMAH trains thousands of K–12 teachers to bring American history to life by using active teaching methods infused with the Museum’s rich collections. Outside evaluation has shown that the Museum’s workshops have had a positive, re-energizing effect on history education across the United States. The Museum continues to add to its library of thousands of free K–12 interactive resources available via *History Explorer*, the Museum’s acclaimed website for teachers. In 2016, the Museum conducted a Massive Open Online Course, or MOOC, entitled “Teaching Historical Inquiry with Objects,” with more than 1,700 registrants. The Museum also launched a Youth Civic Engagement initiative that brings local teenagers to the Museum to help plan effective educational outreach for their peers.

To encourage conversation and respectful dialogue about the past, the Museum expands its activities beyond exhibitions and education through public programming and outreach.

In FY 2016, the NMAH will explore the themes of participation and civic engagement through programs at the Museum and around the nation focused on the research and content of its upcoming West Wing exhibitions. The signature event kicking off the Museum’s 2016 programmatic theme will be the second annual *America Now* program, an evening of interactive and participatory programming for millennial audiences highlighting the various ways young people have participated in their democracy. Programs throughout the year will focus around food, music, theater, and civic discourse and will continue to explore how Americans participate in their democracy. The Museum’s second annual Smithsonian Food History Weekend, *Politics on your Plate*, will explore the relationship everyday Americans have with food and politics. Cooking demonstrations and talks will engage visitors of all ages throughout the year at the Museum’s new demonstration kitchen in the West

Wing. In addition, NMAH's music program will explore the impact music has had on our democratic society, particularly through its extensive jazz and chamber music programs and new *Sacred and American Roots* music series. The Museum's theater programming will feature the second annual History Film Forum and the premiere of a new Smithsonian Channel film, *We the People*, that explores America's ideas and ideals through a chronological overview of American history. Also, in 2016, the Museum will continue to expand its groundbreaking *What it Means to Be American* series, a national, multi-platform, multi-city conversation that brings together leading thinkers, public figures, and Americans from all walks of life to explore questions about how America's history of migration and democratic traditions have made us the nation we are today.

In 2017, in conjunction with the opening of the second floor of the West Wing, Museum programming will focus on the themes of American democracy, immigration, and migration. Beginning with the commemoration of the Presidential Inauguration, the Museum's signature program offerings, including *America Now!*, the Smithsonian Jazz Masterworks Orchestra and the Smithsonian Chamber Music Society, the annual Food History Weekend, the History Film Forum, and the ongoing *What it Means to Be American* series will all explore the American Experience.

The Museum makes special efforts to nurture lifelong learners online and via social media where people can contribute to and assess shared understandings of the past. In addition to a newly designed, mobile-friendly website, the NMAH offers a popular blog and social media channels, with innovative and targeted content that encourages people to explore the American Experience by making history relevant, interesting, and thought-provoking. Through various forms of electronic and online outreach, the Museum expects to continue sharing its resources with more than seven million people a year.

Goal: Strengthen Our Staff, Board of Directors, and Facilities

The NMAH values every resource it has and is committed to making every expenditure and investment as productive as possible. The Museum is pursuing this goal with an eye to the future through careful administrative reviews of expenditures and staffing, and by fostering a culture that rewards collaboration, inclusion, and creative partnerships.

In November of 2012, the Museum closed its West Wing to allow for the construction and upgrade of its HVAC and other utility systems as well as a much-needed renovation of the West Wing exhibit galleries. This construction is the next phase of the Museum's master plan for renovation and improvement. Design and construction is being managed by Smithsonian Facilities. The second floor will reopen in 2017 and the third floor will reopen in 2018.

Over time, the NMAH has sustained a serious loss of key staff positions. In more than 20 years, the Museum has lost half of its curatorial staff, which has

dramatically reduced the scholarly talent and capability necessary to research and explain the broad sweep, chronological and intellectual, of American history to our nation. To offset this loss, the Museum has pursued a multi-phased strategy; building partnerships to temporarily fill critical gaps; seeking endowed positions with funding from generous donors; and, starting in FY 2016, hiring five new curators with federal funds targeted for the highest priority topical areas. The Museum has built relationships with other Smithsonian units, and partnerships with outside organizations, to increase available resources and leverage talents. For example, the Museum is collaborating with other Smithsonian units on a major research initiative on the movements of peoples and cultures to and around the United States, which will result in a new exhibit at the NMAH. Furthermore, the NMAH has extremely active internship and Fellowship programs, hosting more than 169 interns and 18 Fellows in FY 2015. The Museum is committed to raising funds for endowed curator positions as part of its continuing fundraising efforts for exhibits and programs, and has successfully supported three new endowed curatorial positions in Business History, Philanthropy, and Religion. The increase in federal funds, provided in FY 2016, will support five new curators in key areas identified after an extensive internal analysis of our chronological, programmatic, and collection-related needs.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$2,325,000 and 10 FTEs. The request includes an increase of \$563,000 for necessary pay and other related salary costs for existing staff funded under this line item, \$250,000 for rent, and a program increase of \$1,512,000 and 10 FTEs for collections scholarship, collections management, and digitization of objects, as detailed below.

Collections Scholarship (+\$980,000, +5 FTEs)

The Budget request includes an increase of \$980,000 and 5 FTEs for additional curators, building on the initial phase of this effort started in FY 2016 with increased federal funding. The Museum's curatorial staff has significant gaps in their ability to research, interpret, exhibit, and care for the national collections. These gaps include critical subject areas, chronological periods, and program execution. Over time, the Museum has lost more than half of its curatorial staff, which has seriously depleted the Institution's scholarly foundation. The Museum must rebuild its curatorial strength to support excellent research, exhibitions and digitization of the nation's vast collection of artifacts. Specifically, these five positions will fill the highest priority gaps in our scholarly foundation. With the funds requested, the NMAH would conduct national searches for curators in such areas as Women's History, Photographic History, Life Sciences, Computers and Mathematics, and Political History. These are areas in which the Museum needs expertise to manage major national collections, conduct research, and develop exhibitions and publications. This investment in rebuilding the NMAH's collections scholarship foundation is proposed as a federal-private partnership. The Museum is

seeking endowed positions, supported by private donors, to match the federal investment and has been successful in obtaining three endowed positions as part of this strategy to leverage private funding to enhance federal investment.

Collections Management (+\$426,000, +4 FTEs)

The Budget request includes an increase of \$426,000 and 4 FTEs for improved management of the national collections. Recent Inspector General audit reports have identified a critical need to fill high-priority positions to care for and preserve collections. Specific collections stewardship responsibilities include: full inventory control over collections; proper preservation of collections; secure movement and handling of collections; and assistance with the Museum's efforts to digitize the collections. The NMAH has a collections management staffing plan and will complete a collections review in FY 2016. Positions will be prioritized and filled in accordance with these two extensive analyses.

Collections Digitization (+\$106,000, +1 FTE)

The Budget request includes an increase of \$106,000 and 1 FTE for an employee to build capacity to create and sustain a robust digitization program. Digitization is the Smithsonian's initiative to make collections objects available online to national and international communities. The increase will enable the NMAH to collaborate with the Digitization Program Office (DPO) staff in planning large digitization projects, support implementation of the Museum's digitization plan, and increase access to the national collections by creating, managing, and promoting the Museum's digital assets.

Rent for Collections Storage (+\$250,000)

The Budget request includes an increase of \$250,000 for 5,000 square feet of leased collections storage space for large industrial artifacts that the National Museum of Industrial History (NMIH) in Bethlehem, Pennsylvania, a Smithsonian Affiliate, is returning to the Smithsonian's National Museum of American History. The NMAH does not have space to store the artifacts so sufficient and appropriate space must be leased to accommodate them and the specialized equipment necessary to move and provide access to them. Smithsonian collections care standards require that storage space provide HVAC and humidity controls, as well as security and life-safety controls.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits for 42 percent of NMAH staff — administrative, development, special events, program managers, etc. — and other program-related costs. In addition to restricted gifts, grants, and endowments, trust revenue sources include donations from special events, revenue sharing from business operations, honoraria for speaking engagements, and tuition reimbursements. Donor/sponsor-designated funds are used to develop, install and promote new exhibitions, fund public programs and educational initiatives, and support research, travel and collection acquisitions. Donor-designated funds are vital to continuing the renovation of the public spaces in the Museum, including the design and fabrication of new exhibits on the second and third floors of the Museum’s West Wing.

NATIONAL MUSEUM OF THE AMERICAN INDIAN

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	216	31,444	2	2,281	21	8,965	0	88
FY 2016 ENACTED	216	31,726	2	2,094	22	4,084	0	150
FY 2017 REQUEST	218	32,341	2	1,905	22	3,437	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	17	2,532	17	2,572	0	40
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	6	1,078	6	1,089	0	11
<i>Public Programs</i>						
Provide reference services and information	26	3,393	26	3,440	0	47
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	32	6,047	32	6,109	0	62
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	38	5,026	38	5,086	0	60
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	26	3,672	28	3,941	2	269
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	15	1,830	15	1,846	0	16
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	125	1	127	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Information Technology						
Modernize the Institution's information technology systems and infrastructure	14	2,336	14	2,365	0	29
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	24	3,495	24	3,541	0	46
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	208	2	212	0	4
Modernize the Institution's financial management and accounting operations	8	964	8	980	0	16
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	450	2	455	0	5
Modernize and streamline the Institution's acquisitions management operations	5	570	5	578	0	8
Total	216	31,726	218	32,341	2	615

BACKGROUND AND CONTEXT

The National Museum of the American Indian (NMAI) is committed to advancing knowledge and understanding of the Native cultures of the Western hemisphere — past, present, and future — through partnerships with Native peoples and others.

The NMAI administers one Museum in three locations: NMAI-DC on the National Mall, NMAI-NY in lower Manhattan, and the Cultural Resources Center in Suitland, Maryland. The NMAI will focus its resources to support research and exhibits concerning the cultures and histories of Native communities and to present contemporary works of art to the public. These exhibits, along with educational and cultural arts programming, attract nearly two million visitors annually. The offering of diverse exhibitions, cultural demonstrations, tribal festivals, educational presentations, and scholarly symposia ensures a meaningful visitor experience. Web content based on these programs will reach distant “virtual visitors” to the Museum, who may not be able to come to the East Coast but who can still avail themselves of content developed at NMAI. Through its exhibitions and public programming, the Museum continues to present the contemporary voices of Native peoples to educate and inform the public while countering widespread stereotypes.

The NMAI will also focus on the stewardship of more than a million collection items entrusted to the Museum's care — honoring the histories and promoting the cultural legacies of hundreds of Native nations throughout the Western hemisphere.

The FY 2017 Budget request includes an increase of \$615,000 and 2 FTEs. This includes \$391,000 for necessary pay and other related salary costs for existing staff funded under this line item and an increase of \$224,000 and 2 FTEs for Collections Scholarship.

MEANS AND STRATEGY

To achieve the strategic goal of Broadening Access, the NMAI is directing its resources to: 1) activities that will result in increased visitation; 2) public programming and exhibits that will encompass information about the indigenous peoples of the Western hemisphere and Hawaii (as mandated in the NMAI enabling legislation) and that will demonstrate the presence and cultural contributions of contemporary Native peoples today; 3) outreach to Native communities, tribes, and organizations through programming methodologies that include consultations, Web-based technologies, video conferences, internships, seminars, publications, and symposia; and 4) expanding access to the NMAI collections online.

Public engagement efforts will continue to bring the Museum and its resources to audiences through both traditional and Web media and via innovative outreach and training programs. These contacts will link external communities to public audiences through technology and involvement in planning and programming.

To achieve the strategic goal of Revitalizing Education, the Museum will continue to provide daily exhibit and educational programming about Native peoples of the Western hemisphere and Hawaii, thereby providing opportunities to correct stereotyping and expand public knowledge. The seven-day-a-week operation will include interpretive activities, film and video presentations, cultural arts performances, demonstrations, and resource materials about Native American history and cultural heritage. The NMAI will continue working with Native educators and cultural experts on the Museum's National Education Initiative, "Native Knowledge 360°," to create exemplary materials that reflect indigenous knowledge, and to develop model materials that schools across America can expand upon for their own purposes. To promote learning across generations, the imagiNATIONS Activity Center will introduce indigenous knowledge about Native peoples' understanding of the natural world and about American Indian civics to a growing audience of school children and Museum visitors. In 2017, operations will include an imagiNATIONS Activity Center at NMAI in New York City. Various tribal educational resources, including curricula enhancement materials, will be made available to teachers.

In addition, as part of the Excellent Research strategic goal to advance knowledge in the humanities, the NMAI will continue to hire and retain the highest quality research staff and collaborate with leading institutions of learning and community-based scholars. NMAI staff will make research for film, video, audio, and photographic content developed for exhibitions available at the Museum and to Native American communities and public audiences through the Web, printed materials, and collaborative activities with other groups and organizations.

NMAI staff will continue to oversee group and school tour programs, and volunteers, and will also direct presentations in galleries and all public spaces and program areas to ensure maximum use of all the educational resources available to enhance the visitor experience.

Through its ongoing dialogue with Native communities and cultural experts, NMAI's collection stewards and scholars will also continue to advance the strategic goal of Strengthening Collections through judicious acquisition, documentation, digitization, inventory, preservation, research, security, storage renewal and enhancements, as well as increased Web access.

The strategic goal of Mission Enabling will be addressed by efficiently and economically designating resources to meet the mission of the Museum and enhancing the collections by acquiring works that document Native experiences and expressive cultures, including the representation of modern and contemporary arts.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$615,000 and 2 FTEs. The increase includes \$391,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$224,000 and 2 FTEs for Collections Scholarship, as detailed below.

Collections Scholarship (+\$224,000, +2 FTEs)

The Budget request includes an increase of \$224,000 and 2 FTEs to hire additional curators. NMAI's National Education Initiative has a goal to correct long-standing misconceptions about Native American history and culture and to reinforce learning about Native contributions to the American Experience. To achieve this goal, NMAI is leading a comprehensive, scholarship-based effort to improve the depth and quality of instruction about Native peoples in America's K-12 schools. These two curatorial positions are essential to strengthen the Museum's scholarly capability to meet this goal.

NONAPPROPRIATED RESOURCES — General trust funds support salary and benefit costs for the Museum director and other program-related costs. Donor/sponsor-designated funds support salaries and benefits for development staff; costs associated with reaching NMAI's National Campaign fundraising goals; publications and special events for exhibition openings; costs related to specific programs and projects, including educational programs, advertising, production of fundraising proposals, and member- and donor-related special events; as well as outreach activities.

NATIONAL PORTRAIT GALLERY

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	55	5,997	4	815	12	2,673	0	0
FY 2016 ENACTED	56	6,200	3	1,544	19	3,298	0	0
FY 2017 REQUEST	57	6,460	3	860	20	3,313	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	3	362	3	366	0	4
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	2	279	2	310	0	31
<i>Public Programs</i>						
Provide reference services and information	3	489	3	494	0	5
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	18	1,814	18	1,858	0	44
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	8	756	8	787	0	31
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	15	1,811	16	1,950	1	139
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	158	1	160	0	2

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	1	90	1	91	0	1
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	129	1	130	0	1
Modernize the Institution's financial management and accounting operations	2	170	2	172	0	2
Modernize and streamline the Institution's acquisitions management operations	2	142	2	142	0	0
Total	56	6,200	57	6,460	1	260

BACKGROUND AND CONTEXT

The Smithsonian National Portrait Gallery (NPG) inspires visitors from around the world by illuminating the American experience through powerful images that connect people and their stories.

The NPG strives to bring visitors face to face, literally and figuratively, with exceptional Americans and their remarkable stories across time, place, and circumstance. The NPG uses diverse approaches in visual biography to focus on changing notions of American identity, and to track evolving ideas about who is significant and has an impact on American culture. The NPG aspires to be widely known as the place that sparks thought and conversation, and includes the audience as an active participant in defining American identity through portraiture and biography.

The NPG will host a planning conference with select historians from major universities to help focus the initial goals for the Center for Visual Biography (CVB). The intent of the new center is to highlight the best, most groundbreaking biographical research around the country, and become a hub for leading scholars to present public programs on major American lives.

The NPG devotes a major portion of its resources to Broadening Access, thereby increasing the availability and accessibility of the NPG's collections through exhibitions, public programs, and publications. The exhibitions explore themes in history, biography, and art in a way that brings out new meaning and understanding of the American experience. Highlights of special exhibitions planned for the remainder of FY 2016 include:

- *The Outwin 2016: American Portraiture Today* — This fourth exhibition resulting from the triennial, juried *Outwin Boochever Portrait Competition 2016* will include 43 finalists from the more than 2,500 entrants from every state. The dazzling variety of media and diverse approaches to the exploration of “self” and “other” reveal that the art of portraiture is not only universal, it is thriving and evolving. For the first time, following its installation in Washington,

DC, the exhibition will tour nationally to Tacoma, Corpus Christi, and Kansas City.

- *Hollywood and TIME: Celebrity Covers* — From its beginning in the 1920s, *Time* magazine responded to the public's embrace of movie stars on and off the screen, and its fascination with the glitter of Tinseltown. The exhibition features more than 30 Hollywood moguls and celebrities whose vision and talents carried us to different eras and exotic places, including studio greats Cecil B. de Mille and Howard Hughes, directors Steven Spielberg and Woody Allen, and acting luminaries Elizabeth Taylor, Lauren Bacall, Marlon Brando, Paul Newman, Meryl Streep, and Dustin Hoffman.
- *Double Take: Daguerreian Portrait Pairs* — This themed installation highlights the depth of the NPG's early photography collection by presenting seven pairs of images for Frederick Douglass, Jenny Lind, Zachary Taylor, and others. By showcasing two daguerreotypes of each sitter, visitors will consider the ways artists approached the same subject, and how different the resulting portraits could be.
- *One Life: Babe Ruth* — An American legend whose name is synonymous with baseball itself, this exhibition will explore Babe Ruth the man, the legend, and the marketing frenzy his name and image fueled long before the commercialization of sports superstars became routine. The exhibition includes drawings, prints, and photographs of Ruth, a signed ball and bat, and advertising memorabilia endorsed by Ruth. It concludes with a look at the baseball greats who chased and broke Ruth's longstanding records.
- *In the Groove: Jazz Portraits by Herman Leonard* — Herman Leonard's (1923–2010) photographs of jazz musicians are widely regarded as the definitive portraits of many of the 20th century's greatest artists. His infatuation with jazz led him to capture stunning images that soon made their way to album covers and the pages of *DownBeat* and *Metronome* magazines. This exhibition features iconic images of Louis Armstrong, Chet Baker, Ella Fitzgerald, and Billie Holiday, among many others.
- *Bill Viola and the Moving Portrait* (working title) — An artist of international renown and one of the pioneers of video art, Bill Viola focuses on the human body to create searing works about universal themes and emotional experiences. The NPG's exhibition will offer a new perspective of Viola by redefining certain aspects of his body of work, as well as our understanding of contemporary portraiture. This will be the first NPG exhibition devoted solely to time-based media in newly renovated galleries designed for the installation of time-based artworks.

In addition, the NPG is promoting two traveling exhibitions from its permanent collection: *Yousuf Karsh: American Portraits*, and *In Vibrant Color: Vintage Celebrity*

Portraits from the Harry Warnecke Studio. Both are proposed to begin traveling in 2018.

The NPG uses the Web as well as social media to build its virtual audience around the globe. NPG websites receive about 1.7 million visits annually, with new content added regularly. The NPG's Face to Face blog has been viewed by 450,000 readers since its launch in 2007, and has an annual readership of about 80,000. NPG continues its presence on a variety of social media platforms, including Facebook, YouTube, Twitter, Instagram, Flickr, and Tumblr. Combined, these outlets reach more than 85,000 followers, a 40 percent increase over 2014. Currently, the NPG has more than 180 videos available, and is adding 25 new works annually, on YouTube, iTunes, iTunesU, and ArtBabble; these videos have been downloaded by three million viewers. The Google Art Project continues to bring highlights of the NPG's collection to a vast worldwide audience.

The NPG continues its collaboration with the Oxford University Press and the online edition of the *American National Biography*, where the biographical entries are supplemented by a wide array of NPG collection images. In 2016, the Museum plans to have an enhanced presence in the publication by allowing a greater number of its collections to be featured under the terms of fair use. Also in 2016, the NPG will expand its initiative to have in-gallery label material available in both English and Spanish via mobile applications to include a bilingual audio component as well.

In February of 2016, the NPG will launch a redesigned website that is fully scalable and available across all platforms and browsers. The new, enhanced website will also democratize access to the NPG's collections and scholarship with a more accessible and user-friendly collections search engine. The search engine that will be implemented by the central technology offices will save resources and also allow for the download of medium-resolution collection images, a benefit not only for visual arts professionals but for the casual user as well.

The NPG supports the strategic goal of Revitalizing Education by involving learners and educators in collaborative programs. Having doubled its size in 2015, the Teen Museum Council will continue to grow as it guides teenage students to craft education and outreach programs to better connect the Museum with their age group's learning interests and means of investigating American history, art, and culture. "For teens, by teens" is the mission of this program. The NPG's teacher workshops, structured around themes drawn from the Museum's exhibitions, let educators from many different regional schools take advantage of NPG collections to develop activities which help their students learn American history. Now in its second year, the NPG's Teacher Advisory Board furthers outreach to educators around the nation. The board members contribute their professional perspective on new methods and students' interests to enable the NPG to extend its virtual reach across the country. The NPG will further integrate into its exhibitions and programs bilingualism and the needs of visitors with accessibility requirements.

Strengthening Collections is also central to the purpose of the NPG as it gathers and preserves the nation's collection of portraiture of a wide range of individuals and in many forms. The overall value of the collection to scholars and the public is increased each year by the further creation and distribution of digital images of the artworks. The NPG has approximately 9,500 high-resolution images of collection objects on the Smithsonian Digital Asset Management System (DAMS), a 25 percent increase from the previous year, and the NPG is a leader for fully leveraging the capabilities of the DAMS. To increase the breadth and depth of digitized collection information, object condition reports and images are also being uploaded to make this information more accessible to the Smithsonian research community. NPG staff will also pursue a project to digitize more than 1,000 prints and photographs in collaboration with the Smithsonian's Digitization Program Office, using new rapid-capture technologies.

The FY 2017 budget estimate includes an increase of \$260,000 and 1 FTE. The increase includes \$139,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$121,000 and 1 FTE for Collections Management.

MEANS AND STRATEGY

In FY 2017, the NPG will continue to concentrate its efforts and resources on exhibitions, developing and maintaining its collection, expanding public education offerings, and pursuing new research directions.

The NPG will pursue the strategic goal of Broadening Access by making its exhibitions more inclusive in subject and content, more accessible through translated texts, and more broadly available through development of traveling exhibitions. The NPG's exhibition schedule in FY 2017 will feature the following:

- *The Face of Battle: Americans at War, 9/11 to Now* — Since September 11, 2001, the United States has been engaged in multiple wars, and this warfare has become normalized into part of the social and cultural landscape; it is ongoing yet somehow out of sight, invisible. *The Face of Battle* will explore the first attempts by artists to put a “face” on recent wars by depicting the experience of common soldiers. The exhibition will not deal with the wider politics, tactics, and controversies associated with post 9/11 political situations; it will return the focus to the grassroots level of the ordinary soldiers who fought and continue to fight for our nation. A tour of the exhibition is being developed.
- *One Life: Sylvia Plath* — This exhibition will present a visual biography of Sylvia Plath (1932–1963), from childhood to her early death, with photographs, recently discovered illustrated family letters Plath wrote as a child, schoolbook sketches, self-portraits from her art courses at Smith College, and some of her personal belongings, including the wooden desk she shared with husband Ted

Hughes. It will be the first exhibition in an art museum to present her life, as well as her artwork, in tandem with her manuscripts, letters, and images.

- *The Sweat of Their Face: Portraying American Workers* — Work has always been central to the self-definition of Americans, and continues to be how Americans measure their lives and assess their contributions to the wider society. This comprehensive, multi-media exhibition will chart the course of American labor through more than two centuries of portraiture, exploring how artists have illustrated and defined the laboring body. Combining art and social history, *The Sweat of Their Face* addresses the intersection of high and popular culture in American history and will portray the diversity of America against the backdrop of its economic development and expansion, making an influential contribution to the histories of work, working people, and portraiture.

In addition to the special exhibitions, the NPG will conduct a reinstallation of the *America's Presidents* permanent installation in 2017. The artworks will temporarily be installed in our major exhibition space while the permanent galleries are refreshed and retrofitted for interactive media elements. The renewed gallery will open to the public in the fall of 2017 with updated texts, new media and interactive components and an illustrated brochure. The NPG will also continue to develop exhibition catalogues and organize shows into FY 2018 and beyond, with a focus on the NPG's 50th anniversary celebration in the fall of 2018.

With effective promotion and increased interactivity, the redesigned website will reach a greater and more varied online audience, both domestic and international, in the years to come. To become an effective presence in this electronic world, the NPG's website must be made available in a variety of languages. Already available in both English and Spanish, in 2017 versions in French, Arabic, and Mandarin will be added.

Building off the collaboration in 2015 with both Google and Apple to create exterior and interior mapping of the Museum, the NPG in 2017 will update this mobile data to enhance way-finding guides on both Apple and Android devices to highlight points of interest such as exhibit space, restrooms, and restaurants. Visitors will also be able to pinpoint their exact location within the Museum to within five meters. Also, using this Museum mapping, the NPG will explore developing technologies in conjunction with the Google Cultural Institute, including online exhibition design, collection apps, and 3D Cardboard exhibitions.

The NPG's publication projects in FY 2017 will include catalogues accompanying *The Sweat of Their Face* exhibition and the reinstallation of the *America's Presidents* exhibition, as well as work to make the Museum's permanent collection label texts fully bilingual.

In addition, the NPG will continue Strengthening Collections, further deepening its holdings of pre-1825 portraits of individuals, portraits of under-represented

minorities, likenesses of significant contemporary figures, and portraiture made in the newest digital formats. The NPG will make further progress conserving its permanent collection of works on paper, photographs, and paintings; the latter will include completing an 18-month conservation treatment of the George Washington Lansdowne portrait, and is associated with the reinstallation of the *America's Presidents* galleries.

NPG will commence a full-scale rapid-capture initiative for all collection objects, beginning with two-dimensional works. Meanwhile, the NPG Catalog of American Portraits will be expanded by adding 1,500 portrait records to its research database and Web interfaces.

NPG efforts in Revitalizing Education in FY 2017 include more sophisticated analysis of different audiences and the identification of and outreach to underserved audiences. The consideration of the latter will include non-native English speakers, and visitors with physical or learning challenges. NPG's education department specialists will establish stronger relationships with visitors from all backgrounds and interests in museum programs to develop education and events that are highly tailored to specific audiences. The NPG will continue to partner with its innovative learning groups, The Teen Council and the Teacher Advisory Board, and use the perspectives and knowledge of these key individuals to extend the educational value of the Museum's collection both programmatically and digitally. Other popular programs, including Pop Quiz, films in the courtyard, and Family Days events, will continue to anchor the NPG's educational offerings. In FY 2017, the NPG docent corps will be a vibrant and diverse group well versed in the collection and trained in inquiry techniques to engage audiences. The NPG education department will have tested an 18-month to eight-year-old space designed to help young people explore portraiture as art and history.

The NPG will work on the Mission Enabling strategic goal by ensuring outreach to communities in different forms, both in print and online, to access diverse applicant pools for emerging recruitment needs. The NPG will also continue to streamline its internal project development process to incorporate innovative thinking in programming while also doing a better job of planning for budgetary requirements.

EXPLANATION OF CHANGE

The FY 2017 budget estimate includes an increase of \$260,000 and 1 FTE. The increase includes \$139,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$121,000 and 1 FTE for Collections Management.

Collections Management (+\$121,000, +1 FTE)

The \$121,000 and 1 FTE will secure an additional collections manager to improve the inventory, conservation, and digitization of NPG's nearly 16,000

collection objects on paper, including prints, drawings, and photographs, and expanding collection of time-based media artworks. The collections manager would apply consistent attention to prior intermittent efforts to thoroughly catalogue collection objects, including accurately documenting the physical details of each object, identification of the artist and the work's provenance, and creating a description of the image, all of which are vital to art history and historical research. The additional staff member will also coordinate digitization efforts with central Smithsonian technology offices and conservation projects with internal staff and specialized experts beyond the Smithsonian, the combined result of which will be to preserve the collections for study and appreciation. The collections manager would also increase the value of the collections by making them more accessible, while also assisting with academic research and public inquiries. The enhanced level of collections stewardship will ensure that the artworks are increasingly available for academic inquiry, exhibition in the NPG galleries, or sharing with sister institutions around the nation via an active loans program.

NONAPPROPRIATED RESOURCES — General trust funds support critical positions and help defray costs of special events for exhibition openings, loan exhibition development, outreach, fund raising, management, and research. The NPG must support exhibitions, publications, public lectures and gallery programs, symposia, and some collection acquisitions with donor/sponsor-designated funds. Private donations are thus critical to the NPG's planning, programming, and ability to deliver on its public mission. It is through a public-private partnership that the National Portrait Gallery achieves its goals and serves the Smithsonian's mission.

NATIONAL POSTAL MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	6	1,073	4	559	2	467	17	3,015
FY 2016 ENACTED	6	1,109	4	560	2	715	18	3,067
FY 2017 REQUEST	6	1,120	4	560	2	665	18	3,067

STRATEGIC GOALS: BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	90	1	92	0	2
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	158	1	160	0	2
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	4	513	4	520	0	7
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	0	343	0	343	0	0
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	5	0	5	0	0
Total	6	1,109	6	1,120	0	11

BACKGROUND AND CONTEXT

The National Postal Museum (NPM), with the world's largest museum collection of stamps and postal artifacts, is dedicated to creating visitor experiences that educate, excite, entertain and inspire. With more than six million objects, the Museum is responsible for the Smithsonian's second-largest collection. The Museum dedicates its resources to developing new and innovative ways to explore the vital role of the postal system in American life, and to make its vast philatelic and postal

collections available to all visitors — both in person and online. The NPM uses its collections in exhibits and public programs which educate visitors on the history of America, transportation, communication, economics, and commerce.

In addition to the many activities and programs completed throughout the year, the NPM is focused on several major initiatives aimed at increasing visitation to both the Museum and its website. These initiatives include the design and fabrication of new history galleries; continued enhancements to the increasingly popular, Web-based, collection information system; and new rotating exhibitions in the *William H. Gross Stamp Gallery*.

The FY 2017 Budget request includes an increase of \$11,000 for necessary pay and other related salary costs for existing staff funded under this line item, which is justified in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

The National Postal Museum's primary activities are aimed at meeting the Smithsonian's Grand Challenges of Valuing World Cultures and Understanding the American Experience through the prism of postal communications and philately. These challenges will be met by Broadening Access to the Museum's collections, programs, and exhibitions; Revitalizing Education through the creation of new models and methods of presenting innovative educational programs; Strengthening Collections through improved preservation, storage, and enhanced digital imaging; and Mission Enabling by working with other Smithsonian units and external partners to improve Museum operations.

In FY 2017, the Museum's Education Center, part of the *William H. Gross Stamp Gallery*, will enter its fourth year of programming. Focusing on six target audience groups and several newly developed programs, the Center's two education spaces provide enhanced learning opportunities that incorporate the newest media tools. The space is also used for Institution-wide Smithsonian meetings and provides other Smithsonian units with the opportunity to test new ideas for visitor participation, using the latest technologies. The second educational space supports the Museum's on-site school tours, community engagement activities, and family programming such as NPM's traditional programs, including Stamp Stampede and the Mail Art Workshops. The Museum is also in the preliminary stages of developing a new initiative to install education hubs in five exhibit galleries. The hubs will provide new educational opportunities for children and their families, and are part of the Museum's effort to make its exhibitions and educational offerings more accessible to a younger audience and provide new learning opportunities.

In FY 2017, the Museum will continue to display the one-cent Magenta British Guiana stamp, the rarest and most valuable stamp in the world. The stamp is on loan to the Museum for a three-year period. The Museum will also open the second half of

the exhibition *Trailblazers: 100 Years of the National Park Service*. The exhibit will feature more than 200 objects from the national stamp collection.

The NPM's federal resources are primarily dedicated to improving the stewardship of the national collections for present and future generations. In FY 2017, the Museum will continue to process new acquisitions, which includes digitizing and cataloguing collection items using the automated collections information system (CIS). Enhanced cataloguing and digital records created for the African American exhibition will be placed online for broader access by the public.

A major initiative to improve accessibility to off-site collections will remain a Museum priority. In FY 2017, the Museum will continue to coordinate with the staff of the National Museum of American History (NMAH) on the decontamination of NPM collection objects stored in Garber building number 15 in Suitland, Maryland. This project will remove hazardous lead from NPM collections that have been stored for many years in a building that also houses lead-based printing equipment from the NMAH collection. The project will eliminate a potential safety hazard for staff and make previously inaccessible collection items available for cataloguing and imaging. These collection items will subsequently be made available to the public in exhibitions and online through the Museum's collections website.

Also in FY 2017, the Museum will continue to catalogue, image, and conserve the Postmaster General's (PMG) collection of original stamp art. The Postmaster General's collection, transferred to the Museum from the United States Postal Service in FY 2012, represents one of the most important philatelic collections in the world. It includes the original artwork, as well as rejected designs and preliminary sketches, commissioned for more than 3,000 U.S. postage stamps between 1942 and the present. NPM will also begin to permanently re-house the Postmaster General's collection of original stamp art as well as implement a comprehensive conservation treatment plan. The Museum will also develop a coffee table book, to be published by SI Press, *Highlights from the Postmaster General's Stamp Art Collection*, and will develop a corresponding exhibition at the Museum and online. In addition, the Museum will process two new archival collections related to the PMG art collection.

In FY 2017, the Museum will begin work on a temporary philatelic exhibition tentatively titled *American Pastime: Baseball as Seen through Stamps*. The exhibit will open in FY 2019 in conjunction with baseball's 150th anniversary. Also in FY 2017, the Museum will replace *ARAGO*, its award-winning online collections website, with a new state-of-the-art collections website that will greatly enhance the Museum's online collections experience.

In addition, the Museum will continue to refine the national philatelic collection. Collections frequently requested by researchers will continue to be reorganized and re-housed to improve public access and long-term preservation. Collection items previously deaccessioned from the national philatelic collection will be donated to

other museums or sold for the benefit of the national collection. Deaccessioned collection items include duplicate revenue stamps and various postal items, which either fall outside the scope of the collection or have deteriorated beyond use.

Finally, the NPM will continue to direct resources toward maintaining the Museum's information technology (IT) systems and infrastructure requirements to meet the strategic goal of Mission Enabling. The Museum will continue to replace network hardware and software to meet requirements which support programmatic and exhibition needs, and to modernize its IT systems. The Museum will also begin the process of replacing its popular online collections program, which is now more than 10 years old and showing signs of obsolescence.

NONAPPROPRIATED RESOURCES — The United States Postal Service provides the NPM with an annual grant, which supports nearly 75 percent of the Museum's core functions and operational costs. These costs include salaries and benefits, utilities, facility maintenance, exhibitions, education, and collection management programs. Fundraising initiatives continue to generate increased support from the private sector to develop and support new exhibitions, research opportunities, educational initiatives, and special events.

SMITHSONIAN AMERICAN ART MUSEUM

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	88	9,474	8	1,403	34	9,721	1	110
FY 2016 ENACTED	89	9,723	10	1,270	40	9,554	1	125
FY 2017 REQUEST	91	10,115	10	1,319	40	8,082	1	125

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	6	685	8	898	2	213
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	835	9	851	0	16
<i>Public Programs</i>						
Provide reference services and information	14	1,482	14	1,512	0	30
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	23	2,451	23	2,500	0	49
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	307	3	313	0	6
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	19	2,265	19	2,310	0	45
Mission Enabling						
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	91	1	93	0	2
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	2	156	2	159	0	3

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	12	1,451	12	1,479	0	28
Total	89	9,723	91	10,115	2	392

BACKGROUND AND CONTEXT

The Smithsonian American Art Museum (SAAM) is the nation’s Museum dedicated to the arts and artists of the United States from colonial times to the present. It is the home of the largest and most inclusive collection of American art in the world, and its holdings of more than 42,000 works, spanning three centuries of the nation’s cultural development, tell the story of America through the visual arts. The Museum’s programs make the collection available to national audiences and beyond, as well as to those who visit its two historic landmark buildings in Washington, DC: the Donald W. Reynolds Center (DWRC) for American Art and Portraiture (shared by SAAM and the National Portrait Gallery) and the Renwick Gallery, dedicated to American crafts and decorative arts.

To achieve the strategic goal of Excellent Research, SAAM curators and research Fellows-in-residence use the collection and other resources to develop new insights into America’s cultural and artistic legacy. The resulting knowledge informs collections development and serves as the basis for exhibitions, associated award-winning catalogues and scholarly publications, and material for online content and educational programs. The Museum’s peer-reviewed journal, *American Art*, serves as an additional venue for scholarship in the field. The Museum hosts international symposia on topics of relevance in the field of American art.

Broadening Access is achieved through a web of activities. The Museum is taking full advantage of the latest technologies (e.g., audio, multi-media, podcast tours, tablets, smart phones, and applications) as well as social media to engage audiences both online and on site. Three videoconference centers deliver the Museum’s programs around the world. Digitization of the collection continues apace, allowing the Museum to add new content and features to its online resources.

An ambitious schedule of exhibitions developed in-house and complemented by shows obtained from other organizations attracts new visitors and encourages repeat visits. At the DWRC, large exhibition spaces, shops, and a restaurant greet visitors with a broad range of activities to maintain their interest. The Lunder Conservation Center provides a window on preservation of the nation’s collections, and the Luce Foundation Center for American Art displays 3,500 collection objects in an inviting visible storage center. The Renwick Gallery has additional space for exhibitions, public programs, and rotating displays of its permanent collection of American crafts. Multiple traveling exhibitions organized by the Museum are shared with museums throughout the United States, giving the public, direct access to the nation’s artistic and cultural heritage.

Public programs complement Museum exhibitions and collections through activities such as courtyard concerts, family days, heritage month programs, tours and gallery talks, scavenger hunts, and craft and sketching workshops.

Diverse activities advance the strategic goal of Revitalizing Education. National education programs directly reach K–12 teachers and students. These include adoption of the latest technologies where most effective, as well as incorporation of art into core curricula. Resident teacher institutes are supplemented by online/on-demand courses for the K–12 community. The Museum regularly collaborates with private and public organizations to provide teachers with new tools and resources. Students are brought into the Museum as often as possible to provide that unique, direct experience with great art. The MacMillan Education Center, located in the galleries, benefits students in classrooms across the nation and U.S. military bases worldwide, as well as school groups touring the Museum, conservators, research Fellows, and educators.

The strategic goal of Strengthening Collections is achieved through multiple activities. Scholarship and research help set acquisition objectives. Gifts of art and private funds raised through development activities pay for additions to the national collection. Conservators obtain new tools and training to preserve the artwork. The Lunder Conservation Center is an important locus for conservation training and colloquia of interest to the conservation community and the public. Conservation Fellowships ensure that experience and knowledge are shared within the larger community of conservation practitioners.

Mission Enabling encompasses many activities. A proactive safety program ensures a safe and healthy environment for Museum staff and visitors. Information technology staff implement and maintain the information framework on which so many other efforts depend. This includes the exhibition space screens, kiosks, and optimizing online information for mobile devices. Managers carefully plan, promote, protect, and conserve the Museum's resources.

The FY 2017 budget estimate includes an increase of \$392,000 and 2 FTEs. The increase includes \$197,000 for necessary pay for existing staff, and programmatic increases of 2 FTEs and \$195,000 for Collections Scholarship.

MEANS AND STRATEGY

Research on the collections and related topics by curatorial staff continues in support of exhibitions and the permanent collection, including five new exhibition catalogues scheduled for publication in FY 2017. Endowments and multi-year private support have allowed the Museum to hire curators with specialties in sculpture, photography, and contemporary crafts. The Museum's award-winning, peer-reviewed journal, *American Art*, will publish three issues of new scholarship. The Museum hosts approximately 20 research Fellows from throughout the country and internationally, thereby increasing the number of scholars using the collections. The resulting discoveries and interpretations by staff and Fellows help Americans

understand and appreciate their rich cultural heritage as well as advance scholarship in American art. Research will also feed into educational programs as well as the Web and new media.

Three-fourths of SAAM's collection is already online and the Museum continues to digitize and post new images and content. The Museum makes images and content available through online image- and video-sharing sites and collaborative initiatives with other organizations, maintains an active online presence via social media (e.g., Facebook, Twitter, and YouTube), and hosts the art blog, *Eye Level*. The Museum continues to add podcasts and videos to its online library. All these assets are accessible regardless of the device used. In-house video production enables the Museum to expand its audience by webcasting events and hosting online discussions via instant messaging and blogs. Interactive exhibition components are used whenever appropriate to provide a richer, customized cultural experience.

Seven exhibitions are planned for FY 2017 at SAAM. Major exhibitions at the DWRC include: *Gene Davis: Hot Beat*; *Isamu Noguchi: Archaic/Modern*; *Nature and Spirit: Marsden Hartley's Mysticism*; *Down These Mean Streets: Photographing Urban Space*; and *George Catlin's American Buffalo*. The Renwick Gallery reopened on time and on budget in November 2015 after a much-needed renovation, and has since shattered previous attendance records. The *Renwick Invitational* will be running as the year starts, to be followed by *June Schwarcz* and *Peter Voulkos: Ceramic Presence*. The well-received rotating exhibit *Watch This!* will showcase video and new media art from the Museum's permanent collection.

As part of its ongoing efforts to make as much material as possible accessible to the public, the Museum regularly rotates artworks in the permanent collection galleries to show the many facets of American art and culture, as well as to encourage return visits. In FY 2016, the Museum completed the reinstallation of the folk art galleries on the first floor. African American artworks, which had been on tour, have been reintegrated into the works on display. The Luce Foundation Center for American Art displays an additional 3,500 collection objects in densely installed glass cases.

National outreach includes touring exhibitions with *Our America: The Latino Presence in American Art*, which ends its multi-year run. The *Irving Penn: The Painter's Eye* continues to tour and is joined by *Romaine Brooks* and *Pop Art*. Interactive exhibition components continue evolving to keep pace with proliferating information conduits. In addition, whenever possible, SAAM honors requests by other museums for loans from the national collection.

SAAM engages diverse audiences through a range of public programs and online resources. The Museum will continue its popular tours, gallery talks, demonstrations and workshops, and now offers signed tours for the hearing impaired. Individuals may bring in objects and talk with conservators about the proper care and handling of family heirlooms. Family Days and heritage month programs continue to

create and sustain new relationships between the public and their cultural history. Our Chinese New Year celebration, held in conjunction with the Chinese Embassy, has become a visitor favorite. Public programs in the galleries, McEvoy Auditorium, and Kogod Courtyard will be supplemented by new Web content, as well as by making such content accessible regardless of the device being used to access it.

Education initiatives expand as the Museum takes advantage of new online tools and assets. SAAM continues to develop its highly successful distance-learning program that reaches classrooms worldwide. A third videoconference center, within the MacMillan Education Center, enables the Museum to serve more students than ever before. Partnerships with Government agencies such as the National Park Service, National Archives and Records Administration, and the U.S. Patent Office expand the Museum's reach to more diverse audiences. The intern program, hosting 34 students this past year (from 17 states, Washington, DC, and Australia), will prepare the next generation of museum professionals. The Museum, as part of its educational initiative, again will host two institutes for teachers; last year, 77 teachers from 27 states, Washington, DC, Japan, and South Korea attended.

The safe storage and display of collection objects remain a top priority. SAAM continues to develop public interest in and awareness of preservation issues through the Luce Foundation Center and the Lunder Conservation Center and their many public programs. The acquisition of new tools and instrumentation will allow more complete monitoring of the collection and application of leading-edge conservation techniques to preserve the collection. Leased cool-storage space ensures that photographic material is preserved in ideal conditions. Artworks will be acquired to fill gaps in the collection identified through the Museum's collections plan. Time-based media (i.e., works which exhibit a changing observable state, such as videos or light-emitting diodes [LEDs]) will continue to receive special attention.

The Museum has been a lead partner, with the Department of Energy, in developing LED technology for use by museums, which will save the Institution thousands of dollars in energy costs. The renovated Renwick Gallery will continue to yield important data on the use of LEDs. Information technology and administrative procedures will be strengthened through close monitoring of resources and processes, especially as lean budgets continue. Strong partnerships with Smithsonian central offices enable SAAM to provide an end-user perspective on policy changes. Use of the Museum's Wiki and SharePoint websites keeps staff current on the ever-changing procedural and regulatory environment. Continual review of work processes and conditions will be followed by implementation and use of safer techniques and materials for both staff and the Museum environment.

EXPLANATION OF CHANGE

The FY 2017 budget estimate includes an increase of \$392,000 and 2 FTEs. The increase includes \$197,000 for necessary pay for existing staff, and programmatic increases of 2 FTEs and \$195,000 for Collections Scholarship.

Collections Scholarship (+\$195,000, +2 FTEs)

The Budget request includes an increase of \$195,000 and 2 FTEs for additional curators. SAAM's curatorial staff has significant gaps in their ability to research, interpret, exhibit, and care for the national collection in critical subject areas as defined by national educational standards, and program execution. Curatorial staffing levels have dramatically declined, seriously depleting the Museum's scholarly foundation. With the requested funds, the Museum will rebuild its curatorial strength to support excellent research, exhibitions, and digitization. Specifically, these positions will fill the need for a Photography curator and a curator with knowledge of 20th century African American art to build the national collection as well as plan future exhibitions.

NONAPPROPRIATED RESOURCES — Nearly all of SAAM's non-personnel costs, including those for exhibitions, educational and public programs, and additions to the national collection, are paid with funds provided by individuals, foundations, and corporations. Donor/sponsor-designated funds support specific programs and projects. SAAM's National Campaign continues to put special emphasis on obtaining endowments to provide secure funding for these ongoing projects and activities. Additionally, trust funds support salaries and benefits for one-third of staff, as well as all fundraising activities and related costs.

Introduction, *Mission Enabling*

The backbone of the Smithsonian must remain a dedicated workforce of employees and volunteers with 21st century skills and perspectives. Strong, responsive support services — such as collections stewardship, facilities management, Web and new media, audience research, marketing, and financial management — are essential to accomplish the Smithsonian's mission. Finally, we need to generate revenue in new ways to ensure that we can fund our vision for the future.

UNITS primarily associated with Mission Enabling:

- **Outreach**
- **Communications**
- **Institution-wide Programs**
- **Smithsonian Exhibits**
- **Museum Support Center**
- **Museum Conservation Institute**
- **Smithsonian Institution Archives**
- **Smithsonian Libraries**
- **Office of the Chief Information Officer**
- **Administration**
- **Office of the Inspector General**
- **Facilities Maintenance**
- **Facilities Operations, Security, and Support**

OUTREACH

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	65	9,150	39	6,363	3	4,541	10	5,763
FY 2016 ENACTED	64	9,045	41	6,886	4	3,454	0	420
FY 2017 REQUEST	64	9,214	42	6,705	4	3,334	0	284

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	3	1,301	3	1,308	0	7
Ensure the advancement of knowledge in the humanities	2	995	2	999	0	4
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	2	250	2	265	0	15
Public Programs						
Provide reference services and information	1	115	1	120	0	5
Exhibitions						
Offer compelling, first-class exhibitions	39	4,555	39	4,622	0	67
Revitalizing Education						
Education						
Engage and inspire diverse audiences	12	1,387	12	1,456	0	69
Mission Enabling						
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	5	442	5	444	0	2
Total	64	9,045	64	9,214	0	169

BACKGROUND AND CONTEXT

Broadening Access is a key component of the Smithsonian's Strategic Plan. All of the Institution's outreach activities link the Smithsonian's national collections,

research, and educational resources with Americans from coast to coast. Its aims are to: 1) broaden the audiences who share in the nation's rich cultural heritage; 2) enhance widespread research-based knowledge of science, history, and art; and 3) provide opportunities for educators and scholars to further increase and diffuse knowledge.

Smithsonian outreach programs serve millions of Americans, thousands of communities, and hundreds of institutions in all 50 states, through loans of objects, traveling exhibitions, and sharing of educational resources via publications, lectures and presentations, training programs, and websites. Smithsonian outreach programs work closely with Smithsonian museums and research centers, as well as with more than 200 affiliated institutions and others across the nation.

This line item includes the programs that provide the critical mass of Smithsonian Across America outreach activity: the Smithsonian Institution Traveling Exhibition Service (SITES); Smithsonian Affiliations; the Smithsonian Center for Learning and Digital Access (SCLDA); the Office of Fellowships and Internships (OFI); and the Smithsonian Institution Scholarly Press (SISP). The Smithsonian Associates (TSA) and the Smithsonian Science Education Center (SSEC), which receive no direct federal funding, are also part of this national outreach effort.

The FY 2017 Budget request includes an increase of \$169,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

Smithsonian Institution Traveling Exhibition Service (39 FTEs and \$4,622,000) — For 65 years SITES has devoted its mission to sharing Smithsonian exhibitions and educational resources with people and places all across the country. More than 500 communities in all 50 states host SITES shows in formats ranging from large-scale interactive exhibits for mainstream art, history, and natural history museums to exhibitions for mid-size museums and cultural centers, and from small exhibitions for rural America to poster sets tailored to school classrooms. Encompassing subjects that parlay the Smithsonian's vast collection and research pursuits, SITES' FY 2017 offerings will address such topics as artistic creativity, scientific exploration, and the mosaic of diverse cultures that have made America the great nation it is today.

SITES is a national leader in exhibitions that honor and celebrate the cultural heritages of African Americans, Latinos, Asian Pacific Americans, Native Americans, and the many other peoples who give our nation its unique vitality. FY 2017 resources will continue to be dedicated to this focus, in addition to generating public engagement through such exhibition topics as aeronautics and space exploration, world cultures, our biodiverse planet, and the American experience.

SITES' landmark Museum on Main Street (MoMS) initiative will continue to enrich the underserved populations of rural America, whose access to national cultural programs is limited. SITES' newest MoMS exhibits examine the relationships between people and water from cultural and scientific perspectives.

Although the tangible experience is key to what SITES provides to visitors, the organization also focuses on ways to extend and engage audiences far beyond museum walls via multiple forms of technology, from mobile interactive applications (apps) to educator resources.

While Americans may know the Smithsonian from one-time school trips or family visits, the presence of the Institution's resources in their hometowns has a deeper resonance. SITES exhibitions represent the valuable public impact of the federal dollar. They are a source of immense local pride, bringing together people from diverse ethnic, age, and socio-economic groups to celebrate a shared national heritage at the local level.

Smithsonian Affiliations (2 FTEs and \$336,000) — Now in its 20th year, the mission of Smithsonian Affiliations is to build a strong, national network of affiliated museums, educational, and cultural organizations that will facilitate the display of Smithsonian artifacts and the dissemination of the Institution's expertise in communities across America. By working with both emerging and well-established museums of diverse sizes, subject areas, audience bases, and scholarly disciplines, Smithsonian Affiliations creates the framework through which visitors unable to come to the Institution's facilities can still experience the Smithsonian in their own communities. In addition, the Smithsonian is working closely with affiliated organizations to increase their audiences, expand their professional capabilities, and gain greater recognition in their local communities. There are currently 208 affiliate organizations in 46 states, Puerto Rico, and Panama.

These strategies have resulted in the display of more than 8,000 Smithsonian artifacts in Affiliate locations, including such historic and topical items as U.S. spacecraft, First Ladies' gowns, Civil War arms and uniforms, outdoor sculptures, scientifically significant collections, and many more. Smithsonian scholars have participated in science literacy, American history, and art education programs at Affiliate locations. Professional development workshops, internships, and visiting professional residencies have given Affiliate staff the opportunity to increase their knowledge and skills in areas such as collections management, exhibition planning, and museum administration. In addition, the Smithsonian Affiliations' annual conference continues to create a forum for networking, information sharing, and future planning. New videoconferencing capabilities have also extended the reach of Smithsonian Affiliations. Current Affiliate projects build on and amplify the "Grand Challenges" outlined in the Smithsonian's Strategic Plan.

Smithsonian Center for Learning and Digital Access (SCLDA) (13 FTEs and \$1,505,000) — Smithsonian educators work with Smithsonian content experts to develop products and services that strengthen American education and enhance our ability to compete globally. The Smithsonian serves as a laboratory that creates methods and models of innovative informal education linked to our nation's formal education system. SCLDA venues use a wide range of interactive, Web-based technologies; our programs encourage continual educational exploration by learners of all ages. To guide these efforts across the Smithsonian, SCLDA has created an Institution-wide approach to education that leverages resources, strengthens communications, coordinates programming, and rewards innovative thinking and collaboration.

Office of Fellowships and Internships (OFI) (6 FTEs and \$1,963,000) — The OFI has the central management and administrative responsibility for the Institution's programs of research, Fellowships, and other scholarly appointments. One of its primary objectives is to facilitate the Smithsonian's academic interactions with students and scholars at universities, museums, and other research institutions around the world. The Office administers Institution-wide research support programs, and encourages and assists other Smithsonian museums, research centers, and offices with diversifying and developing additional Fellowships and visiting appointments.

The Smithsonian Institution offers Fellowships to provide opportunities for graduate students, pre-doctoral students, and postdoctoral and senior investigators to conduct independent research in association with members of the Smithsonian professional research staff, and to more effectively use the resources of the Institution.

To achieve the strategic goal of Excellent Research and maintain the Smithsonian's level of expertise in the research community, the Institution must continue attracting the best scholars. The OFI has increased Fellowship stipends to provide awards comparable to other prestigious programs so the Smithsonian can maintain a competitive edge. Since funding for stipends has remained flat, the Smithsonian has increased the value of each award, but has decreased the number of Fellowships awarded. The Smithsonian is trying to raise private funding for the Institution's Fellowships and Scholarly Studies Program so that the Institution has the resources necessary to help today's young scientists become the next generation's top researchers. In addition, the OFI continues to provide current staff with the financial support needed to develop new research initiatives, collaborate with other scholars, and determine the scope and feasibility of projects.

Smithsonian Institution Scholarly Press (SISP) (4 FTEs and \$788,000) — Through the Smithsonian Contributions Series program, continually published since 1875, SISP publishes and disseminates research conducted by Smithsonian staff and their collaborators. The federal funds support the production of first-class science results and widespread public distribution to libraries, universities, other

organizations, and the public. The program publishes, in both print and digital formats online, monograph series in subject areas ranging from art, anthropology, botany, and marine sciences to paleobiology, zoology, museum conservation, and history and technology, as well as edited collections of interdisciplinary research and symposia proceedings. Furthermore, federal resources underwrite the publishing of scholarly books written by Smithsonian staff or books closely related to Smithsonian collections as well as increased public access to peer-reviewed scholarly publications. This advances the Institution's strategic goals of Excellent Research and of Broadening Access to scientific research and the national collections.

NONAPPROPRIATED RESOURCES — General trust funds defray the costs of staff salaries and benefits, fund raising, exhibition design and production, publications, materials, outside specialists, and contractual services. Donor/sponsor-designated funds cover costs related to specific projects and programs.

COMMUNICATIONS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	22	2,567	27	4,473	0	75	0	0
FY 2016 ENACTED	22	2,594	32	4,272	0	75	0	0
FY 2017 REQUEST	22	2,632	32	4,068	0	75	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	7	628	7	636	0	8
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	118	1	121	0	3
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	10	1,345	10	1,365	0	20
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	4	503	4	510	0	7
Total	22	2,594	22	2,632	0	38

BACKGROUND AND CONTEXT

The Office of Communications and External Affairs (OCEA) consists of four departments: the Office of Public Affairs (OPA), the Office of Government Relations (OGR), the Office of Visitor Services (OVS), and the Office of Special Events and Protocol (OSEP).

OCEA manages the Smithsonian brand strategy, coordinates brand marketing and oversees internal communications. The Office resources support the Strategic Plan by training staff about the Institution's priorities and objectives, and informing them about important initiatives, thereby enabling the Institution to better execute its mission. Accordingly, OCEA is responsible for implementing

the Smithsonian brand strategy, both internally and externally, so that the Smithsonian reaches and engages more people with its mission. By improving internal communications to more effectively and efficiently inform staff of Institution-wide policies, initiatives, and events, OCEA encourages cross-unit collaboration.

The OPA coordinates public relations and communications with museums, research centers, and offices to present a consistent and positive image of the Institution. The Office supports the Strategic Plan by advancing the Institution's objectives, connecting people with Smithsonian experts, research, exhibitions, and public programs, and by working with conventional media outlets and social media. The OPA connects to online audiences by overseeing content such as Visitor Information, Events, Exhibits, and *Encyclopedia Smithsonian* on the Institution's central website. The Office also administers content on Newsdesk, the Smithsonian's online newsroom, and on the central Smithsonian social media accounts. In addition, the OPA works with units throughout the Institution to establish and maintain professional communications guidelines and standards.

The OGR is the liaison between the Smithsonian Institution and the Federal government. This includes members and staff of the U.S. House of Representatives and Senate appropriations and oversight committees and other congressional offices, the White House, the Office of Management and Budget, and various Federal agencies. The Office supports the Institution's overall Strategic Plan by explaining the accomplishments, relevance, and wealth of the Smithsonian's offerings to the Congress and the Administration. The OGR also works with other Smithsonian offices, informing them of federal-sector activities, tracking legislation pertinent to them, showcasing their exhibits, programs and discoveries for interested congressional offices, and managing their requests for high-ranking Government officials to participate in official Institution events.

The OVS is the principal Office dedicated to designing, orchestrating, and improving visitors' experiences with the Smithsonian. The Office enables the Smithsonian's mission through its activities as the primary point of contact for Smithsonian visitors and volunteers. The Office resources support the Strategic Plan by administering products and services that broaden visitor access to Smithsonian public programs and services.

The OSEP participates in strategic decision making for advancing the Institution's goals by identifying event opportunities which will help the Smithsonian achieve its objectives, and also helps plan unusual events to extend the reach of the Institution and energize its representation.

The FY 2017 budget estimate includes \$38,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

The OPA allocates resources for national and international media publicity and to expand minority relationships through targeted media outlets. As the Smithsonian Office with primary responsibility for extending the Institution's communications message to online audiences, the OPA manages content on the central website, Newsdesk, and on the central Smithsonian social media accounts. The OPA works with units throughout the Institution to establish and maintain professional communications guidelines and standards. The OPA also produces *Smithsonian Science*, an online blog devoted to scientific research.

In addition, the OPA initiates and responds to all media inquiries in a timely manner with accurate, concise information, and generates story ideas for the media featuring Smithsonian experts, exhibitions, research, and programs. In terms of new initiatives, the OPA also has a leading role in coordinating the Smithsonian's "Seriously Amazing" national branding campaign to educate the public about the Institution's mission and many programs, as well as appeals for private support.

The OVS designs and administers systems that visitors use regularly to plan and enjoy their visits, as well as systems that enable Smithsonian staff to better aid on-site visitors. The OVS administers the Smithsonian Information Center, the outdoor visitor information kiosks adjacent to all museums and galleries, Web applications, and selected publications. In addition, the OVS oversees a comprehensive visitor feedback system that includes the general Smithsonian email address, a telephone call center, comment cards, and surveys.

The OVS also works with relevant units to deliver products and services that help their staff understand and meet the needs of their specific audiences. The OVS systematically analyzes visitor behavior, trends and insights, and delivers pertinent findings to museum and research center teams whose projects will affect how visitors experience the Smithsonian. The OVS recruits and trains highly qualified, motivated and diverse volunteers to engage with visitors and help Smithsonian staff conduct research projects. The OVS increases retention of volunteers by offering personal enrichment and recognition opportunities.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of personnel and other related costs. In addition, these funds support information dissemination, outreach, publications, and general operations.

INSTITUTION-WIDE PROGRAMS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	0	10,505	0	0	0	0	0	0
FY 2016 ENACTED	0	13,284	0	0	0	0	0	0
FY 2017 REQUEST	0	14,984	0	0	0	0	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	0	1,200	0	1,200	0	0
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	0	2,400	0	2,400	0	0
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	0	6,697	0	8,197	0	1,500
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	2,987	0	3,187	0	200
Total	0	13,284	0	14,984	0	1,700

BACKGROUND AND CONTEXT

Beginning in 1993, Congress has approved the creation of the following Institution-wide funding programs:

- Research Equipment Pool
- Latino Initiatives Pool
- Asian Pacific American Initiatives Pool
- Collections Care and Preservation Fund
- Information Resources Management Pool

In 1993, Congress approved the Smithsonian's reallocation of funds to create two Institution-wide funding programs: the Research Equipment Pool to support the units' needs for state-of-the-art research equipment, and the Information Resources Management (IRM) Pool to systematically address information technology (IT) needs throughout the Institution. The Institution first received funds in FY 1995 to support the development of a third Institution-wide program, this one for Latino initiatives, including research, exhibitions, and educational programming. In FY 1998, Congress approved a \$960,000 increase to the IRM Pool specifically dedicated to collections information systems (CIS) needs. The FY 2006 appropriation included an increase of \$1 million to establish the Collections Care and Preservation Fund (CCPF). The CCPF provides resources for the highest priority collections management needs throughout the Institution to improve the overall stewardship of Smithsonian collections.

In FY 2016, the Institution established the Asian Pacific American Initiatives Pool to explore and share the contributions of Asian Pacific Americans to the American Experience. The pool funds competitively selected projects that support research, exhibitions, educational programs, collections, digital and media projects, and partnerships with local and regional cultural organizations.

This Budget request includes an increase of \$1,700,000 for the Institution-wide programs, including for the Collections Care and Preservation Fund (\$1,500,000) and for the Information Resources Management Pool (\$200,000).

ADDITIONAL BACKGROUND AND CONTEXT — COLLECTIONS CARE INITIATIVE

Collections stewardship is a key component and core priority of the Smithsonian's Strategic Plan. Assembled over 170 years, Smithsonian collections are fundamental to carrying out the Institution's mission and Grand Challenges, serving as the intellectual base for scholarship, discovery, exhibition, and education. As recognized by the America COMPETES Act reauthorization, the proper management, documentation, preservation, and accessibility of collections are important to the nation's research and education infrastructure. Smithsonian collections have a unique and important role in addressing scientific and societal issues of the 21st century, enabling researchers to address such significant challenges as the effects of global change, the spread of invasive species, and the loss of biological diversity and its impact on global ecosystems.

As result, the Institution must substantially improve collections care to ensure that Smithsonian collections are properly preserved and made accessible for current and future generations to study and enjoy. The volume, characteristics, complexity, and age of Smithsonian collections, as well as the variety of discipline-specific standards that apply to their care, make their management, preservation, and digitization as unprecedented, challenging, and complex as the collections themselves.

Currently, Smithsonian collections total 138 million objects and specimens; 153,000 cubic feet of archives; and 2 million library volumes that include irreplaceable national icons, examples of everyday life, and scientific material vital to the study of the

world's natural and cultural heritage, covering subjects from aeronautics to zoology. Through its collections, the Smithsonian presents the astonishing record of American and international artistic, historical, cultural, and scientific achievement, with a scope and depth that no other institution in the world can match. As the steward of the national collections, the Smithsonian has the unique responsibility and historic tradition of preserving and making accessible its collections that are held in trust for the public.

Collections stewardship — the systematic development, documentation, management, preservation, and use of collections — is not a single process or procedure, but a series of components which are interwoven, interdependent, and ongoing. The condition of facilities housing collections, the quality of storage equipment and preservation tools, and the ability to document collections in manual and digital formats directly affect the Smithsonian's ability to make collections available to scholars and the general public worldwide. Collections care, storage, and digitization represent a continuum of activities which support the Smithsonian's strategic goals to strengthen collections, broaden access, and revitalize education. Because collections stewardship is fundamental to the Smithsonian's mission, there is a critical need for additional resources to accomplish basic collections management activities for accountability, preservation, storage, digitization, and accessibility of the collections.

MEANS AND STRATEGY — RESEARCH EQUIPMENT POOL

The Smithsonian's ambitious research agenda requires appropriate equipment to achieve its goal of Excellent Research. This basic equipment infrastructure requires regular maintenance, upgrades, and routine replacement. With the current allocation, the Institution will continue striving to prioritize and address the many research needs throughout the Smithsonian community. Research Equipment Pool funds have enabled Smithsonian museums and research centers to undertake groundbreaking research in numerous areas. For example, genomics is offering new opportunities for exploring biodiversity. To be successful, biodiversity genomics requires a set of cutting-edge genetic technologies such as next-generation sequencing (NGS). Similarly, the Institution's efforts in materials conservation have been greatly enhanced by using highly specialized equipment that has enabled conservators to achieve refinements in identifying the age and provenance of artifacts as well as improvements in the preservation of fragile materials. Investing in equipment and maintenance contracts will allow the Smithsonian to leverage its collections and expertise in these important areas of research.

MEANS AND STRATEGY — LATINO INITIATIVES POOL

To achieve the goal of Broadening Access to Smithsonian research and programs, the Latino Initiatives Pool provides funding for projects that support Latino programs and focus on U.S. Latino contributions to science, history, art, music, and culture. This Budget request reflects the priorities of the *Consolidated Appropriations Act, 2016*, which encourages the Institution to promote "the inclusion of Latino contributions in Smithsonian Institution programs, exhibitions, collections, and public outreach." Pool funds have been used to support exhibition and collections

development, public and educational programs, research and publications, and Fellowships and internships.

Projects are selected on a competitive basis from proposals that demonstrate cost-effective deployment of pool funds, as well as coordination with other Smithsonian resources and external funding. Since its creation in 1995, the Latino Initiatives Pool has provided more than \$20.5 million in funding to 450+ Smithsonian programs and projects.

In addition to a Latino Curatorial Initiative, launched in 2010 and designed to increase Latino representation and scholarship at the Smithsonian, expanded funding of the Latino Initiatives Pool will broaden the Smithsonian's outreach efforts throughout the country. This will include an increased number of traveling exhibitions, public and educational programs, and institutional partnerships. These funds will ensure that Smithsonian content is available to more visitors throughout the country and the world.

The Latino Initiatives Pool funding will continue to be directed to Smithsonian leadership and professional development programs as well. An example of this is the Smithsonian Latino Center's Latino Museum Studies Program (LMSP), which now boasts a national alumni network of more than 270 professionals and scholars, some of whom are currently employed at the Smithsonian. Programs such as LMSP play a critical role in creating an extensive pool of qualified museum professionals and cultural specialists who are represented in universities, museums, and cultural centers that also collaborate with the Smithsonian.

MEANS AND STRATEGY — ASIAN PACIFIC AMERICAN INITIATIVES POOL

To achieve the Institution's strategic goal of Broadening Access to its mission, and promoting the understanding of the full spectrum of the American Experience, the Smithsonian proposes creating an Asian Pacific American Initiatives Pool. These funds would be used in accordance with the *Consolidated Appropriations Act, 2016*, which encourages the Smithsonian to develop programs and expand outreach in this area to "promote a better understanding of the Asian Pacific American experience." The pool will support research, exhibitions, educational programs, collections, digital and media projects, and partnerships with local and regional cultural organizations. Projects would be selected on a competitive basis from proposals that demonstrate effective deployment of the pool funds, coordination with other Smithsonian resources, and successful external fund raising from the private sector.

MEANS AND STRATEGY — COLLECTIONS CARE INITIATIVE

To achieve the strategic goals of Strengthening Collections and Broadening Access, the Collections Care and Preservation Fund (CCPF) provides critical resources to make targeted improvements in the accountability, documentation, preservation, storage, and accessibility of the Smithsonian's vast and diverse collections. With this funding, the Smithsonian has raised the level of collections stewardship in a pragmatic, strategic, and integrated manner by prioritizing and systematically addressing

collections care needs. The Institution has succeeded with an approach that is based on sound collections assessment data, current collections care methodologies, economies of scale, and project-driven activities, including collections moves and digitization. Holistic collections-level management has enabled comprehensive improvements that benefit the greatest number of collection items and collecting units in an efficient, practical, and cost-effective way.

The Smithsonian's senior leadership acknowledge that an effective strategy for addressing collections challenges depends on a coordinated, Institution-wide approach. Therefore, the following initiatives inform our strategies, budget request, and allocation of resources throughout the Smithsonian community.

Collections Physical Assessment

In FY 2010, the Smithsonian conducted an Institution-wide collections physical condition assessment. As part of the assessment, Smithsonian collecting units grouped and evaluated their collections holdings based on their management and use, and characterized the quality of collections' physical condition, housing materials, storage equipment, physical accessibility, and collections space. In FY 2012, the category of collections significance was added to the collections assessment methodology. Based on the collections' physical assessment results, the Smithsonian has used the centralized CCPF to achieve targeted improvements in the preservation and accessibility of collections, ranging from national icons to biomaterials, in the most efficient and cost-effective manner possible.

The National Collections Program has strategically directed central collections care resources to specific collections across the Institution to improve substandard aspects of collections care to an acceptable level and meet professional standards. In addition, these funds have enabled staff to correct specific collections management deficiencies identified in the Smithsonian's Inspector General audit recommendations; facilitate collections moves from substandard facilities; and address the Institution's highest priority collections management needs.

Collections Space Survey and Planning

During FY 2011, the Smithsonian launched an Institution-wide collections space planning initiative to document, analyze, and plan for addressing the Institution's current and future collections space needs in a pragmatic, strategic, and integrated manner. With these goals in mind, the Smithsonian established an interdisciplinary Collections Space Steering Committee to assess current collections space conditions and needs, and develop a framework plan with near, intermediate, and long-term recommendations for addressing current and projected Institution-wide collections space requirements.

As part of this planning initiative, the Smithsonian completed a first-of-its-kind survey of existing collections space — representing more than 2.1 million square feet of space, or 18 percent of total Smithsonian building space. The survey provided a

snapshot of collections space conditions and characterized the quality of collections space, equipment, accessibility, environmental conditions, security, and fire safety. Subsequently, the Collections Space Framework Plan, issued in FY 2015, serves as a roadmap to guide short- and long-term facilities capital, real estate, and collections care projects, providing renovation and new construction strategies that address unacceptable collections space conditions, allow for decompression of overcrowded collections, and anticipate collections growth needs.

To address near-term space requirements, the Smithsonian's Facilities Capital request supports the planning and design of Pod 6 at the Museum Support Center (MSC); continued remediation of collections currently stored in contaminated conditions in Garber Buildings 15, 16, and 18; and various museum revitalization projects which will vastly improve collections storage, preservation, accessibility, and space efficiency. Construction of Pod 6 will complete the intent of the original 1994 MSC Master Plan and initiate the Institution-wide Collections Space Implementation Plan for relocation of at-risk collections from the Garber Facility and several Mall museums. Completion of Pod 6 is also necessary to maintain the critical path for the National Museum of American History's (NMAH) East Wing public renewal project, which requires both temporary and permanent relocation of a significant volume of collections from the Mall building to accomplish the renovation.

In FY 2017, the Smithsonian will continue to build on these collections care initiatives and follow an action plan for strategically addressing the preservation and storage space needs of collections, based on the results of the Institution-wide collections physical assessment and collections space survey.

MEANS AND STRATEGY — INFORMATION RESOURCES MANAGEMENT POOL

Digitization funding directly supports the Smithsonian's ambition to serve a national and international audience online, offering access to important collections that are not currently on exhibit, and fulfilling the need to document collections for improved inventory control. Creating a portfolio of rapid-capture prototypes to address some of the Institution's most commonly held collection materials will help establish an infrastructure for standardized high-throughput digitization that brings the Smithsonian one step closer to sharing its vast collections with the world.

IRM Pool funds support network operations and server administration. Specifically, the requested funds are used for:

- Upgrades and enhancements to the Smithsonian's information technology (IT) infrastructure
- Contractor support in the Network Operations Center
- Services of Active Directory and desktop migration technicians
- Network hardware/software maintenance
- Digitization of collections information and images
- Public delivery of Smithsonian digital assets

EXPLANATION OF CHANGE

The FY 2017 Budget request for Institution-wide programs includes an increase of \$1,700,000. This includes an increase in the Collections Care and Preservation Fund (CCPF) (+\$1,500,000) and the Information Resources Management Pool (+\$200,000), as outlined in the table below. These Institution-wide programs support the Smithsonian's Strategic Plan.

Program	\$000s		
	FY 2016 Base	FY 2017 Increase	FY 2017 Total
Research Equipment Pool	1,200	0	1,200
Latino Initiatives Pool	2,000	0	2,000
Asian Pacific American Initiatives Pool	400	0	400
Collections Care and Preservation Fund	6,697	+1,500	8,197
Information Resources Management Pool	2,987	+200	3,187
Totals	\$13,284	+\$1,700	\$14,984

The CCPF directly supports the Smithsonian's Strategic Plan to continually improve the quality of collections preservation, storage space, management, and accessibility, while also leveraging internal resources to support Institution-wide initiatives that strategically address Smithsonian collections care. Collections care funding directly supports the Smithsonian's overarching goal of improving the preservation and accessibility of collections which are vital to current and future scholarly research, education, and the nation's scientific endeavors.

The increases described below will assist in achieving the strategic goal of Strengthening Collections by improving collections management, mitigating collections deterioration, and supporting Smithsonian initiatives that strategically address the most critical collections care needs.

- **Collections Care and Preservation Fund (+\$1,500,000)**

This budget increase (+\$1,500,000) will support the purchase of new storage cabinetry and the costs of required maintenance for specialized equipment such as compact storage units and freezers for safety and operability. The requested funding will vastly improve deficient aspects of collections care by replacing substandard storage equipment, which is the most effective and efficient way to minimize physical and security risks to collections, improve collections accessibility, and correct unacceptable collections space conditions where equipment is the only deficiency factor putting objects at risk. Furthermore, making these improvements constitutes a lasting infrastructure investment for the long-term preservation of Smithsonian collections. The funding will also support a special team of personnel who can be deployed to various collecting units to improve inventory control, process backlogs, update collections information

records, digitize collections, conduct preservation assessments, and stabilize and re-house collections for long-term preservation and accessibility.

In FY 2017, the Smithsonian will continue to take an integrated, strategic, and Institution-wide approach to collections care by prioritizing and systematically addressing critical collections care needs, based on sound assessment data, economies of scale, and project-driven activities, including collections moves. For the first time, the Smithsonian has robust Institution-wide data on the state of collections, their physical condition, accessibility, and collection space conditions as a result of the collections physical assessment and collections space surveys. This budget submission requests vital resources to continue to build on and implement these important planning initiatives for strategically addressing critical collections management and space needs. Without the requested resources, the Smithsonian's progress in strengthening collections care and accessibility will be greatly hindered, adversely affecting our ability to ensure the protection, longevity, and accessibility of the national collections.

- **Information Resources Management Pool (+\$200,000)**

This Budget request includes an increase to the Information Resources Management Pool (\$200,000) to expand unit capacity to engage with the large-scale mass-digitization project, which will create a greater demand for network, computing, and human resources. Specifically, the requested funds will be used for:

- upgrades to the Smithsonian's information technology (IT) infrastructure;
- digitization project management, asset management, collections information management, and collections barcoding;
- digitization of collections metadata and images; and
- public delivery of Smithsonian digital assets.

SMITHSONIAN EXHIBITS

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	28	2,974	11	198	0	90	0	0
FY 2016 ENACTED	28	3,009	13	307	0	7	0	0
FY 2017 REQUEST	28	3,057	13	799	0	0	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	24	2,463	24	2,500	0	37
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	4	546	4	557	0	11
Total	28	3,009	28	3,057	0	48

BACKGROUND AND CONTEXT

The mission of the Smithsonian Exhibits (SIE) (formerly, the Office of Exhibits Central) is to be a full-service design, editing, and production shop supporting Smithsonian public exhibitions; serving units within the Smithsonian that have no design, editing or production capabilities; providing the entire Smithsonian exhibition community with specialized skills and equipment; and supporting resource-sharing among units.

To achieve the strategic goal of Broadening Access, the SIE will continue to focus on its core mission of designing and producing exhibitions for the Institution. Clients with limited or no design or production capabilities can use the SIE for full exhibition services, including design, editing, graphics production, cabinetry, model making, and crating. The SIE fosters collaboration among units by providing consultations, especially in the early stages of exhibition planning. With their broad array of skills, the SIE team of experts can network across the entire Smithsonian, resulting in more compelling exhibits that connect the American people to their history and cultural and scientific heritages. For clients who need specialized services, the

SIE will continue to develop its expertise in computer-controlled production and automated modeling technologies, such as 3D scanning and printing. In addition, the SIE will provide opportunities for Smithsonian colleagues to take advantage of its state-of-the-art facility, allowing trained staff to work with its specialized equipment. The SIE's Object Storage Facility (OSF) offers secure, climate-controlled storage for artifacts during production. As part of its work to advance the strategic goal of Broadening Access to Smithsonian collections, the SIE will continue supporting exhibitions in the S. Dillon Ripley Center concourse, as well as in the Commons, Schermer, and Great Hall galleries in the Smithsonian Castle.

The FY 2017 Budget request includes an increase of \$48,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

As the Institution's most comprehensive producer of exhibits, the SIE is dedicated to providing its Smithsonian clients with first-class exhibition design, editing, production, and installation services. Each year, the SIE designs and produces approximately 100 projects, large and small, for almost every office and museum in the Smithsonian.

In FY 2017, most SIE resources will stay focused on achieving the strategic goals of Broadening Access and Mission Enabling by:

- improving the quality of exhibition design, consultation, production, and installation services;
- increasing and maintaining staff knowledge and expertise in state-of-the-art technology, techniques, and advances in the exhibition field, and upgrading equipment to support emerging trends;
- cross-training staff within SIE to share their expertise and maximize efficiencies;
- providing demonstrations of new exhibition design technologies to Smithsonian units; and
- playing a lead role in promoting exhibition excellence, unit sharing of resources, and advancement of exhibitions as an interpretive medium throughout the Smithsonian Institution.

The SIE will accomplish these objectives by focusing exclusively on exhibit-related work, freeing up SIE staff with specialized experience to concentrate on the SIE's core mission: the design and production of exhibits. Building on well-established, collaborative relationships with other Smithsonian design and production units, the SIE will continue to play a strong role in sharing its expertise with other Smithsonian units. These initiatives should result in a more informed and expert staff that can do more to promote collaboration in the museum community and make the Smithsonian a leader in the exhibition field.

MUSEUM SUPPORT CENTER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	18	1,848	0	0	0	0	0	0
FY 2016 ENACTED	18	1,866	0	0	0	0	0	0
FY 2017 REQUEST	18	1,890	0	0	0	0	0	0

STRATEGIC GOAL: STRENGTHENING COLLECTIONS

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	18	1,866	18	1,890	0	24
Total	18	1,866	18	1,890	0	24

BACKGROUND AND CONTEXT

The Museum Support Center (MSC) is the Smithsonian's principal off-site collections preservation and research facility. Located in Suitland, Maryland, this facility houses more than 55 million objects, or 40 percent of the Institution's irreplaceable national collections, primarily from the National Museum of Natural History (NMNH). Other Smithsonian museums that use MSC are the National Museum of American History, the Hirshhorn Museum and Sculpture Garden, the Freer and Sackler Galleries, the National Museum of African Art, the National Postal Museum, the Smithsonian Environmental Research Center, and the National Zoological Park.

Pod 3 (a collection storage facility) of the MSC, which was renovated in recent years, was awarded LEED (Leadership in Energy and Environmental Design) Silver certification.

The MSC accommodates collections with a variety of state-of-the-art equipment: collections in cabinets; mobile shelving for biological specimens preserved in alcohol; meteorites in nitrogen atmosphere; tissues and film in

mechanical and nitrogen-vapor freezers; high-bay storage for very large objects such as totem poles, boats, and large mounted mammals; and large mobile racks for storing art works.

The facility also houses laboratories for molecular systematics, conservation, and other specialized research. The MSC supports contracted maintenance services and required calibration for much of the specialty collections preservation and laboratory equipment, such as environmental chambers, freezers, nitrogen systems, reverse osmosis water systems, and oxygen detection systems. The MSC staff provides disaster response and management services, including a hazardous response team; construction coordination and logistics support; safety and pest control; collections relocation; administrative, shipping and receiving services; and computer support services for administrative, research, and collections data management needs.

The FY 2017 Budget request includes an increase of \$24,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

To support the Smithsonian strategic goal of Strengthening Collections, the FY 2017 funding will be used to further enhance pest management, improve storage of hazardous collection materials, and assist museum staff in improving storage of collections at MSC.

In FY 2017, MSC staff will continue to support maintenance of the collections and the research equipment needed to protect staff and collections. In addition, the MSC will further prepare for the multi-phased master plan renovations at the Center, which will improve and update support systems and laboratory spaces at the facility. Staff will also assist in laying the groundwork to prepare for the Pod 6, including making plans for the relocation of the Botany greenhouse, and will be devoted to a comprehensive review of the Suitland Collection Center master plan.

MUSEUM CONSERVATION INSTITUTE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	22	3,244	0	19	1	185	0	15
FY 2016 ENACTED	22	3,277	0	16	1	210	0	0
FY 2017 REQUEST	22	3,320	0	9	1	149	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	9	1,198	9	1,228	0	30
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	104	1	105	0	1
<i>Public Programs</i>						
Provide reference services and information	1	135	1	137	0	2
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	168	1	104	0	-64
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	6	910	6	992	0	82
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	762	4	754	0	-8
Total	22	3,277	22	3,320	0	43

BACKGROUND AND CONTEXT

The Smithsonian's Museum Conservation Institute (MCI), located in Suitland, Maryland, is the center for specialized technical collections research and conservation for all Smithsonian museums and collections. The MCI combines knowledge of materials and the history of technology with state-of-the-art instrumentation and scientific techniques to provide technical research studies and interpretation of artistic, anthropological, biological, and historical objects. Through its Healthy Environments, Healthy Practices, Healthy Collections initiative and participation in the Smithsonian's Cultural Crisis Recovery Center, the MCI responds to the threats facing cultural heritage in multiple and complex ways, including by analyzing and consulting on preservation environments; developing less invasive and damaging storage, display, and conservation techniques; and by supporting U.S. agencies and the museum community in identifying illicitly trafficked cultural heritage artifacts and objects. For example, the MCI works with the U.S. Department of State on a highly successful training program at the Iraqi Institute for the Conservation of Antiquities and Heritage in Erbil which supports the rescue and recovery of Iraqi and regional cultural heritage artifacts.

The MCI, as the only Smithsonian resource for technical studies and scientific analyses for most of the Smithsonian's collections, brings unique analytical capabilities to Smithsonian researchers, including a central mass spectroscopy instrument core and advanced technological capabilities. These services are available to Smithsonian units at no charge. In addition to responding to requests for consultations from within the Smithsonian, the MCI handles requests from affiliates and outside organizations, such as the White House, U.S. Congress, U.S. Department of Homeland Security Office of Immigration and Customs Enforcement, U.S. Department of State, and other federal, museum, and academic organizations.

The FY 2017 Budget request includes an increase of \$43,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

To achieve the strategic goal of Excellent Research, the MCI will provide increased technical and research assistance to the museums and scientific research centers. The MCI will initiate, facilitate, and support collaborative research projects on biological isotopes and proteomics (i.e., the large-scale study of proteins; particularly, their structures and functions), nanoscale analysis of museum materials, modern museum and collection materials such as plastics, the mechanisms of degradation and biodeterioration, and historical and archaeological preservation and research technologies. The MCI will also continue using its website, publications, hosted symposia, presentations,

invitation-only seminars, and lectures to disseminate the results of its research programs.

The MCI's technology transfer initiatives (digital and spectroscopic imaging, proteomics, modern materials, and biodeterioration) will cross all of the boundaries between Smithsonian units and support all of the Institution's Grand Challenges and consortia. The MCI's exploration of new technologies in spectroscopic imaging and proteomics will support the Grand Challenges of Unlocking the Mysteries of the Universe through its signature project, Discovery Tools, and Understanding and Sustaining a Biodiverse Planet through its signature project, BioGenomics, respectively. MCI's exploration of materials science related to modern materials will support the Grand Challenge of Understanding the American Experience and its signature project on Living in the Anthropocene. Biodeterioration research will use technology from Understanding and Sustaining a Biodiverse Planet to support the Grand Challenge of Valuing World Cultures. The MCI's investigations of historical and archaeological materials and technologies will also support Valuing World Cultures and its signature project, Preservation of Tangible and Intangible Cultural Heritage.

To achieve the strategic goal of Broadening Access, the MCI's technical information office will continue serving the museum and cultural heritage management communities, museum studies students, and the public. The technical information office answers direct inquiries and distributes general guidelines in printed and electronic formats, handling more than 800 information requests annually. The MCI also continues to enhance its website to increase the impact of the Institute's research and outreach programs. In addition, the MCI is contributing to the Smithsonian's initiative in digitization and new media by researching and developing new digital imaging capabilities appropriate for Facebook, Twitter, YouTube, Flickr, blogs, mobile applications, and virtual reality in ways that use social media to broaden public access to collections, exhibitions, and outreach programs.

As part of this goal, the MCI is developing the Mecklenburg Materials Archive to house the valuable wood, fabric, and paint samples prepared and studied by Dr. Marion F. Mecklenburg, which he used to investigate the mechanical behavior of art materials. The resulting discoveries continue to have a direct impact on the preventive and treatment efforts of collections professionals worldwide. The Archive will also provide researchers with access to the raw materials, such as custom-made paints, from which those samples were created; the equipment used during the course of Dr. Mecklenburg's career; information to help researchers interested in building similar equipment; a library of notes; books; publications related to the environmental, lighting, and material mechanics research of Dr. Mecklenburg and his colleagues; correspondence related to the archived samples; the commercial production of art materials; and the application of engineering principles to the study of how different types of

materials in artwork behave over time and under various environmental conditions.

The MCI will achieve the strategic goal of Revitalizing Education by continuing to promote career development for Smithsonian conservators and other collections care providers through Grand Challenge consortia participation, colloquia, symposia, and workshops, as well as distance-learning opportunities. The MCI, in collaboration with Smithsonian museums and affiliates, will offer public programs to present the results of MCI research, heighten awareness of the problems of preserving cultural heritage, and gain information about the nature and scope of problems that the Institute's clients encounter. The MCI will also collaborate with Smithsonian museums and affiliates to offer media events, printed and Internet materials, presentations, workshops, and demonstrations to reach new audiences, especially those that will be targeted by the Institution's newest museums. The MCI will continue to offer internships for students pursuing careers in conservation and conservation science. Through its partnership in Science and Engineering in Arts, Heritage, and Archaeology (SEAHA), housed at the University College, London, the University of Oxford, and the University of Brighton, the MCI is supporting advanced training for museum professionals who want to learn new methods of digital documentation for cultural heritage collections and obtain new tools for evaluating museum storage environments.

In keeping with the strategic goal of Revitalizing Education, the MCI is leading a partnership with the Iraqi Institute for the Conservation of Antiquities and Heritage program in Erbil to train Iraqis in the rescue and recovery of regional cultural heritage. The current crisis caused by ISIL/ISIS has endangered irreplaceable world cultural heritage, and efforts to combat ISIL/ISIS have diverted funding previously supplied by Iraqi and Kurdish regional governments, creating a desperate need for outside support until the situation stabilizes. Currently, the partnership, with funding from the U.S. Department of State, provides a 20-week basic course for Iraqi cultural heritage professionals. The MCI is raising additional funds for operations and expanded programs at the Iraqi Institute. Given adequate support, the Institute can become a regional center for education in the preservation of cultural heritage.

To achieve the strategic goal of Strengthening Collections, the MCI will support Smithsonian museums and research centers in their efforts to care for the national collections and disseminate that information to the larger museum community and the public. The MCI will continue its study of the assessment and remediation of collection hazards. In addition, the MCI will focus on developing and using less invasive and damaging materials and procedures for collection conservation, reflecting the importance of incorporating energy-efficient and "green" materials and practices into the Institute's work. The MCI will pursue collaborative conservation treatment projects with other Smithsonian units to provide conservation guidance and art history technical consultations to the art

and history museums for their more challenging and unique objects. Through continuing communication and interaction with museum conservators, the MCI will identify special training needs and research projects, and will develop research and symposia to address the most urgent collections preservation needs, such as museum environments (involving light, temperature, and humidity), museum hazards (such as pests and pesticides), and collections storage.

The MCI's umbrella theme, Healthy Environments, Healthy Practices, Healthy Collections, directly supports the Smithsonian's Strategic Plan priorities in all four Grand Challenges, although its primary impact will be in Understanding the American Experience and Valuing World Cultures.

To achieve the strategic goal of Mission Enabling, the MCI will use the Smithsonian's Strategic Plan and its own strategic plan to properly allocate its budgetary and human resources, and to secure additional financial resources for its high-priority programs. Resource allocations will be tracked against performance metrics in each of the strategic areas, and against the needs and goals of the Smithsonian's museums and research centers. The MCI will encourage staff to participate in budget-performance integration, succession management, and leadership development programs. In addition, the MCI will continue to implement and communicate efficient, rational, and creative operational and administrative practices which enable staff to advance the Smithsonian mission in a manner that reflects transparency and the Smithsonian's status as a public trust. The MCI will maintain an efficient, collaborative, committed, innovative, and accountable workforce through leadership development, evaluation, and support of staff and the recruitment, selection, and development of diverse, highly skilled employees. The MCI will promote diversity in all aspects of working with the Institution's employees, Fellows, interns, volunteers, and vendors. Finally, the MCI will continue to improve communications with internal and external stakeholders in both public and private sectors.

NONAPPROPRIATED RESOURCES — Annually, the MCI receives nonappropriated resources from gifts and endowments, grants and contracts, discretionary income, and business ventures. These sources provide funds for specific programs and projects in research, education, and outreach designated by the donor/sponsor and for general activities at the discretion of the director of the MCI. The Andrew W. Mellon Foundation challenge grant provides a restricted endowment of \$5 million, with an annual payout of approximately \$250,000. The funds generated by the endowment will remain in the MCI budget for strengthening conservation science research.

SMITHSONIAN INSTITUTION ARCHIVES

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	20	2,167	5	411	0	2	0	0
FY 2016 ENACTED	20	2,253	5	495	0	0	0	0
FY 2017 REQUEST	20	2,316	5	510	0	0	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	1	163	1	165	0	2
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	3	275	3	285	0	10
<i>Public Programs</i>						
Provide reference services and information	4	410	5	450	1	40
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	9	995	8	1,001	-1	6
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	3	410	3	415	0	5
Total	20	2,253	20	2,316	0	63

BACKGROUND AND CONTEXT

The Smithsonian Institution Archives (SIA) serves as the institutional memory of a unique cultural organization. The history of the Smithsonian, in many ways, is the history of scientific enterprise in America, particularly in the 19th century. SIA supports the Smithsonian community, scholars, and the public by acquiring, evaluating, and preserving the records of the Institution and related

documentary materials, as well as by making them accessible online and on site. SIA manages the care, storage, packing, and retrieval services for most of the Institution's records. The permanent records are safeguarded and preserved in leased facilities in Washington, DC and Iron Mountain in Boyers, Pennsylvania. Electronic records are supported on SIA-owned computer servers and at the Institution's data center in Herndon, Virginia. In addition, SIA develops policies and provides guidance for managing and preserving the Institution's vast archival collections, offers a range of reference, research, and record-keeping services, and creates products that promote understanding of the Smithsonian and its history and mission.

The FY 2017 budget estimate includes an increase of \$63,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

In FY 2017, SIA will continue to focus on capturing, preserving, and providing access to research materials on the Smithsonian's history. SIA will continue to support the needs of thousands of researchers seeking information from the Archives; provide online access to ever more information from or about the holdings via its robust website; collaborate fully with Smithsonian units serving broad external audiences (such as The Smithsonian Associates and the Smithsonian Affiliations Program); set archival collections-management standards; and assist all Smithsonian units with the proper disposition of their records.

SIA's major challenge is to balance existing resources with the increased costs associated with archiving in a digital world. The costs of maintaining basic operations, such as acquiring up-to-date software, properly running servers, and renewing mass-Web-capture contracting services, have increased significantly over the years. As the Institution's reach into this ever-expanding realm continues to grow, it is essential that the Archives be equipped with the necessary tools and technologies to continue capturing, preserving, and ensuring access to these digital materials, which are a vital part of the Institution's continuing history.

NONAPPROPRIATED RESOURCES — General trust funds support SIA's basic operational costs, such as office, archival, and conservation supplies; software licenses; and maintenance of high-end equipment. Trust funds also support the salaries and benefits of archivists and conservators, their work to manage and preserve the collections of the Institution, and their efforts to provide professional conservation expertise throughout the Smithsonian, to other institutions, and to the public. Additionally, general trust funds support SIA's Web and new media outreach program that seeks to expand the awareness, use, and accessibility of the SIA's collections and resources. Greater knowledge about these collections and other resources will illuminate the Smithsonian's catalytic role in American history, world cultures, scientific research, and the arts.

SMITHSONIAN LIBRARIES

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	86	10,399	10	1,746	7	1,319	1	49
FY 2016 ENACTED	86	10,654	10	1,786	9	1,567	0	0
FY 2017 REQUEST	87	11,275	10	1,808	9	1,645	0	0

STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS; STRENGTHENING COLLECTIONS; AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	18	2,896	18	3,046	0	150
Ensure the advancement of knowledge in the humanities	22	2,684	22	2,840	0	156
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	1,152	10	1,296	1	144
<i>Public Programs</i>						
Provide reference services and information	0	38	0	38	0	0
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	38	1	38	0	0
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	27	2,555	27	2,588	0	33
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	86	1	86	0	0
Strengthen an institutional culture that is customer centered and results oriented	8	1,205	8	1,343	0	138
Total	86	10,654	87	11,275	1	621

BACKGROUND AND CONTEXT

The Smithsonian Libraries (SIL) promotes new ideas through knowledge sharing and plays a dynamic role in advancing scientific and cultural understanding and preserving America's heritage. Its expert staff and extensive collections are a crucial resource for research and education communities at the Smithsonian, within the United States, and around the world.

The FY 2017 Budget request includes an increase of \$621,000 and 1 FTE. This increase includes \$142,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$129,000 and 1 FTE for digitization. Also included is an increase of \$350,000 for inflationary increases in library subscriptions, which appears in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

Smithsonian Libraries' strategic plan, *Focus on Service: Advancing Knowledge at Home and Around the World*, demonstrates the Libraries' dedication to providing information and creating innovative services and programs for the Institution and general public. SIL offers a variety of information resources, unique collections, research support services, and discovery tools to establish the Smithsonian as a national leader in each of the Grand Challenges. In FY 2017, SIL will continue to broaden interactive engagement with users — through continuing expansion of projects that include digital transcription of manuscripts and working with Web-based communities — thereby making SIL collections and other Web content available for use by scholars, students, teachers, researchers, and interested users worldwide. In addition, SIL will continue to expand its use of social media by making more information available on mobile and tablet devices and by using blogs, Facebook, Twitter, Tumblr, and other emerging social media tools to promote services and broaden access to collections.

SIL will achieve the strategic goal of Broadening Access by offering more useful collections information on networked resources. Initiatives include implementing Web-based management tools for electronic collections and resources management and continuing to add new information to the Smithsonian Institution Research and Information System (SIRIS). For example, through the Smithsonian Collections Search Center, SIL provides access to research collections covering more than 460,000 pieces of trade literature and commercial catalogues, representing more than 35,000 manufacturers, corporations, and companies. The Collections Search Center also provides access to at least 2,400 National Postal Museum (NPM) design files; now, when searching for the stamp "\$2.40 *Raising the Flag on Lunar Surface, July 20, 1969* Design Files," one will see the history of that specific design in the NPM library as well as the stamp in the Museum. In addition, SIL provides metadata guidance

and incorporates, as appropriate, emerging national metadata standards on an Institution-wide basis for SIL and Smithsonian digital publications and products.

SIL collaborates with other Smithsonian units and external organizations in many ways. The Libraries creates and publishes digital research products to give scholars in all fields the documentation they need for their research. These products include republication of significant out-of-print books and articles, original diaries and manuscripts, collections of archival literature, illustrations, topical exhibitions, and bibliographic guides and databases. With private funding, SIL hosts the Secretariat for the Biodiversity Heritage Library, an international project to improve the research process by digitizing and making easily available the literature of biodiversity, involving partners in the United States, United Kingdom, China, Egypt, the European Union, Australia, Brazil, Singapore, sub-Saharan Africa, and Mexico. SIL supports these efforts by continuing to digitize its own biodiversity literature to contribute to this global digital library. In FY 2017, SIL will increase digitization projects in history, arts, and culture as part of the Smithsonian Libraries initiative — the Cultural Heritage Library. Through these projects, the Libraries participates with similar institutions such as the Consortium for the History of Science, Technology, and Medicine. SIL's contribution of rare/special collections records to the Consortium's search hub led to wider visibility and three new Fellows came to the Smithsonian Institution as a result. SIL plans to expand its research audience through similar projects in the arts and history fields.

In addition, SIL partners with the Smithsonian Scholarly Press to produce the electronic *SI Contributions* series and other publications, including conference proceedings, and also assists the Scholarly Press in meeting the public access mandate for federally funded research. SIL constantly expands and maintains the Smithsonian Research Online (SRO) database (<http://research.si.edu/>), which is made up of the Smithsonian Digital Repository (SDR) and the Smithsonian Research Bibliography (SRB), to preserve and provide permanent access to the published results of the Institution's scholarly research. Data from SRO are used as Smithsonian key performance indicators; accordingly, SIL is working to develop additional tools which will provide metrics on the impact, both scholarly and social, of Smithsonian research. As part of its collaborative operations, SIL will continue working with the Institution's art and history museums to expand the content of the SRO system, with the goal of eventually providing a complete record of Smithsonian research productivity. Furthermore, to give Smithsonian authors, researchers, and scientists more visibility, SIL is launching a beta version of Smithsonian Profiles to link additional work related to Smithsonian scholarly output.

SIL continues to provide scholarly, often rare, material in both print and digital forms. This involves acquiring, preserving, cataloguing, and managing print and digital collections, with particular attention to Smithsonian research centers and areas of interdisciplinary research. The staff of SIL's Book

Conservation Laboratory preserve and stabilize damaged volumes to ensure their availability for exhibition and future research. Through the Libraries' expert resource-sharing services, SIL also provides information and data directly to individual researchers and members of the public in every state and many foreign countries.

As a resource for learners everywhere, SIL responds to staff and on-site visitor needs through reference services, by integrating librarians into the research cycle and redesigning facilities to retain tightly focused, local collections in collaborative, congenial spaces. At the same time, SIL relieves overcrowded libraries by providing environmentally sound off-site shelving and housing at the Pennsy Drive facility in suburban Maryland.

In FY 2017, SIL will open the National Museum of African American History and Culture Library. As the first Smithsonian Library to be directly accessible to the public, staff are already on board to provide support in research, genealogy and archives. Meanwhile, planning will continue for an information commons at the Smithsonian Environmental Research Center (SERC) and for a possible relocation of the National Air and Space Museum's Library to the Udvar-Hazy Center in Chantilly, Virginia.

By helping to advance the strategic goal of Excellent Research, the SIL Resident Scholar Program builds collaborative partnerships worldwide with scholarly programs and individuals who find the Libraries' collections vital to their research. An active internship program amplifies work experiences for emerging library science professionals, as well as undergraduates in other fields of study, and exposes them to the research library environment.

Also, in FY 2017, SIL will continue to provide programming to augment the new exhibition *Color in a New Light*. The exhibition takes visitors on a marvelous journey through the colors we see every day, in an entirely new way, using the collections of the Smithsonian Libraries — from dye books to paint catalogues, and from colorblind tests to camouflage. All of the Libraries' exhibitions have an online component to reach a larger audience and allow staff to keep the exhibitions updated for future learning. Late in FY 2017, the Libraries will open *Cultivating American Gardens*, to address the intersection of innovation in plant cultivation with the growth of interest in creating beautiful surroundings. Both exhibitions will have new educational content created for them through SIL's new education and outreach unit.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$621,000 and 1 FTE. The increase of \$142,000 for necessary pay and other related salary costs for staff funded under this line item, and a programmatic increase of \$129,000 and 1 FTE for digitization, as detailed below. Also included is an increase of \$350,000 for inflationary increases in library subscriptions, which appears in the Fixed Costs section of this budget submission.

Digitization (+\$129,000, +1 FTE)

The digitization total includes \$129,000 and 1 FTE to create and sustain a robust digitization program. The increase will enable: 1) planning and executing mass-digitization projects; 2) supporting implementation of unit digitization plans; 3) providing access to the Libraries' collections, research, and programs by creating, managing, and promoting the Libraries' digital assets; and 4) responsible stewardship over the digital assets.

NONAPPROPRIATED RESOURCES — General trust funds help defray the costs of providing information services to Smithsonian units and support publications, public programs, and fundraising efforts. In FY 2017, SIL will continue its efforts to raise funds through the Smithsonian's comprehensive national fundraising campaign. As a new fund raising priority, SIL will establish a comprehensive education program, with special emphasis on creating content for K–12 learners. This will be added to established priorities: acquisitions, conservation, digitization, internships, Fellowships, and exhibitions.

OFFICE OF THE CHIEF INFORMATION OFFICER

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	93	48,929	18	3,575	0	212	0	0
FY 2016 ENACTED	95	50,462	18	3,425	0	0	0	0
FY 2017 REQUEST	97	54,641	18	3,472	0	0	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	3,241	11	4,461	2	1,220
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	86	47,221	86	50,180	0	2,959
Total	95	50,462	97	54,641	2	4,179

BACKGROUND AND CONTEXT

The Office of the Chief Information Officer (OCIO) provides vision, leadership, policy, and oversight associated with managing and operating information technology (IT) for the Institution's many museums and research centers.

The FY 2017 Budget request includes an increase of \$4,179,000 and 2 FTEs. The increase includes \$248,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$661,000 for increased communication costs, which is further explained in the Fixed Costs section of this budget submission; and \$3,270,000 and 2 FTEs in programmatic increases for digitization and IT infrastructure.

MEANS AND STRATEGY

The OCIO will use best practices in the management and operations of information technology to enhance the "increase and diffusion of knowledge" and achieve the Institution's strategic goals of Broadening Access and Mission Enabling.

The following strategies are cross-cutting and central to the Smithsonian's mission of connecting Americans to their history and heritage, as well as to promoting innovation, research, and discovery in science:

- Use state-of-the-art, secure information systems to modernize financial, human resources, facilities management, collections, education, and research processes;
- Replace network equipment, servers, desktop computers, and scientific workstations on an industry best practice life cycle to increase reliability and improve the security of information systems and the data that they contain;
- Leverage commercially available technology to enhance existing IT systems at the Smithsonian so that they will increase public access to and use of digital surrogates of collection objects and research data; and implement an Institution-wide Digitization Strategic Plan that addresses the creation, management, and use of these digital assets;
- Maintain the Institution's telecommunications infrastructure to provide reliable, secure, and cost-effective voice and data communications systems that support Smithsonian missions;
- Meet federal requirements for providing timely and accurate financial information; and
- Improve the Institution's ability to integrate financial and performance management systems as part of the Enterprise Resource Planning (ERP) effort.

Digitization Assessment and Planning

The Smithsonian has implemented the first-ever Institution-wide digitization strategic plan that includes a framework of digitization policies; made assessments to account for the state and progress of digitization; and clarified digitization priorities to guide resource allocation and planning. The FY 2015 Digital Assessment showed that the Smithsonian has prioritized 13 million objects for digitization and completed 2.5 million objects (or 19 percent) of this task to date. In accordance with Smithsonian Directive (SD) 610, Digitization and Digital Asset Management Policy, Smithsonian units have articulated their implementation of Institution-wide priorities in unit digitization plans (UDPs) and created foundational digital asset management plans (DAMPs) to ensure that the Smithsonian can effectively manage the digital content created as part of digitization activities as well as for scientific studies.

The Smithsonian has strategically invested in creating a standard mass-digitization process that enables replicable, cost-effective, high throughput, and high-quality digitization for all Smithsonian priority collections. Digitization efforts to implement this process have resulted in digital images for more than 400,000 collection objects in 2015 alone, thereby doubling the rate of digitization at the Smithsonian. This Budget request will accelerate the Institution's digitization progress by turning more time-limited mass-digitization prototypes into production projects and finishing entire collections. In addition, the launch of the Smithsonian X 3D pilot project has established the Smithsonian as an international leader in 3D digitization of museum collections. The effort provides compelling evidence that 3D data enhances the effectiveness of

curators, educators, scientists, and conservators in fulfilling the Smithsonian's mission. As a result, the Smithsonian's initiative has captured the imagination of educators, learners, and policy makers around the nation by providing access to 3D printable data of priceless collection objects.

EXPLANATION OF CHANGE

The FY 2017 Budget request includes an increase of \$4,179,000 and 2 FTEs. The increase includes \$248,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$661,000 for increased communications costs; and \$3,270,000 and 2 FTEs for the digitization program and IT infrastructure. The pay and other related salary costs and communications increase requests are justified in the Fixed Costs section of this budget submission.

The programmatic summary of \$3,270,000 and 2 FTEs for the requested budget increase is described in greater detail below:

Digitization (+\$1,220,000, +2 FTEs)

The Budget request includes an increase of \$916,000 to continue implementing cost-efficient models for digitizing Smithsonian collections. The requested funding increase will unlock economies of scale, build on the established standard mass-digitization workflows and methodologies, and target digitization of collections, all of which are crucial to accomplish broader Smithsonian strategic objectives. Pervasive implementation of the mass-digitization process at the Smithsonian will ensure the maximum return on investment for Smithsonian digitization funding. The increase will also strengthen the Institution's capacity for applying 3D technology to collections digitization. This increase builds on the significant progress the Smithsonian has made in this area through high-profile public/private partnerships, and ensures a basis for future fund raising.

The Budget request also includes an increase of \$304,000 and 2 FTEs to design safe, scalable, and expedient object-handling workflows in support of the standard mass-digitization process (which will be shared with the National Collections Program) and to develop policies and provide guidance to units regarding the long-term preservation of digital assets.

Information Technology Infrastructure (+\$2,050,000)

The Budget request includes an increase of \$2,050,000 to support the upgrade and replacement of the aging IT security infrastructure at the Smithsonian. The request includes funds for security monitoring, incident response, assessment, and maintenance of seven web sites; the replacement of the Internet firewall and outdated and inadequate intrusion-detection systems; recurring funds for maintenance of the replacement systems; and funds for the replacement and maintenance of outdated Web proxy servers.

The requested funds will also enable the Smithsonian to replace the voice/data communications of 6,000 Voice-over-Internet-Protocol (VoIP) telephones that are more than 10 years old; replace network switches and routers that are several years beyond their life cycle; and replace the uninterrupted power source system and battery which are also more than 10 years old.

Any failure to replace and upgrade the firewall, intrusion-detection, and Web proxy hardware will put Smithsonian servers and workstations at risk of attacks from malware and expose systems to increased vulnerabilities. Failure to replace VoIP telephones will impact the reliability of the communications network and expose it to security vulnerabilities.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits costs of personnel and other related costs of the OCIO.

ADMINISTRATION

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	181	34,067	193	37,214	4	2,873	1	760
FY 2016 ENACTED	181	34,773	224	37,977	5	4,126	4	1,103
FY 2017 REQUEST	196	37,526	209	38,429	6	3,720	5	1,220

**STRATEGIC GOALS: EXCELLENT RESEARCH; BROADENING ACCESS;
REVITALIZING EDUCATION; STRENGTHENING COLLECTIONS; AND
MISSION ENABLING**

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	1	170	1	174	0	4
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	120	2	224	1	104
<i>Public Programs</i>						
Provide reference services and information	1	200	5	596	4	396
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	123	2	274	1	151
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	0	82	0	84	0	2
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	2	309	3	488	1	179
Mission Enabling						
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	200	1	204	0	4
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	42	7,477	48	8,723	6	1,246

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	57	11,051	59	11,483	2	432
Modernize the Institution's financial management and accounting operations	44	9,110	44	9,276	0	166
Modernize and streamline the Institution's acquisitions management operations	31	5,931	31	6,000	0	69
Total	181	34,773	196	37,526	15	2,753

BACKGROUND AND CONTEXT

The Smithsonian Institution Administration program provides vision, leadership, policy, and oversight associated with managing and operating the Institution's museums and research centers. Administration includes executive leadership provided by the offices of the Secretary; the Under Secretary for Museums and Research/Provost; the Under Secretary for Finance and Administration/Chief Financial Officer; the Assistant Secretary for Education and Access; and the Deputy Under Secretary for Collections and Interdisciplinary Support. Administration also includes the central activities of human resources, diversity, financial and contract management, and legal services.

The FY 2017 Budget request includes a net increase of \$2,753,000 and 15 FTEs. This request includes:

- +\$411,000 for necessary pay and other related salary costs for existing staff funded under this line item, +\$60,000 for audit fees, and -\$303,000 for Workers' Compensation, which are all justified in the Fixed Costs section;
- +\$342,000 and +3 FTEs in program increases to raise the number of Latino programmatic staff;
- +\$300,000 and +3 FTEs in program increases to raise the number of Asian Pacific American programmatic staff;
- +\$173,000 and +1 FTE in program increases to strengthen collections emergency management and training, and to support the Smithsonian's collective effort to protect cultural heritage around the world;
- +\$338,000 to support a federally mandated supervisor training program;
- +\$289,000 and +2 FTEs in program increases to conduct regular and comprehensive audits of Smithsonian units to identify barriers to Equal Employment Opportunity and to ensure the use of small disadvantaged businesses in the Institution's procurement and contracting operations;
- +\$1,143,000 and +6 FTEs in program increases to expand internal control processes in the areas of privacy, risk mitigation, litigation, cybersecurity, ethics, international activities, and complex business transactions.

MEANS AND STRATEGY

The Smithsonian will use best practices in management to enhance its mission for the “increase and diffusion of knowledge” and to achieve the Institution’s goals while translating James Smithson’s 19th century vision into a modern 21st century reality. The following strategies are cross-cutting and central to performing the Smithsonian’s mission and also help promote innovation, research, and discovery:

- Ensure the financial strength of the Smithsonian and provide the Institution with effective and efficient financial, contracting, and management support services, including reliable financial evaluation, auditing, and reporting.
- Provide oversight of the Smithsonian budget process as it is developed and executed to support the operating and facilities capital programs of the Institution, establish and enforce budgetary policies and procedures, and ensure that sufficient resources enable the Institution to achieve its goals.
- Provide leadership and guidance for Institution-wide collections initiatives, policies, and programs to ensure the proper stewardship of the national collections.
- Support the Institution’s Board of Regents and its committees.
- Develop and implement necessary internal controls as recommended by the Board of Regents’ Governance Committee, which involves strengthening non-collections property management and meeting increased demands for acquisition of goods and services.
- Provide legal counsel to the Institution on various issues, including museum administration, intellectual property, collections management, contracts, employment, ethics, conflicts of interest, and requests for information.
- Manage human resources, foster diversity, hire a skilled workforce in a timely manner, and align human capital with the Institution’s goals and performance objectives. Conduct ongoing workforce and performance gap analyses, strengthen training policies, develop succession planning, and evaluate and improve assessment tools for human resources performance.
- Provide leadership and oversight for all policies, programs, and activities of the Institution’s museums and research centers by attracting, recruiting, and retaining leaders with superior talent.
- Increase the Latino Center’s public and educational outreach locally, regionally, and nationally in collaboration with Smithsonian units and affiliated institutions by developing exhibitions and programs on Latino culture, history, art, and scientific achievement; support Latino research, collections, exhibitions, publications, Web-based content, and related projects at Smithsonian museums and research centers; promote the leadership development of Latino youth and the professional development of emerging Latino scholars and museum professionals; and continue innovation in new media, including the Latino Virtual Museum, social media, mobile

applications, educational games, and other strategies that use rapidly growing and accessible technologies that permit expanded delivery of programs.

- Support the Smithsonian's commitment to teaching Americans about their rich heritage by increasing the capacity and resources of the Asian Pacific American Center (APAC) to produce exhibitions and programs on Asian Pacific American history, art, and culture; continue innovative online initiatives that provide educational, programmatic, and outreach materials nationwide; and form national partnerships with museums and research centers to enrich the Smithsonian's collections, research, and activities relating to Asian Pacific Americans.
- Establish and maintain partnerships with the various Administration agencies and initiatives related to under-represented groups, such as Asian Americans and Pacific Islanders, Hispanic Serving Institutions, Historically Black Colleges and Universities, the American Association of University Women, and Tribal Colleges and Universities, and perform the necessary public outreach to enhance the Smithsonian presence in these communities.
- Coordinate efforts among the Secretary's executive diversity committee, Office of Human Resources, and Office of Equal Employment and Minority Affairs to ensure compliance with federal Equal Employment Opportunity Commission mandates, promote the Smithsonian's Equal Employment Opportunity (EEO) and workforce diversity policies, and advocate for the use of small and disadvantaged businesses throughout Smithsonian operations.

EXPLANATION OF CHANGE

The Administration Budget request includes a net increase of 15 FTEs and \$2,753,000, which includes \$411,000 for necessary pay and other related salary costs for existing staff funded under this line item, \$60,000 for audit fees, and a decrease of \$303,000 for Workers' Compensation. These amounts are justified in the Fixed Costs section of this budget submission.

The programmatic summary of an additional 15 FTEs and \$2,585,000 for the requested budget increase is described as follows:

Latino Center (+\$342,000, +3 FTEs)

The Latino Program requires additional funding to increase the number of programmatic staff specializing in the history, art, and culture of Latino/Hispanic Americans, the fastest growing population in the United States. Both Appropriations Acts for 2015 and 2016 encouraged the Institution to promote "the inclusion of Latino contributions in Smithsonian Institution programs, exhibitions, collections, and public outreach." These personnel will help the Smithsonian join networks of Latino cultural, scholarly, and educational organizations across the United States, and will help leverage increased private support for related programmatic initiatives.

The Smithsonian's Strategic Plan highlights the need to respond to growing public demands in the areas of Latino studies and cultural recognition. Recent outreach efforts have revealed multiple requests for the Institution to collaborate with more outside Latino and Latino-oriented institutions nationwide.

Specifically, the requested increase (+\$342,000 and +3 FTEs) will provide the salaries and benefits for one exhibitions manager, one public programs manager, and one public affairs specialist, as well as funds to support research, development, production, and evaluation of public programs conducted in collaboration with other Smithsonian units and affiliated institutions.

Asian Pacific American Center (+\$300,000, +3 FTEs)

To achieve the Institution's strategic goal of Broadening Access to its mission and promoting the understanding of the full spectrum of the American experience, the Smithsonian requests additional positions to support the Asian Pacific American Center's (APAC) strategic plan. Both Appropriations Acts for 2015 and 2016 encouraged the Smithsonian to develop a more robust program in this area, "which will promote a better understanding of the Asian Pacific American experience."

Accordingly, the strategic plan intends to transform APAC into a leading voice on the Asian Pacific American experience, and the new staff positions will leverage private fund raising to achieve this goal. APAC will showcase experimental programming and increase the Center's capacity to collaborate internally and externally. It will include a series of pop-up events in various U.S. cities and feature an online presence to highlight two main themes: Cultural Intersection and Cultural Activism.

In keeping with previous congressional recommendations, the requested increase (+\$300,000 and +3 FTEs) will provide the salaries and benefits for one associate program director, one curator for Asian Pacific studies, and one education coordinator.

Collections Management (+\$173,000, +1 FTE)

The requested budget increase to the National Collections Program (NCP) office (+\$173,000 and +1 FTE) will strengthen collections emergency management and collections management training capabilities to protect and preserve Smithsonian collections, which will also directly benefit the Smithsonian's collective efforts to provide assistance with cultural heritage preservation and recovery around the country and the world. The increase supports the recommendations of the Smithsonian Collections Emergency Management Working Group and the Collections Advisory Committee for improving Smithsonian collections emergency management and collections management professional development, which are both Institution-wide priorities. This NCP employee will provide: (a) program development,

management, and coordination of the Smithsonian's collections emergency management program, serving as chair of the Preparedness and Response in Collections Emergencies (PRICE); and (b) program development and coordination of the Smithsonian's collections management professional development program, providing Smithsonian staff with technical training and continuing educational opportunities to ensure the successful and consistent application of Smithsonian collections management policy standards and professional best practices.

Training (+\$338,000)

This funding request supports a comprehensive, centrally funded, mandated training program (as required by *5 United States Code* [U.S.C.] §4121), which includes initial and follow-up supervisor training to comply with the myriad rules, regulations, and policies involved in employee supervision. Currently, courses are funded on a cost-recovery basis (via unit reimbursements) that presents a growing unit challenge of prioritizing funding to meet their most critical training needs. By having a centralized training fund, the Institution will ensure compliance with federal regulations, increase employee engagement, and mitigate costs.

The centralized training program will also provide training for required skills (competencies) at different levels for specific positions. The request includes funding for executive and GS-15 programs. Centralized funds would make sponsorship less budget-driven and ensure that training is based more on need (e.g., succession planning) than on available resources. Course topics would include the critical competencies required at the lower levels and would focus on more strategic and Institution-wide concepts at the GS-15 and senior-level positions.

Diversity (+\$289,000, +2 FTEs)

Diversity is one of the expressed values in the Smithsonian Strategic Plan. The Office of Equal Employment and Minority Affairs' (OEEMA) Supplier Diversity Program (SDP) advocates for the use of small disadvantaged businesses in the Smithsonian's procurement and contracting operations. This program demonstrates support for and commitment to the use of small, disadvantaged, women- and veteran-owned businesses. In order to achieve its supplier diversity goals, the Institution is requesting permanent funding for an SDP specialist (+\$134,000). This position will assist with administrative duties and in advocating for unit managers to achieve their SDP goals.

In addition, OEEMA requests one affirmative employment specialist (+\$155,000) to conduct regular and comprehensive audits of Smithsonian units to identify barriers to Equal Employment Opportunity (EEO) in the Institution's hiring and promotion practices. The specialist will also focus on employee retention, develop internal policies and practices regarding leave and telework, and implement a comprehensive barrier analysis protocol that will report on findings

and recommend appropriate actions. Taken together, these measures will strengthen the Smithsonian's commitment to ensuring a diverse workforce.

Internal Controls (+\$1,143,000, +6 FTEs)

This funding request provides for a privacy specialist (+\$143,000 and +1 FTE) to deliver essential support to the Smithsonian community. This position will serve as a privacy professional to: (a) mitigate the risk of unauthorized acquisition, use, or disclosure of personally identifiable information (PII); (b) facilitate Institution-wide compliance with Smithsonian Directives on privacy issues; and (c) develop and implement a privacy training and awareness program. As incidents of privacy breaches increase, this position will enable the Institution to investigate incidents as well as continue training to help prevent and respond to potential future breaches.

In addition, the Office of the General Counsel requests more resources (+\$1,000,000 and +5 FTEs) to address the Smithsonian's current need for advice, representation, and education to support internal controls, and to manage increasing activities in the areas of cybersecurity, privacy, litigation, risk management, ethics, international activities, and complex business transactions.

These essential resources will address the areas of privacy and cybersecurity; agreements for projects conducted in other countries; the increase in complex litigation, including cases in the Office of Special Counsel and Merit Systems Protection Board (which often involve time-sensitive electronic discovery assignments); expanded activities at the Smithsonian Tropical Research Institute and the Smithsonian Astrophysical Observatory; the need for timely ethics guidance; and the significant risks inherent in construction projects.

The positions requested include a senior-level attorney to oversee the areas noted above and to manage assignments, coordination, and oversight of other attorneys; two Assistant General Counsels (one in litigation and one in ethics); and two paralegal positions to focus on ethics and on litigation, public records, and tort claims. The added staff would strengthen the Institution's internal controls by increasing the capacity to implement best practices and lessons learned from litigation outcomes, and would enable the Office of the General Counsel to provide more leadership, consistency, and education on ethics.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of personnel and other related costs. General trust funds are also used to support administrative activities, information dissemination, outreach, publications, and fund raising. Donor/sponsor-designated funds support costs related to programs and projects such as scientific research.

OFFICE OF THE INSPECTOR GENERAL

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	24	3,416	0	0	0	0	0	0
FY 2016 ENACTED	24	3,451	0	0	0	0	0	0
FY 2017 REQUEST	24	3,499	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	24	3,451	24	3,499	0	48
Total	24	3,451	24	3,499	0	48

BACKGROUND AND CONTEXT

The Inspector General Act of 1978, as amended, requires the Office of the Inspector General (OIG) to conduct and supervise audits and investigations relating to programs and operations of the Smithsonian Institution (SI) that are, in the judgment of the Inspector General, necessary or desirable.

The OIG fulfills its mandate by engaging in audits of SI operations and programs, and by conducting administrative and criminal investigations. The OIG's audits include annually required reports, such as the quality assurance review of the Smithsonian's annual financial statement audits and Federal Information Security Management Act (FISMA) reviews. The OIG also conducts audits and reviews as listed in its annual Audit Plan.

The FY 2017 budget estimate includes an increase of \$48,000 for necessary pay and other related salary costs for existing staff funded under this line item.

The Inspector General Act also requires that the Budget request detail the amount of funds requested by the OIG for staff training and to support the Council of

the Inspectors General on Integrity and Efficiency (CIGIE). The OIG has requested \$40,000 for training and to support CIGIE, which is funded in the base resources.

MEANS AND STRATEGY

The resources requested will be used to fund salaries, benefits, and support costs for staff engaged in audits, investigations, and other activities necessary to accomplish the OIG's mission. To balance its oversight responsibility with available resources, the OIG selects mission-critical areas for evaluation that:

- figure prominently in the Smithsonian's Strategic Plan and annual performance plans and reports;
- are the focus of congressional and executive branch attention;
- have high public interest or large dollar outlays; and/or
- have known performance or accountability risks.

The OIG's annual Audit Plan includes three mandatory audits: (1) the annual audits of the Smithsonian's financial statements, which the OIG oversees; (2) the assessment of the Smithsonian's information security program under FISMA; and (3) an audit of the travel of the Regents, which is conducted at their request to fulfill a statutory requirement. In addition, the OIG audit staff conducts audits in areas such as: collections care; animal care and safety at the National Zoological Park; the deferred maintenance program; controls over purchase orders; employee background reviews; and grants management at the Smithsonian Astrophysical Observatory.

The investigative staff conducts administrative and criminal investigations, resolves complaints, and proactively engages the SI staff to detect and prevent waste, fraud, and abuse.

NONAPPROPRIATED RESOURCES — The Office of the Inspector General does not receive any nonappropriated funds.

FACILITIES MAINTENANCE

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	382	71,403	0	0	0	0	0	0
FY 2016 ENACTED	399	73,877	0	0	0	0	0	0
FY 2017 REQUEST	422	89,227	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
Facilities						
Implement an aggressive and professional maintenance program	399	73,877	422	89,227	23	15,350
Total	399	73,877	422	89,227	23	15,350

BACKGROUND AND CONTEXT

The mission of Smithsonian Facilities (SF) is to provide world-class services and stewardship by building, operating, maintaining, and ensuring a safe, secure, and healthy environment to enhance the Smithsonian experience for all visitors. More than 28 million people visit the Smithsonian annually.

The Facilities Maintenance program within SF is responsible for the maintenance and repair of an infrastructure of more than 12 million square feet of owned and leased buildings and structures, and 43,000 acres. This includes 19 museums and galleries, nine research centers, and the National Zoological Park (NZP). The buildings and structures range from the well-known museums to supporting structures such as guard booths, animal shelters, and hay barns. Facilities Maintenance focuses on facility preservation activities and encompasses the upkeep of property and equipment. This work is necessary to realize the originally anticipated useful life of facility assets.

As new and renovated museum and research spaces open, maintenance requirements rise due to increased square footage, technological advances, and

an increase in the number of systems supporting the Smithsonian's infrastructure. For example, the renovation of the Elephant House at NZP resulted in a 30 percent increase in the number of assets requiring maintenance in that facility.

SF undertakes an ongoing number of initiatives to increase maintenance efficiencies, including auditing services. SF benchmarks its maintenance staffing levels with other museums and professional organizations to ensure that resources are being effectively deployed. These include the Leadership in Educational Facilities (referred to as APPA), the International Association of Museum Facility Administrators, and the International Facility Management Association. The Smithsonian is a past recipient of the prestigious Award of Excellence from the APPA in recognition of the Institution's excellence in facilities management and its efforts to establish measurable maintenance performance standards and staffing levels. The well-documented goal is to maintain Smithsonian facilities at APPA's Level 1 standard for building maintenance, which is referred to as "Showpiece Facility."

To do this, the National Research Council (NRC) recommends an annual maintenance budget in the range of 2 to 4 percent of a physical plant's aggregate current replacement value (CRV) to avoid adding to a deferred maintenance backlog. The CRV for the Smithsonian at the end of FY 2014, which did not yet include the National Museum of African American History and Culture or the Gamboa Lab, was \$7.06 billion. These requirements have been validated through the Facility Condition Assessment process and Reliability Centered Maintenance (RCM) analysis. While the FY 2016 Maintenance budget represents 1 percent of the CRV, the Smithsonian's goal is to achieve a maintenance funding level of 2 to 4 percent of the CRV for the Institution's facilities, in accordance with the NRC recommendations.

The FY 2017 budget request includes an increase of 23 FTEs and \$15,350,000. The increase includes \$850,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of 23 FTEs and \$14,500,000.

MEANS AND STRATEGY

To support the Institution's goal of Mission Enabling, SF continues an aggressive, long-range facilities maintenance and minor repair program, using the RCM approach. The RCM approach is a widely accepted industry philosophy that incorporates a cost-effective mix of predictive, proactive, preventive, and reactive maintenance practices. With existing resources, the Smithsonian will operate at the lower end of APPA's maintenance Level 3 "Managed Care" service, which provides a minimal level of preventive maintenance and building system reliability to ensure that proper conditions are maintained for collections and public expectations are met.

The Smithsonian's goal is to reduce its maintenance backlog, currently estimated at \$809 million, through the coordinated efforts and appropriate funding of its maintenance and facilities capital programs. Proper maintenance funding prevents the accelerated degradation of building systems and components that would increase the number and cost of major repairs. Through proper preventive maintenance and by addressing deficiencies in a timely manner, the Institution can realize the originally anticipated useful life of facilities systems and avoid the accelerated degradation of its infrastructure, and the associated costs, mentioned above.

Smithsonian Facilities will continue to identify efficiencies in managing its existing resources to improve its current level of maintenance service in the most cost-effective manner possible. In addition, SF will continue to improve electronic security systems and physical security measures which protect the Institution's facilities, collections, staff, visitors, and volunteers.

EXPLANATION OF CHANGE

The FY 2017 budget request includes an increase of 23 FTEs and \$15,350,000. The increase includes \$850,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of 23 FTEs and \$14,500,000 to support high-priority maintenance requirements, provide security systems maintenance, and fund the maintenance program for the new National Museum of African American History and Culture (NMAAHC). The specific increases are detailed as follows:

- **Facilities Maintenance (+\$11,400,000, +14 FTEs)** — As stated above, the Smithsonian's goal is to achieve APPA Level 1 maintenance for all of its facilities. To improve the current low Level-3 rating, the Smithsonian requests \$11,400,000 and 14 FTEs to support maintenance of existing facilities and systems. The Institution's facility footprint has increased by more than three million square feet during the past 15 years, which has included the addition of new, technically sophisticated systems. Increased funding is requested to attract additional skilled maintenance workers who will maintain and restore the expanded and more complex maintenance systems used throughout the Institution's facilities.

This budget request includes funding for three utility systems repair operators, three electricians, two engineering technicians, two pipefitters, and four maintenance mechanic helpers. The new staff will help improve the Institution's preventive maintenance program and slow the increase in deferred maintenance.

The request also includes funding to address the most urgent Smithsonian hardscape repairs and to expand the roofing repair program. Collectively, the Institution's roofs are in the worst condition of the eight building systems tracked by Facility Condition Assessments, which generate Facility Condition Index ratings. The preliminary overall rating for the Smithsonian's four million

square feet of roofs was 88.6 percent at the end of FY 2015. A rating under 90 percent is considered poor. The state of the roofs poses a risk to staff and visitor safety and the preservation of collections. The funding will begin to address the more than one million square feet of roofs in the greatest need of repair. Facilities in greatest need of roof repair include the Udvar-Hazy Center, Natural History Museum, National Zoological Park (NZIP, including the Smithsonian Conservation Biology Institute or SCBI), the Smithsonian Tropical Research Institute (STRI), and the Museum Support Center. The roofing repair program will also advance the Institution's efforts to comply with federal initiatives on energy efficiency and sustainable buildings.

- **Support for NMAAHC (+\$1,600,000, +6 FTEs)** — The 400,000-square-foot National Museum of African American History and Culture is slated to open in 2016. The Smithsonian requests \$1.6 million and 6 FTEs to fund the maintenance program for the new Museum. The request includes \$813,000 and 6 FTEs to annualize positions included in the Smithsonian's FY 2016 enacted level, and \$787,000 for contractual support, supplies, and equipment.
- **Massive Land Management (+\$1,500,000, +3 FTEs)** — The Smithsonian is steward to several large areas of environmental acreage that cannot be properly managed with existing resources. Therefore, the Smithsonian requests \$1.5 million and 3 FTEs to establish the Massive Land Management (MLM) program. The purpose of these resources is to begin year-round management of large occupied areas of environmental lands that include Smithsonian facilities and research centers. The MLM areas are located at NZIP, SCBI, the Smithsonian Environmental Research Center, the Suitland Collections Facility, the Udvar-Hazy Center, and STRI. The MLM program will ensure comprehensive and systematic management of perimeter/ fences (70 miles), roads (100 miles) and shorelines (15 miles), large acreages of land and trees, storm water drainage, erosion/sediment control, integrated invasive flora and fauna control, and pollinator/wildlife habitat and restoration programs. The MLM effort will begin to address restoration and sustainment of important and valuable environmental spaces. These open spaces, woods, roads, fences, and paths serve a research purpose, just as our facilities do, and they require maintenance. The FY 2017 request, which includes funding for three maintenance mechanics, is a first step toward helping to reverse the degradation of Smithsonian acreage.

Adequate funding is essential to provide the maintenance coverage required to keep facility systems performing in accordance with their mandated design criteria and to ensure that land areas are useful for research purposes and safe for visitors. Through diligent maintenance of the Institution's facilities and systems, the Smithsonian can prolong the operational life of the equipment while maintaining reliable output to protect the national collections. Additionally, the proper maintenance of the equipment reduces the potential for unplanned equipment shutdowns which would negatively affect the Institution's visitors, staff, and collections.

FACILITIES OPERATIONS, SECURITY, AND SUPPORT

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2015 ENACTED	1,476	197,879	17	2,207	5	355	0	0
FY 2016 ENACTED	1,494	205,190	15	2,200	4	700	0	0
FY 2017 REQUEST	1,543	229,636	16	2,300	4	400	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	4	460	4	460	0	0
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	693	132,486	720	148,097	27	15,611
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	757	66,146	777	74,601	20	8,455
Provide a safe and healthy environment	40	6,098	42	6,478	2	380
Total	1,494	205,190	1,543	229,636	49	24,446

BACKGROUND AND CONTEXT

The mission of Smithsonian Facilities (SF) is to provide world-class services and stewardship by building, operating, maintaining, and ensuring a safe, secure, and healthy environment to enhance the Smithsonian experience for all visitors. The Smithsonian receives more than 28 million visits annually.

The Facilities Operations, Security, and Support (OSS) program within SF operates, secures, and supports the Smithsonian's physical infrastructure in partnership with Smithsonian program staff. SF provides operational security and support services for approximately 12 million square feet of owned and leased

facilities, including 19 museums and galleries, nine research centers, and the National Zoological Park.

Resources within OSS support facilities operations, including activities such as custodial work; fire protection; building system operations; grounds care and landscaping; snow removal; pest control; refuse collection and disposal; fleet operations and maintenance; security services; and safety, environmental, and health services. Resources also support facilities planning, architectural and engineering design, as well as postage, utilities, and central rent costs.

The FY 2017 budget request includes an increase of 49 FTEs and \$24,446,000. The increase includes \$1,880,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$7,026,000 for utilities, postage, and rent, all of which are justified in the Fixed Costs section of this budget. The request also includes programmatic increases of 49 FTEs and \$15,540,000 to address high-priority operating, safety, and security requirements.

MEANS AND STRATEGY

SF will achieve the Institution's strategic goal of Broadening Access by continuing to develop exhibits and public programs for horticulture, architectural history, and historic preservation.

To achieve the Institution's strategic goal of Mission Enabling, SF's base resources will focus on meeting the growing operational requirements of the Institution's facilities. SF will continue to efficiently use its resources to operate and secure facilities and grounds, and to provide safe, attractive, and appealing spaces to meet program needs and public expectations. In addition, SF will continue benchmarking the Institution's custodial staffing and service levels with other museums and professional organizations, including the APPA: Leadership in Educational Facilities (referred to as APPA). As a past recipient of the prestigious APPA Award of Excellence, SF is committed to measuring performance and staffing levels to ensure that the highest affordable levels of appearance and cleanliness, as well as efficient operations, are maintained.

The Institution is committed to achieving APPA's appearance Level 2 (out of 5) cleaning standard, referred to as "Ordinary Tidiness." This level of appearance will provide an acceptable level of cleanliness that meets public expectations. With current resources, on average, SF achieves appearance Level 3, "Casual Inattention." This level of appearance ensures a generally clean and odorless environment.

Just as SF is committed to providing the highest levels of facility care, it is equally committed to providing the highest levels of security. In support of that goal, SF's Office of Protection Services (OPS) is conducting a staffing analysis to

identify the number of security and law-enforcement staff necessary at each of the major Smithsonian Institution facilities. The analysis also includes pay levels, training/skill requirements, armed versus unarmed coverage, and the appropriate mix of employed officers versus contract staff. OPS is partnering with leadership at the museums and collections and research centers on this phased effort.

SF continues its commitment to ensure that Smithsonian employees have a safe and healthy workplace by creating a culture that embraces and promotes zero injuries; provides professional services promoting a culture of health and wellness; and ensures that all Smithsonian facilities comply with local building codes, environmental regulations, and best practices.

EXPLANATION OF CHANGE

The budget request includes programmatic increases of 49 FTEs and \$15,540,000 to address the highest priority operating, safety, and security requirements. The increase will fund high-priority needs, including resources to annualize support for facilities and security operations for the new National Museum of African American History and Culture (NMAAHC). The request will also provide additional support for facilities operations, security, and disaster preparedness, as detailed below:

- **Facilities Requirements (+\$5,000,000, +9 FTEs)** — The Smithsonian’s ultimate goal of achieving APPA cleanliness Level 2 requires a substantial increase over the current investment. The Institution requests 9 FTEs and \$5,000,000 to augment existing staffing and funding shortfalls in facilities operations. The funding request will allow the Smithsonian to make progress toward a solid Level 3. Clean, sanitary, safe and accessible spaces are inviting conditions that improve the visitor experience. However, the facilities operations budget has grown little in recent years, losing ground to inflationary pressures. At the same time, the Smithsonian’s operations and physical footprint have evolved and grown, creating additional, unfunded requirements. This budget request includes funds to hire seven building service workers and two building service supervisors.
- **Support for NMAAHC (+\$4,465,000, +38 FTEs)** — The 400,000-square-foot National Museum of African American History and Culture is slated to open in late FY 2016. Accordingly, the Smithsonian requests \$4,465,000 and 38 FTEs to complete funding for facility operations and security for the new Museum. The request includes \$4,085,000 and 36 FTEs to annualize facilities and security positions included in the Smithsonian’s FY 2016 enacted level. In addition, the request includes \$380,000 to fund the hiring of two occupational health nurses and supplies for a NMAAHC first-aid station. The Smithsonian’s addition of a national museum creates a tremendous operational responsibility. The NMAAHC will be a major Museum, with high traffic and major security responsibilities.

- **Security Requirements (+\$6,075,000, +2 FTEs)** — As the physical footprint of the Smithsonian has increased and as facilities are revitalized, the Institution’s security and law-enforcement needs have also grown. This has caused a steady degradation in the security base budget. Additionally, recent increases in violent extremist and lone wolf active shooter attacks in the United States have highlighted the need to improve the Smithsonian’s ability to respond quickly to these types of potential incidents. To evaluate the effectiveness of existing security resources versus the current requirements, the Smithsonian is conducting a phased security staffing analysis for each of its major facilities. The facility analyses completed to date have confirmed that the Smithsonian needs to fill its currently unfunded security positions and also add contract staff to provide a higher level of security around building perimeters, primarily including visitor screening, and also in interior public spaces such as galleries. Also, the Smithsonian’s security operation has no criminal investigators and cannot provide required support in the areas of personnel and administrative disciplinary investigations, workplace violence threats, and potential criminal behavior. In addition, the Smithsonian’s disaster management program is understaffed and consists of just two disaster management specialists.

Consequently, the Institution requests \$5,765,000 for existing unfunded security positions and to begin the first phase of adding contract security officers to allow the Smithsonian to institute full-time magnetometer screening and bag searches, and to provide additional security in galleries and other public spaces. The first phase will address needs at the Smithsonian’s highest risk facilities, which are the National Museum of American History, National Museum of Natural History, National Air and Space Museum, and the National Museum of the American Indian. In addition, the request includes \$310,000 and 2 FTEs to fund the hiring of a disaster management specialist and a criminal investigator.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits, and other related costs. Donor/sponsor-designated funds cover costs related to Smithsonian programs, such as horticulture operations, and architectural history and historic preservation projects.

Blank Page

FACILITIES CAPITAL

FY 2015 Enacted	\$144,198,000
FY 2016 Enacted	\$144,198,000
FY 2017 Request	\$163,000,000

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2016		FY 2017		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	48	134,098	48	95,350	0	-38,748
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	2,400	0	9,850	0	7,450
Provide a safe and healthy environment	0	7,700	0	7,800	0	100
Subtotal	48	144,198	48	113,000	0	-31,198
National Air and Space Museum — Udvar-Hazy Center Collections Storage Module	0	0	0	50,000	0	50,000
Total	48	144,198	48	163,000	0	18,802

BACKGROUND AND CONTEXT

The Facilities Capital Program underpins the Smithsonian’s mission and represents an investment in the long-term interest of the nation. It is intended to help the Smithsonian provide modern facilities that satisfy public programming needs, facilitate world-renowned research efforts, and house our priceless national collections.

In the Facilities Capital Program, revitalization involves making major repairs or replacing declining or failed infrastructure to address the problems of advanced

deterioration. Once completed, these projects will enable the Smithsonian to avoid the failures in building systems that can create hazardous conditions for visitors and staff, harm animals, damage collections, and cause the loss of precious scientific data.

The Institution uses the National Research Council (NRC) Facility Condition Assessments (FCAs) to calculate a Facilities Condition Index (FCI) rating. The FCA is the industry standard for the analysis of the condition of a facility or group of facilities that may vary in terms of age, design, construction methods, and materials. The FCI is calculated by dividing the total assessment scores of the eight building systems (roofs, electrical, plumbing, HVAC, conveyance — elevators and escalators, interior, exterior, and structure) by the Current Replacement Value (CRV) of the facilities. The current overall FCI rating for Smithsonian facilities is 88.8 percent, which is considered “poor.” The NRC’s recommended goal is to have a rating equal to or greater than 95 percent. To achieve that standard, the Smithsonian requests \$163 million for its Facilities Capital Program.

Funding for facilities’ routine maintenance and minor repairs is included in the Institution’s Salaries and Expenses request. These resources are applied to realize the intended design life and full economic value of Smithsonian facilities and to protect the Institution’s investment in revitalization.

EXPLANATION OF CHANGE

The Institution requests \$163,000,000 and 48 FTEs for the Facilities Capital Program in FY 2017. Major renovation efforts will continue at the National Zoological Park and other priority areas, including revitalizing the National Museum of Natural History and the National Museum of American History. This request also provides funding for pre-construction activities in preparation for the building systems and envelope renovation project at the National Air and Space Museum (NASM) and for constructing the Collections Storage Module adjacent to NASM’s Udvar-Hazy Center in Chantilly, Virginia. Other priorities include funding for: security and exterior improvements at the National Museum of the American Indian — New York; restoring the building envelope and systems at the Hirshhorn Museum and Sculpture Garden; repairing earthquake damage at the Museum Support Center; renovating the Homestead House at the Smithsonian Environmental Research Center; infrastructure upgrades at the Smithsonian Tropical Research Institute; swing space for collections decontamination at the Suitland Collections Facility; repairing the sidewalk, canopy, and exterior façade at the Cooper Hewitt, Smithsonian Design Museum; and mitigation of safety and security hazards throughout the Institution.

The chart that follows summarizes the Institution's full request for the highest priority FY 2017 projects.

SMITHSONIAN INSTITUTION						
Federal Facilities Capital Program Summary						
FY 2015 – FY 2017						
CATEGORY	Federal Received	Trust* Estimate	Federal Received	Trust* Estimate	Congress Request	Trust* Estimate
REVITALIZATION						
<i>Major Projects</i>						
Anacostia Community Museum					1.2	
Cooper Hewitt, Smithsonian Design Museum			4.6		2.7	
Freer Gallery of Art	6.0		4.0			
Hirshhorn Museum and Sculpture Garden			4.5		1.0	
National Air and Space Museum	1.0				3.0	
NASM Steven F. Udvar-Hazy Center			1.8			
National Museum of American History		18.5	10.5	11.3	5.0	
National Museum of the American Indian	2.5	0.3	4.7	8.6	2.1	
National Museum of Natural History	22.9	3.0	19.1	10.4	19.1	
National Zoological Park	15.8	1.8	17.0	2.4	26.0	5.1
Renwick Gallery	7.5	7.5				
Smithsonian Astrophysical Observatory					1.7	
Smithsonian Environmental Research Center	2.0		4.9		1.5	
Smithsonian Tropical Research Institute			1.7	0.8	2.8	
Collections Space & Support Program (Multiple Locations)	2.5	0.8	1.7	0.5	4.3	0.5
Multiple Site Projects and General Capital Support			18.3		13.2	
<i>Other Revitalization Projects</i>	26.8					
<i>Facilities Planning and Design</i>	22.6		51.4		29.4	
SUBTOTAL	109.6	31.9	144.2	34.0	113.0	5.6
CONSTRUCTION						
National Museum of African American History & Culture	24.0	40.8		11.7		
Collections Space & Support Program (Multiple Locations)				0.3	50.0	
SUBTOTAL	24.0	40.8	0.0	12.0	50.0	0.0
EMERGENCY REPAIRS						
Museum Support Center & National Air and Space Museum	10.6					
TOTAL PROGRAM	144.2		144.2		163.0	

SUMMARY TABLES

REVITALIZATION

Investment in revitalization projects provides for the replacement of failing or failed major building systems and equipment, and for major renovation projects to preserve the buildings. It primarily includes the exterior envelope, heating, ventilation, and air-conditioning (HVAC), electrical, and other utility systems at the older buildings. Projects also entail modifications to ensure compliance with life-safety regulations, the Americans with Disabilities Act (ADA) and other code compliance, restoration of historic features, and modernization of the buildings to support current program requirements and to sustain the viability of the Institution's physical plant. Items listed on the Multiple Locations line are projects that cover multiple museums or where the total cost of the museum projects is less than \$1.0 million. These projects usually involve capital repair or replacement of individual systems or components.

Facility	Project	\$000
National Museum of Natural History	Revitalize Public and Non-Public Spaces	19,100
National Zoological Park	Renew Bird House	10,000
	Upgrade Life-Safety and Infrastructure Systems	14,100
	Renovate Police Station	1,900
National Museum of American History	Roof Repairs and Improvements	3,500
	Correct Lights in Center Core & 2W Gateway	1,500
National Air and Space Museum	Revitalize Building Envelope and Infrastructure	3,000
National Museum of the American Indian	Modernize Electronic Security, GGHC	1,000
	Upgrade Lighting Automation Systems	550
	Exterior Improvements	500
Anacostia Community Museum	Upgrade Site Security & Landscaping	1,200
Cooper Hewitt, Smithsonian Design Museum	Restore Entrance Canopy & Conservatory	1,000
	Miller/Fox Façade Repair	1,000
	Stabilize Mansion Sidewalks	700
Hirshhorn Museum and Sculpture Garden	Restore/Repair Building Envelope, Systems & Plaza	1,000
Museum Support Center	Earthquake Damage Repairs	2,250

Facility	Project	\$000
Smithsonian Astrophysical Observatory	Install Guardrails, Mt. Hopkins Road (AZ)	450
	Repair/Improve Roads, FLWO (AZ)	400
	Upgrade Electronic Security (AZ)	300
	Install Storage Mezzanine (HI)	250
	Enhance Fire-Protection & Alarm Systems (AZ)	200
	Install Safety Access Platform on the SMA Roof (HI)	150
Smithsonian Environmental Research Center	Site Infrastructure/Renovate Homestead House	1,500
Smithsonian Tropical Research Institute	Renovate and Replace Facilities at Galeta	750
	Revitalization of Bldgs. 332, 352, & 359 Naos	750
	Upgrade BCI & Bocas Physical & Electronic Security	500
	Upgrade Fire Protection, Phase 2 Completion	500
	Ancon Site Revitalization	350
Suitland Collections Facility	Construct Collections Storage Swing Space	2,000
Multiple Locations	Building projects less than \$1,000,000	6,500
	Construction Supervision Administration	<u>6,750</u>
TOTAL, REVITALIZATION PROJECTS		\$83,650
FACILITIES PLANNING AND DESIGN		<u>\$29,350</u>
New Facilities Design/Construction		
National Air and Space Museum — Udvar-Hazy Center	Construct Collections Storage Module 1	<u>50,000</u>
TOTAL, NEW FACILITIES		\$50,000
FY 2017 TOTAL REQUEST		\$163,000

REVITALIZATION PROJECTS

PROJECT TITLE: Revitalize Public and Non-Public Spaces
INSTALLATION: National Museum of Natural History (NMNH)
LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars):

Continue HVAC/Utility System Replacement and Building Renovation	\$19,100
--	----------

<u>PRIOR-YEAR FUNDING:</u>	\$292,502
----------------------------	-----------

FUTURE-YEAR FUNDING:

Ongoing HVAC Replacement and Code Improvements	<u>\$274,002*</u>
--	-------------------

Total	\$585,604
-------	-----------

* Does not include funding in Planning and Design account to complete future design of revitalization projects.

BUILDING BACKGROUND:

The NMNH building opened to the public in 1910. The East and West Wings were added in the early 1960s. Two infill buildings were constructed in the original building's East and West courtyards in the late 1990s. The gross interior square footage of the building is approximately 1.5 million square feet. The building includes 300,000 square feet of public museum space, with collections, laboratory, office, and building service spaces filling the remainder. The NMNH is one of the most visited museums in the world and hosted more than seven million visitors in FY 2015.

PROJECT JUSTIFICATION:

The building's mechanical and electrical systems were installed in the early 1960s. At more than 50 years of age, they need major replacement. Breakdowns of the mechanical systems are frequent, repair parts are often difficult to find, and the system does not provide the air quality necessary for visitors or collections. The reliability of the electrical system is compromised by the deteriorated condition of the building's three main electrical switchgears, and the antiquated distribution system poses a safety hazard. Windows in the original portion of the building have deteriorated and do not comply with current security standards. The main entrance to the building is not accessible to visitors with disabilities and the chemical storage space below the entrance steps has deteriorated to the point where it is no longer code compliant.

PROJECT DESCRIPTION:

Based on the master implementation plan completed in 1987, and revised in 2006, the Institution is slowly completing a comprehensive renovation program in the NMNH building, which will replace the HVAC equipment, ductwork, electrical equipment and wiring, piping systems, and windows of the main building. Asbestos and lead will be abated or encapsulated; the fire-protection, communications, alarm, and emergency power systems will be upgraded; and storm-water systems and a hazardous-chemical control facility will be installed.

The Institution requests \$19.1 million in FY 2017 to continue the building-wide renovation. Specific work will include continuation of renovations in Halls 2–6 (\$15.1 million) and the start of renovations to the South Entrance (\$4 million).

PROGRESS TO DATE:

Recent projects completed include the renovation of the East Wing ground floor; the area is now being used as the staging and conservation space for the paleontology exhibit. Completion of the renovation of the southeast Main Building ground floor is anticipated in 2016 and, with it, the building will benefit from a full upgrade of its primary utility substation, featuring new switchgears, transformers, and network protectors. Renovation construction started in September 2015 on the major project at the Museum, the Dinosaur Halls, Halls 2–6, a 27-month project. A general contractor was selected for the replacement of the East and West Wing roofs; the roof work will be implemented in the 2016 roofing season. Additionally, feasibility studies for upgrading the South Entrance and the Baird Auditorium will be completed in January and February 2016, respectively. An upgrade to the short-circuit analysis, a survey of the building's electrical systems, is under way, and pre-project planning has started for two future design projects to upgrade building humidification and upgrade sewage system and rain leaders. The NMNH master plan provides the basis for prioritizing future infrastructure renovations.

IMPACT OF DELAY:

If funding is delayed, building systems will continue to deteriorate and environmental conditions required for the Museum's collections and the visiting public cannot be maintained. In addition, the Museum's exhibit re-installation program would not proceed according to the planned schedule, causing the continued closure of several important exhibition areas to the public and diminishing the Museum's ability to keep its promises to donors.

PROJECT TITLE: Renew Bird House
INSTALLATION: National Zoological Park (NZP)
LOCATION: Washington, DC

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$10,000
<u>PRIOR-YEAR FUNDING:</u>	\$0
<u>FUTURE-YEAR FUNDING:</u>	<u>\$46,300</u>
Total	\$56,300

BUILDING BACKGROUND:

The NZP's Bird House was designed by architect Albert Harris and opened in 1928, with an addition completed in 1938. In 1965, Daniel, Mann, Johnson, & Mendenhall renovated and modernized the Bird House by removing the roof, ornate entries and elaborate brick decorative details and replacing them with simple concrete and glass. The flight cage was added and connected to the building, using a sleek, modern concrete bridge, in sharp contrast to the Harris design. In the 1970s and beyond, the bird plateau site received multiple exterior animal exhibits, holding facilities, ponds, boardwalks, and asphalt sidewalks.

PROJECT JUSTIFICATION:

With the exception of relatively recent upgrades to fire-suppression systems, the infrastructure is well beyond its lifespan and most of the failed or failing equipment and systems date back to the 1970s. This project renews the Bird House and great flight cage, with a new *Marvelous Migrations* exhibit emphasizing the global importance of migration to species survival by using innovative conservation-based education. Using \$10 million in leveraged donor funds, along with federal appropriations, and following the approved master plan, facility improvements will include new site utilities, as well as total replacement of failed chillers, beyond life-span HVAC equipment, obsolete storm and waste water management systems, and animal/human life-safety, life-support, electrical, plumbing, security and data systems. Additionally, the Bird House needs upgrades to its primary and secondary bird containment systems due to recent increases in animal escapes.

PROJECT DESCRIPTION:

The project will renew the deteriorating and failing building systems, equipment, bird-holding, and habitat spaces of the Bird House with a complete building renovation that includes total demolition of the non-historic fabric, a new roof, new life-support systems for the living collections, new HVAC, plumbing, electrical, lighting, life-safety and animal life-support systems, and significant improvements to the Great Flight Cage. During the first phase, interim outdoor and indoor bird-holding swing space will be erected. Additionally, this project will renew the congressionally established Smithsonian Migratory Bird Center to educate the public and encourage visitors to help save wildlife and habitats across the globe. The Smithsonian requests \$10 million in FY 2017 to begin construction.

PROGRESS TO DATE:

Design is 35 percent complete. A formal value engineering exercise was conducted in July of 2015, followed by a formal risk assessment and constructability exercise in August. The final project definition rating index (PDR) will be performed in the spring of 2016.

IMPACT OF DELAY:

Delaying this project will result in continued increased costs of maintaining and operating the failed and failing systems, excessive energy consumption and costs for water and power, and increased risk to the living collection's captive habitat. Additionally, the National Zoo's leaders and scientific experts are concerned about the potential negative impact of the highly pathogenic avian influenza (HPAI) and new regulations and requirements being imposed by the Zoo's regulatory agency, the U.S. Department of Agriculture, and the Association of Zoos and Aquariums. Failure to revitalize this facility could jeopardize the National Zoo's mission of saving species. Also, failure to fund this project will delay the construction of the swing space required to house the living collection during the renovation.

PROJECT TITLE: Upgrade Life-Safety and Infrastructure Systems
INSTALLATION: National Zoological Park (NZN), Rock Creek and Front Royal
LOCATIONS: Washington, DC and Front Royal, Virginia

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$14,100
<u>PRIOR-YEAR FUNDING:</u>	\$55,350
<u>FUTURE-YEAR FUNDING:</u>	<u>\$46,400</u>
Total	\$115,850

PROJECT JUSTIFICATION:

Much of NZN's current utility, safety, and fire-protection infrastructure is obsolete and failing, and does not meet the needs of the National Zoo to protect and support the safety of animals, staff, and visitors. Correcting deficiencies in water and electrical service mains and distribution is crucial to provide fire-suppression systems in many of the unprotected areas of the Zoo, and to supply adequate water for the animals.

PROJECT DESCRIPTION:

This work includes upgrading utility, water, sewage, and storm-water management, as well as the power distribution system and security infrastructure; correcting structural and vertical transportation deficiencies; installing smoke-evacuation equipment in areas where animals are kept; improving animal holding/containment systems; and improving safety conditions. The Smithsonian requests \$14.1 million in FY 2017 to upgrade fire-protection and life-safety systems, and improve visitor safety and animal containment systems at both the Rock Creek Park and Front Royal, Virginia facilities.

PROGRESS TO DATE:

The 2008 NZP comprehensive facilities and utility master plans are used to coordinate work at the Rock Creek Park and Front Royal locations by directing implementation in priority order of essential infrastructure and safety projects. Through FY 2015, many infrastructure and fire-protection projects have been completed with federal funding, including the American Reinvestment and Recovery Act. To build on this progress, work has begun on smoke control/evacuation systems in the Great Ape House in early 2016. With close schedule coordination between SI Facilities and the Zoo's Animal Care Sciences unit, projects are in the pipeline for the Panda House, Think-Tank and Lion/Tiger House. Design for the lower Zoo electrical substation is at the 35 percent stage and the contract will be awarded in FY 2016. Replacement of steam lines in the lower Zoo is under way, and, with Phase One complete, the temporary truck-mounted steam plant was removed in FY 2015. In addition, work is continuing on electronic security and emergency mass-notification systems at both Rock Creek Park and Front Royal facilities.

IMPACT OF DELAY:

A delay in completing this work would endanger the animals, visitors, and staff, and would hamper the care, safety, and security of the live animal collections.

PROJECT TITLE: Renovate Police Station
INSTALLATION: National Zoological Park (NZP)
LOCATION: Washington, DC

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$1,900
<u>PRIOR-YEAR FUNDING:</u>	<u>\$7,000</u>
Total	\$8,900

BUILDING BACKGROUND:

The Police Station was originally designed by the Department of Buildings and Grounds of the Government of the District of Columbia, and opened to the public on March 15, 1956 to house the Zoo police, public restrooms and gardener's storage.

PROJECT JUSTIFICATION:

The building infrastructure components, including electrical, HVAC, plumbing, life-safety, and security systems, have failed and/or are failing, and are beyond their anticipated life expectancy. In particular, the upper floor contains the only public restrooms in the lower half of the Zoo. The restrooms are outdated and undersized relative to the millions of visitors the Zoo receives each year. The plumbing waste and vent pipes are severely deteriorated beyond the point of further maintenance repair and are in need of complete replacement due to constant sanitation leaks into the police offices, ready-room, locker rooms, and support rooms on the lower level. Additionally, the Zoo's staff Health Unit is located on the lower level, and the leaks frequently disrupt and displace the operations of the Health Unit. The existing stair that connects the two levels is a non-code-compliant metal spiral stair. The project will allow relocation of the Zoo's security control room back into the Police Station.

PROJECT DESCRIPTION:

The project will renovate and upgrade the building core, shell, and systems to provide new public restroom facilities and revitalized space for police operations and the Health Unit. This project is consistent with the Zoo's current comprehensive facilities master plan (2008) and implementation strategy. Combined with a planned \$1 million (private donation) project to raze and rebuild the dilapidated, adjacent Great Cats gift shop, these improvements will facilitate a more efficient layout of visitor amenities. The Police Station renovation will include a new elevator and code-compliant egress stair to connect the two levels. The project requires continued, uninterrupted availability of public restrooms at the lower half of the Zoo, and uninterrupted Zoo police and Health Unit services for the safety and health of the staff, volunteers, and the visiting public. Therefore, temporary swing space for these three essential Zoo operations is also part of this project. The Smithsonian requests \$1.9 million in FY 2017 to continue the renovation.

PROGRESS TO DATE:

The Police Station design is currently approaching 65 percent. It will be completed in mid-FY 2016 and the construction contract awarded before the end of the year.

IMPACT OF DELAY:

Delaying a multi-year funded project already under construction would result in termination of the contract for the convenience of the Government, which would result in a claim or lawsuit, or both, and an incomplete, unusable building. This would then cause increases to the costs of the temporary swing space for the Police Station and Health Unit and loss of use of all the lower Zoo restroom facilities. Such a delay would have a substantial impact, potentially costing the Smithsonian millions of dollars in claims and lost revenue.

PROJECT TITLE: Roof Repairs and Improvements
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$3,500
<u>PRIOR-YEAR FUNDING:</u>	<u>\$6,600</u>
Total	\$10,100

BUILDING BACKGROUND:

Built in 1964, the National Museum of American History, *Kenneth E. Behring Center* (NMAH) is one of the Smithsonian's most visited museums. This modern, classical building (752,000 gross square feet) houses a variety of exhibitions that explore America's technological, scientific, cultural, and political history. The collections on display include the *Star-Spangled Banner* that inspired Francis Scott Key and is the focal point of the completed center core renovation. In the first three months after the center core renovation, NMAH hosted more than one million visitors, and the Museum is attracting more than double the attendance it had prior to its closure. The revitalization of the Museum's public spaces continues with the renovation of the West Wing, begun in late 2012 and reaching the first stages of completion with the reopening of the innovation-themed first floor in July of 2015. The second and third floors of the West Wing, which will feature themes of democracy and American culture, will reopen to the public in 2017 and 2018.

PROJECT JUSTIFICATION:

In recent years, breaches in the building roof and terrace systems exposed valuable collections to water damage from leaks, and damaged stone terrace pavers created tripping hazards. In addition, the roof and terrace levels lack adequate fall-protection for maintenance staff and contractors, posing a life-safety risk, and the existing lighting and security cameras do not provide adequate coverage, thereby creating a security risk.

PROJECT DESCRIPTION:

The NMAH building is rectangular in shape with a series of terraces and roofs over levels one, four, and five, and the mechanical equipment penthouse. The Smithsonian requests \$3.5 million in FY 2017 for Phase 2 of the project for repairs and improvements at the fourth floor roof/fifth floor terrace level, fifth floor roof, and penthouse roof, to fix leaks, improve drainage, and eliminate tripping hazards from broken terrace pavers, as well as add security cameras and fall protection.

PROGRESS TO DATE:

In 2014, a study was completed, documenting the results of a survey of the condition of roof, terrace, and drainage materials and systems, itemizing the repairs and improvements needed for these systems, as well as including recommendations to provide fall-protection, lightning protection, additional security camera coverage, and electrical service infrastructure repairs, along with associated cost estimates. Design for the recommended repairs and improvements began in FY 2015 and construction

documents will be completed in early calendar year 2016. Funds were requested for Phase 1 construction (first floor roof/second floor terrace repairs and improvements) in FY 2016.

IMPACT OF DELAY:

Should repairs to the roof and drainage system be delayed, the building will continue to experience numerous and increasingly frequent leaks during major rain and snow events, exposing valuable artifacts in exhibits and collections storage areas to water damage. Delays in installing a fall-protection system and repairing roof terrace pavers to address tripping hazards will continue to endanger terrace occupants and maintenance contractors and staff. Likewise, delays in improvements to the electrical infrastructure and additional security camera installation will leave the roof and terrace areas without adequate security coverage.

PROJECT TITLE: Correct Lights in Central Core and Replace Vestibule Doors
Gateway

INSTALLATION: National Museum of American History (NMAH)

LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,500

PROJECT DESCRIPTION:

The lighting fixtures surrounding the central core atrium openings provide insufficient light and many cannot be used due to an existing electrical hazard. Also, the frameless, glass, vestibule doors, which serve as the main public entrances to the Museum, break down on a regular basis as a result of heavy usage. These deficiencies create safety hazards for visitors and staff. The project will replace perimeter light fixtures in the central core to improve the available lighting. The frameless vestibule doors on the north and south public entrances will be replaced with heavy-duty framed doors to better accommodate frequent usage from high public visitation.

PROJECT TITLE: Revitalize Building Envelope and Infrastructure
INSTALLATION: National Air and Space Museum (NASM) — National Mall Building
LOCATION: Washington, DC

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$3,000*
<u>PRIOR-YEAR FUNDING:</u>	\$0
<u>FUTURE-YEAR FUNDING:</u>	<u>TBD</u>
Total	TBD

* Does not include funding in Facilities Planning and Design.

BUILDING BACKGROUND:

NASM was built in 1976 to memorialize the national development of aviation and space flight. The 516,688-square-foot building (including approximately 161,145 square feet of exhibit galleries) preserves and displays artifacts, aeronautical and space flight equipment, significant historical data, and related technologies. The exhibit galleries hold the largest collection of historic air and spacecraft in the world and, in recent years, the Museum has received an average of more than seven million visitors annually.

PROJECT JUSTIFICATION:

The exterior Tennessee Pink Marble façade of the NASM building is a feature of the original construction and forms the primary exterior weather seal for the envelope on all surfaces other than at the roofs, terraces, skylights, and window walls. The panels are porous, and are beginning to show signs of aging and, in some cases, damage through visible cracks. The current marble primary weather seal assembly does not provide a continuous vapor barrier across the entire façade and the R-value is not consistent with current sustainable best practices and energy conservation. There is no secondary weather seal on the marble wall assembly. This has created additional condensation and energy conservation problems.

NASM’s mechanical systems are original to the 1976 building and have exceeded their useful lifespans. The mechanical systems are further burdened by the deteriorated condition of the exterior façade, which allows moisture into the building.

PROJECT DESCRIPTION:

The multi-year, multi-phase building systems and envelope renovation project will replace the building’s marble façade, improve the Museum’s blast and earthquake resistance, upgrade the energy efficiency of the exterior envelope, replace the mechanical systems, and provide more secure access and egress. A primary goal for the planned HVAC replacement portion of the project is to provide the collections area and all occupied spaces with appropriate temperature and humidity controls. Accordingly, the Smithsonian requests \$3 million in FY 2017 to fund pre-construction activities and the award of contract(s) for continued design-assist, constructability reviews, estimating, and preparations for early procurement of long lead items, such as stone cladding, artifact protection, and swing space preparation for collections and staff.

PROGRESS TO DATE:

Design work began in June of 2014 with the award of the concept/schematic design contract. Schematic design was completed in May 2015. With the award of the 35 percent design contract in May of 2015, the design continues to proceed. The estimated timeline to complete design is 20 months. The budget, scope of work, and implementation schedule will be further refined as design work progresses.

To protect against the possibility that the exterior stone panels may fail, the Smithsonian erected a temporary covered walkway around vulnerable portions of the building in January of 2015. The covered walkway will remain in place until the façade replacement is done.

IMPACT OF DELAY:

If funding is delayed, NASM's stone façade and building systems will continue to deteriorate, and the environmental conditions needed to safeguard the Museum's precious national collections and the visiting public cannot be maintained.

PROJECT TITLE: Modernize Electronic Security
INSTALLATION: National Museum of the American Indian (NMAI-NY)
LOCATION: New York, New York

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,000

PROJECT DESCRIPTION:

The collection storage areas, gallery infrastructure and public/staff separation areas of the NMAI's George Gustav Heye Center (GGHC) facility do not comply with the Smithsonian's security design criteria. The result is a lack of adequate electronic and physical security to protect the staff within the facility and the collections housed in these storage areas. Security modernization will include access control, collections and library storage and processing security, and Museum perimeter protection.

PROJECT TITLE: Upgrade Lighting Automation Systems
INSTALLATION: National Museum of the American Indian (NMAI-DC)
LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars): \$550

PROJECT DESCRIPTION:

Current Lutron lighting automation systems at the Museum operate on a Windows XP system, which is now obsolete and unsupported by the Office of the Chief Information Officer (OCIO) or the broader information technology (IT) industry. Replacing controllers and introducing back-up capability will correct this deficiency and ensure that code-required minimum light levels are maintained at all times.

PROJECT TITLE: Exterior Improvements
INSTALLATION: National Museum of the American Indian (NMAI-DC)
LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars): \$500

PROJECT DESCRIPTION:

Due to construction methods and environmental conditions, blue-green algae has developed and stained projecting areas of masonry on the façade of the building. This effect appears to visitors as black mold and has negatively affected the aesthetic of the Museum. Methodologies for remediation are currently being evaluated and tested to develop a long-term solution that minimizes algae growth. Maintenance procedures for the proper care and cleaning of the stone have been developed and have partially reduced recurring staining. Long-term processes for non-destructive interventions to minimize future algae growth have been identified (e.g., zinc strip installation), but will need to be combined with a cyclical treatment plan (i.e., biocide). Unless this project is implemented, algae growth will continue at an increasing rate and could result in a major failure of the exterior stone façade.

Additionally, the front doors of the Museum have failed to protect the building from air and pest infiltration, and need to be replaced to better control the environment as well as limit exposure of the collections to adverse effects. Equally important, current security devices and design considerations cannot be incorporated into the existing doors, and replacement will improve physical security of the building perimeter. Testing of various treatments and products is under way and the first phase of cleaning and installation of biological inhibitors is planned to begin in late FY 2016 or early FY 2017. Front door replacement is on a staggered schedule and is likely to begin in the second quarter of FY 2017.

PROJECT TITLE: Upgrade Site Security and Landscaping
INSTALLATION: Anacostia Community Museum (ACM)
LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,200

PROJECT DESCRIPTION:

The Museum building has an assortment of code and safety deficiencies, including Americans with Disabilities Act (ADA) accessibility issues. This project will provide site analysis services, existing conditions surveys, concept design, and construction documents for ACM site security and design upgrades. Work items are expected to include repair/replacement of parking facilities, circulation, paving, landscaping, exterior lighting, utilities, and safety/security devices, and will also include correcting some minor code deficiencies in exterior doors and stairs.

PROJECT TITLE: Restore Entrance Canopy and Conservatory
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,000

PRIOR-YEAR FUNDING: \$1,850

FUTURE-YEAR FUNDING: \$3,500

Total \$6,350

BUILDING BACKGROUND:

The 64-room Carnegie Mansion, designed by the architectural firm of Babb, Cook & Willard, was built between 1899 and 1902. It was the first private residence in the United States to have a structural steel frame and one of the first in New York to have a residential Otis passenger elevator (now in the collection of the Smithsonian's National Museum of American History). The Mansion was transferred to the Smithsonian in 1972 and the Museum opened there in 1976.

PROJECT JUSTIFICATION:

The copper and leaded glass canopy (designed in the style of Louis Comfort Tiffany) at the front entrance to the building is an original element of the building. It was last restored in the mid-1970s and now many of the structural elements, fasteners, and drainage systems are failing. The Conservatory, another original building element, was most recently repaired in the mid-1990s. However, the acrylic dome element and laylight structures do not provide sufficient support, the ventilation system is inefficient and failing, and the drainage system does not perform properly. In order to prevent failure of the compromised ceiling laylight supports and attachments, the glass elements have been removed, salvaged and stored.

PROJECT DESCRIPTION:

The project will completely repair and/or restore all historic glass metalwork elements of the canopy off site, repair exterior drainage structures, and replace existing lighting with new energy-efficient fixtures. The Conservatory work will restore all historic fabric, repair structural elements so that the laylights can be re-installed, replace exterior acrylic panels with new glass, and upgrade environmental conditions to reduce condensation and improve gallery HVAC performance. The Smithsonian requests \$1 million in FY 2017 to continue repairs on the canopy and Conservatory.

PROGRESS TO DATE:

Canopy design was completed in July of 2015, including lighting designs that were the result of a mock-up reviewed in March of 2015. The Conservatory schematic design was completed in August of 2014. The canopy restoration project will be ready for bid to pre-qualified contractors for construction in FY 2016. The solicitation will include the option for a follow-on contract for the Conservatory work, if funding permits.

IMPACT OF DELAY:

A delay in performing this work will lead to continued deterioration and ultimate failure of the historic fabric contained in each of these structures. Environmental conditions in adjacent galleries will be negatively affected by substandard conditions in the Conservatory, limiting what can be displayed. The salvaged laylight, an integral part of the historic Conservatory ceiling, will continue to be stored in crates off site, and visitors will continue to experience this unique, historic space in an unfinished, unrestored state.

PROJECT TITLE: Miller/Fox Façade Repair
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,000

PROJECT DESCRIPTION:

Masonry and metals in various locations on the Miller/Fox building façade are failing. In brief, the work scope will include masonry repointing, parapet reconstruction, and repair/replacement of windows and their associated flashings. This work is needed to ensure structural stability as well as a sound building envelope that is free of water

infiltration. Additionally, this project will include remedial repairs to interior finishes that have been damaged over time as a result of building envelope failures.

PROJECT TITLE: Stabilize Mansion Sidewalks
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2017 COST ESTIMATE (Thousands of Dollars): \$700

PROJECT DESCRIPTION:

Stone slab sidewalks around the site perimeter have become uneven, with exposed edges that pose a safety hazard, and also show signs of increasing edge damage as a result of being exposed to various equipment and environmental elements. The stones require flame refinishing to provide a more even surface, and resetting to meet accessibility standards for disabled visitors. This work must be completed in FY 2017 to comply with a grant agreement with the City of New York.

PROJECT TITLE: Restore/Repair Building Envelope, Systems and Plaza
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,000

PRIOR-YEAR FUNDING: \$1,000

FUTURE-YEAR FUNDING: \$22,300

Total \$24,300

BUILDING BACKGROUND:

The Hirshhorn Museum and Sculpture Garden, the Smithsonian's Museum of contemporary art, opened to the public in 1974. The building is a cylindrical shape raised 14 feet above the ground on four massive concrete piers. At the center of the concrete drum is a large oval courtyard, containing a large, shallow, bronze fountain. The featureless outer shell is contrasted by the walls of the inner courtyard, which are divided into equal, glazed cells, which light the interior sculpture galleries. The building has four aboveground stories and a basement that sits below the plaza surrounding the building.

PROJECT JUSTIFICATION:

The building shell performs poorly with respect to moisture infiltration and thermal performance, with the problems increasing as the building ages. A comprehensive analysis of the building envelope performed in FYs 2015 and 2016 is identifying major renewal needs, but there is also an immediate need to address active leaks and other vulnerabilities, including failing concrete retaining walls, the aging roof, and water intrusion into the galleries from the shallow balcony on the Mall side of the building.

PROJECT DESCRIPTION:

The Smithsonian requests \$1 million in FY 2017 to address the most essential repairs: the prevention of water infiltration that involves the paving, glazing, and exterior walls of the galleries; and the repair or reconstruction of failing concrete retaining walls in the Sculpture Garden.

PROGRESS TO DATE:

The comprehensive envelope evaluation, begun in FY 2015, and detailed studies of areas of leakage or failure, and of the options for installing fall-protection devices, will form the basis for final decisions about the project scope.

IMPACT OF DELAY:

Continuing leakage endangers the building fabric and the collections. Water intrusion during heavy rainstorms increasingly interferes with public access. Inadequate fall-protection poses a danger to staff and contractors who require access to the roof, windows, and perimeter walls.

PROJECT TITLE: Earthquake Damage Repairs
INSTALLATION: Museum Support Center (MSC)
LOCATION: Suitland, Maryland

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$2,250
<u>PRIOR-YEAR FUNDING (including funds for NASM):</u>	\$10,600
<u>FUTURE-YEAR FUNDING:</u>	<u>\$3,750</u>
Total	\$16,600

BACKGROUND:

The earthquake of August 2011 damaged multiple Smithsonian buildings. Along with building damage, various collections in each were also damaged due to floor and wall movement. MSC and the National Air and Space Museum (NASM) were especially hard hit by the earthquake, with either major building envelope breaches or structural damage. The MSC is the main collections storage location for many Smithsonian museums. Three of the five concrete reinforced collections pods, due to the method of constructing interior floors using steel structures, have experienced large movements of structural steel footings and slippage of the main girders holding the roofs. Their current condition, although safe for present use, requires repairs and seismic upgrades to prevent future damage. The damages to the building envelope have left it with many leaking skylights, wall connections, rain leaders, and façade joints. The NASM repairs have been fully funded.

PROJECT JUSTIFICATION:

At MSC, engineering surveys of the structure have demonstrated an immediate need for repairs that entail a seismic upgrade of the existing structure and roofing systems. Footings have been ripped from their anchors and roof beams slipped up to

four inches away from their initial support seating. Although the structure performed as designed during the earthquake, with damages instead of failure, this movement has compromised the original seismic design criteria for the structure. This is similar to an automobile that protected its occupants during a crash, but then requires repairs to enable it to perform that function again. In addition, the structure must be upgraded so that, if another earthquake occurs, collections damages will be reduced.

PROJECT DESCRIPTION:

The MSC repairs require reseating the roof beams and interior structural floor systems of the pods, seismic upgrading for the connections of both the roof beams and the floor systems, to secure them to the main building structure, and repairs to sections of the roof and walls that were damaged or may have to be rebuilt during the work. The Institution requests \$2.25 million in FY 2017 to complete the MSC repairs and structural upgrades, and will request \$3.75 in FY 2018 to repair roofing damage.

PROGRESS TO DATE:

Damage surveys, pre-project planning, and cost estimates have been completed to help assess the specific repairs and necessary seismic upgrades. This information was used in design efforts in FY 2012. The Smithsonian redirected funds during FY 2012 to cover minor stabilization and design costs. The MSC earthquake damage repair design was completed in January 2015, and the contract was awarded in September 2015. This project was 30 percent complete as of December 2015.

IMPACT OF DELAY:

The MSC pods, although considered safe in their present state, have had structural damages and must be restored to current local seismic code criteria. Without this work, the structure may be even more severely damaged in a future earthquake, resulting in the major loss of the national collections.

PROJECT TITLE: Install Guardrails, Mt Hopkins Road
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2017 COST ESTIMATE (Thousands of Dollars): \$450

PROJECT DESCRIPTION:

The only access to the 8,500-foot elevation Fred Lawrence Whipple Observatory is via a single-lane, 20-km-long combination dirt, crushed rock and occasionally paved roadbed with significant switchbacks, blind corners and extremely steep drop-offs to the canyon floor below. Much of this road, which is open to the public, lacks guardrails. While Smithsonian staff use radio communication to alert staff of upwards and downwards traffic, the public does not have access to this information, which adds greatly to the safety concern. Numerous accidents have occurred, with some vehicles sliding off the roadway. This project will install replacement and new guardrail sections on a prioritized schedule to increase pedestrian and vehicular safety for the public and Smithsonian staff.

PROJECT TITLE: Repair/Improve Roads, Fred L. Whipple Observatory (FLWO)
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2017 COST ESTIMATE (Thousands of Dollars): \$400

PROJECT DESCRIPTION:

Access to the 8,500-foot elevation Observatory from the base camp is via Mt. Hopkins Road, a single-lane, 20-km-long combination dirt, crushed rock and occasionally paved roadbed. Maintenance and repair of the roadbed is paramount in maximizing the overall safety of the road. The road requires routine re-grading, pavement repair and replacement as well as storm-water management and culvert work. In addition, the existing direct-burial 13.4 kilovolt (KV) power line traverses above and below the existing metal culverts, which require frequent clean-out operations to maintain a proper road surface. Proximity of the power line to the conductive culverts requires that power to the mountain be shut off during these clean-out operations.

This multi-year project involves designing and constructing replacements for the remaining 70–75 metal culverts, with non-conductive material, repairing drainage systems, including outfalls and gabion headwalls, and replacing pavement road sections.

PROJECT TITLE: Upgrade Electronic Security
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2017 COST ESTIMATE (Thousands of Dollars): \$300

PROJECT DESCRIPTION:

The Fred Lawrence Whipple Observatory is located in Amado, Arizona, approximately 30 miles from the Mexican border, which is considered a major drug-trafficking corridor. There have been reports of suspicious persons on the base camp grounds; however, there are insufficient means to secure the semi-darkened Observatory site at night from pedestrian access. Observatory staff cannot use security lighting without compromising their telescopic nighttime sky viewing, and science and research activities. This project will add perimeter security fencing and enhanced exterior door security hardware to better protect SAO staff and their valuable scientific equipment.

PROJECT TITLE: Install Storage Mezzanine at SMA Control Building
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Mauna Kea, Hawaii

FY 2017 COST ESTIMATE (Thousands of Dollars): \$250

PROJECT DESCRIPTION:

SAO's Submillimeter Array (SMA) control building is located atop the 13,756-foot summit of Mauna Kea, Hawaii. This location is subject to extreme climactic conditions,

including significant icing and wind gusts reaching 130 mph. SMA's operations require on-site maintenance of extremely sensitive equipment that cannot be stored outside due to these conditions as well as a prohibition on any outside storage by the Office of Mauna Kea Management (OMKM). Since the interior of the SMA Control Building is very small and it is routinely used for large antenna maintenance, options for storage are limited. Construction of a mezzanine will allow operations and maintenance to be unhindered, enable compliance with local regulations, and alleviate concerns about safety egress paths being blocked due to tight storage conditions.

PROJECT TITLE: Enhance Fire-Protection and Alarm Systems Site Wide, FLWO
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Tucson, Arizona

FY 2017 COST ESTIMATE (Thousands of Dollars): \$200

PROJECT DESCRIPTION:

The Fred Lawrence Whipple Observatory (FLWO) is located in the Coronado National Forest in southern Arizona and is subject to an extremely high wildfire risk. In 2005, a wildfire consumed 23,000 acres and came within a mile of the facility. In response, a site-wide fire alarm and radio notification project was completed to communicate fire hazards on site. However, communication to local firefighting support responders is hampered by the lack of a reliable microwave link. This project will provide a stable microwave reporting link from the Observatory to Tucson.

PROJECT TITLE: Install Safety Access Platform on the Submillimeter Array (SMA)
Roof
INSTALLATION: Smithsonian Astrophysical Observatory (SAO)
LOCATION: Mauna Kea, Hawaii

FY 2017 COST ESTIMATE (Thousands of Dollars): \$150

PROJECT DESCRIPTION:

SAO's Submillimeter Array (SMA) Control Building is located atop the 13,756-foot summit of Mauna Kea, Hawaii. This location is subject to extreme climactic conditions, including significant icing and wind gusts reaching 130 mph. The SMA's weather station is located on the roof of the Control Building and requires access for repair and calibration. Presently, there is no safety access platform to accomplish that work. This project will provide a safety platform, railings, access ladder and fall-arrest harness points on the roof.

PROJECT TITLE: Site Infrastructure/Renovate Homestead House/Security
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

FY 2017 COST ESTIMATE (Thousands of Dollars): \$1,500

PROJECT DESCRIPTION:

As outlined in SERC's Comprehensive Facility Master Plan, SERC's 5,000-square-foot Homestead House will serve as the Center's "front door" and will firmly establish this essentially needed central security presence for those entering the site. This will help rectify a longstanding security concern regarding unauthorized access to SERC's 2,650-acre site. The Homestead House, dating back to the early 1700s, was the primary residence for the owners of the Contee Farm and its significance in colonial archaeological, local and cultural history is well established. Renovations of the Homestead House will include new security offices in the structure, adjacent to a new security gate. Interior renovations will include new lighting, HVAC and plumbing, as well as refurbished period finishes and handicapped-accessible facilities for visitors. New exterior infrastructure elements will include a rebuilt driveway, well and septic system, and accessible parking.

PROJECT TITLE: Renovate and Replace Facilities at Galeta Marine Station
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2017 COST ESTIMATE (Thousands of Dollars): \$750

FUTURE-YEAR FUNDING: \$4,700

Total \$5,450

BUILDING BACKGROUND:

The Galeta Marine Station is located near the Caribbean terminal of the Panama Canal and the city of Colon. It serves as a laboratory, marine and wetland environmental monitoring station, as well as an education and outreach center for STRI. The site includes several small dormitories.

PROJECT JUSTIFICATION:

The buildings at Galeta Marine Station are located directly on an eroding shoreline, placing the buildings in jeopardy, as well as causing sea water infiltration during high tides and windy conditions. In addition, the existing laboratory and dormitories are located in old, outdated buildings that are not compliant with current building codes. Among other deficiencies, they do not have fire-protection sprinklers. Also, the existing lab cannot be configured to allow for an efficient use of the space.

PROJECT DESCRIPTION:

As part of STRI's Facilities Master Plan, the existing dormitories and laboratory will be replaced with code-compliant structures to safely host the research, education

and outreach activities at Galeta. Additionally, as part of the implementation of safety standards throughout the Smithsonian Institution's facilities, a fire-protection system will be designed to provide full sprinkler coverage to new and existing buildings. For Phase 1 of this project, the Smithsonian requests \$750,000 in FY 2017 to start the construction of the new dormitory and fire-protection system.

PROGRESS TO DATE:

The contract for design services for this project was recently awarded, with a kick-off meeting to discuss project parameters held in January 2016.

IMPACT OF DELAY:

The Galeta Marine Station requires major renovations at many essential facilities, including the laboratory, administration building, and dormitories. Delaying this project will increase maintenance costs, impair STRI's ability to conduct research and educational programs at Galeta, and potentially endanger visitors and staff.

PROJECT TITLE: Revitalization of Naos Laboratory Buildings 332, 352, and 359
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

<u>FY 2017 COST ESTIMATE (Thousands of Dollars):</u>	\$750
<u>FUTURE-YEAR FUNDING:</u>	<u>\$10,300</u>
Total	\$11,050

BUILDING BACKGROUND:

Located in Panama City, the Naos Marine Laboratory site provides facilities for Pacific Ocean marine research, intertidal zones behavioral research, archaeology, and evolutionary speciation of terrestrial plants and animals. The laboratories house a seawater system that uses molecular biology tools to study marine organisms, their behaviors, ecology, and physiology, and their interaction with invasive species. Among many other research activities, environmental monitoring programs study the impact of human activities on coral reefs and other marine ecosystems.

PROJECT JUSTIFICATION:

Upon renewal of the Contract with the Nation of Panama, STRI will be able to occupy the Naos current facilities for an extended period of time. Current facilities planning at Naos calls for the renegotiation of the Contract with the Nation, which, in order for STRI to fulfill its mission, requires renovations and overhauls, and systems brought up to date or replaced entirely. With the requested funds, unoccupied or unused structures will be refurbished to serve new purposes such as for swing space, offices, and storage.

PROJECT DESCRIPTION:

This project will perform major revitalization to existing laboratory buildings 352 and 359, as well as to their support and storage buildings. Additionally, the project will

fully renovate existing aquarium building 332, with a portion of this facility being converted into a swing space for the revitalization projects at buildings 352 and 359 and another section of the space to be used for storage of scientific samples. Finishes and electromechanical systems will be replaced or overhauled. Electronic security will be included in the project. The Smithsonian requests \$750,000 in FY 2017 to start the refurbishment process in building 332.

PROGRESS TO DATE:

The design contract will be awarded in FY 2016.

IMPACT OF DELAY:

The long-term presence of STRI at Naos demands proper revitalization and modernization of the existing buildings' spaces and electromechanical and electronic systems. Additionally, building 332 requires revitalization and partial reconstruction. While solutions are being provided to refurbish this building's roof and sidings, a full renovation is required to use the spaces to their full potential and develop those spaces for specific functions.

PROJECT TITLE: Upgrade BCI and Bocas Physical and Electronic Security Systems
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2017 COST ESTIMATE (Thousands of Dollars): \$500

PROJECT DESCRIPTION:

The physical and electronic security systems for Barro Colorado Island (BCI) and Bocas Del Toro do not comply with Smithsonian security design criteria. The result is a lack of adequate electronic and physical security to protect the staff within these sites. The upgrade of the physical and electronic security will include access control, intrusion detection, closed-circuit television, and perimeter and other boundary protection.

PROJECT TITLE: Upgrade Fire Protection, Phase 2, Bocas Del Toro
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2017 COST ESTIMATE (Thousands of Dollars): \$500

PROJECT DESCRIPTION:

Until recently, the Bocas Del Toro Station lacked a fire-protection system. In phase 1, STRI installed one 25,000-gallon tank, a fire pump and underground pipes, and connections to some of the buildings. However, some of STRI's facilities are still not protected by the system. This next phase of the project will provide additional fire-protection installations at the research station by installing an additional tank and underground piping, connecting more buildings to the system, and installing sprinklers in areas where future buildings are planned.

PROJECT TITLE: Ancon Site Revitalization
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2017 COST ESTIMATE (Thousands of Dollars): \$350

PROJECT DESCRIPTION:

Upon the renewal of the Contract with the Nation of Panama, the permanency of STRI at Ancon will be extended for many years. Currently, the Ancon site houses the Center for Tropical Paleoecology and Archeology (CTPA) as well as a dormitory building that is located near Tupper Center in Panama City. The site's buildings require revitalization to allow current functions to operate for the long term. Finishes and electromechanical and electronic systems will be renovated or modernized at the laboratory and the dormitory building. Enhanced security will be provided at the parking lot and an electric generator will be provided for the dormitory. The Smithsonian requests \$350,000 in FY 2017 to start the first stage of the Ancon revitalization project with the installation of an electric generator at the dormitory.

PROJECT TITLE: Construct Collections Storage Swing Space
INSTALLATION: Suitland Collections Facility
LOCATION: Suitland, Maryland

FY 2017 COST ESTIMATE (Thousands of Dollars): \$2,000

PRIOR-YEAR FUNDING: \$8,030

FUTURE-YEAR FUNDING: \$2,000

Total \$12,030

BACKGROUND:

An exhaustive evaluation of the Smithsonian's collections storage space has identified the Suitland Collections Facility, specifically the Garber collections storage site, as having almost half of the Smithsonian's below-acceptable collections space. Much of the more than 230,000 square feet of space is either not up to code requirements for structural support or is compromised by hazardous materials in and around the collections.

PROJECT JUSTIFICATION:

Buildings 15, 16, and 18 contain asbestos and/or lead, and the collections therein have been contaminated. Encapsulation and containment fields of heavy polyethylene sheeting, which are more than 11 years old, are failing, further contaminating the collections. The August 2011 earthquake and Hurricane Sandy exacerbated this problem by causing the sheeting to split in many locations. Only a few highly trained and qualified Smithsonian staff are permitted in the buildings. Otherwise, they are closed and locked, and the collections within the three buildings are not available for research, exhibition, display, or loan, and are off limits to academia and the public. In addition to hazmat concerns, the structural designs of the buildings have been evaluated and found to be

structurally inadequate to withstand current code-required combination wind and snow loads. This project will provide swing space, permitting cleanup and temporary storage of collections, and allow for remediation and removal of the contaminated facilities.

PROJECT DESCRIPTION:

The first phase is to create swing space to store cleaned collection items, by erecting a temporary, pre-manufactured 20,000-square-foot building on the adjacent concrete pad of the recently removed Building 21. The next step is to build a decontamination chamber within Building 15, and begin the process of decontaminating the collections. This labor-intensive process includes accounting and inventory assessments, stabilizing the collection, and moving cleaned collections into the new temporary swing space at Garber. This swing space will serve as the area for emergency conservation and treatment, packing and crating, and will be the new shipping and receiving hub for Garber. Phase II and Phase III will repeat this process for Buildings 16 and 18. The Smithsonian requests \$2.0 million in FY 2017 to continue with the decontamination of objects in Buildings 16 and 18.

PROGRESS TO DATE:

Construction of the pre-manufactured temporary structure was completed in December of 2015. The decontamination work for Building 15 has been contracted and will commence in January 2016. The contract documents for Building 18 decontamination will be developed in early 2016, with contract award by the end of FY 2016.

IMPACT OF DELAY:

Temporary fixes to these three buildings, which were originally constructed as 10– to 15-year temporary buildings in the 1950s, continue to be applied to these collections storage spaces. The temporary fixes are holding the facilities stable, but to be prudent stewards of the national collections, action must be taken to protect, preserve, and provide access to these trapped collections before the facilities are further contaminated or the structures collapse and potentially spread hazmat contamination in the surrounding area. Aside from the risk to the public that this situation presents, the Smithsonian cannot proceed with the remainder of the master plan improvements at the Garber and Suitland facilities without this first phase being completed.

PROJECT TITLE: Building Projects Less Than \$1,000,000
INSTALLATION: Multiple Locations
LOCATION: Institution-wide

FY 2016 COST ESTIMATE (Thousands of Dollars): \$6,500

PROJECT DESCRIPTION:

This request includes smaller, individual projects of less than \$1 million each, which usually involve capital repair or replacement of individual systems or components. Projects include work at the Smithsonian Institution Building (The Castle). In addition, this supports other Smithsonian operations, such as reprographic and library services, guard services, collections upgrades, conservation studies, and unplanned emergency repairs.

PROJECT TITLE: Construction Supervision and Administration
INSTALLATION: Multiple Locations
LOCATION: Institution-wide

FY 2017 COST ESTIMATE (Thousands of Dollars): \$6,750

PRIOR-YEAR FUNDING: \$7,000

PROJECT DESCRIPTION:

This request includes costs for permanent cost-estimating staff, the construction management staff required to supervise and administer construction contracts, as well as term and temporary staff required to perform specialized work associated with revitalization projects. A total of 48 FTEs will be funded from the \$6.75 million. The construction managers directly supervise construction contractors to ensure that quality work is performed safely. In addition, they resolve issues that arise during construction, negotiate change orders, approve payments, and perform other administrative functions as contracting officers' technical representatives (COTRs). These necessary "owner functions" are essential to ensure that quality work is completed safely, on time, and within budget.

This request also funds five contract specialists who support all aspects of the procurement process for acquiring the necessary contract services to execute the Capital Program. These five positions provide essential expertise to ensure the timely award of planning, design, and construction contracts for the Capital Program.

FACILITIES PLANNING AND DESIGN

Feasibility studies, needs assessments, and design for capital projects are required before site work can take place. This category includes all costs for contract facility master planning, preliminary and final design for all revitalization and construction projects, special studies, and a small amount for facility engineering, capital leveraging, and research activities, similar to operations at the Department of Defense and the National Aeronautics and Space Administration (NASA). The funding will enable development of project baselines, including costs, scope, and schedules, prior to receiving funds to perform the work.

In order to plan and design ahead of Capital Program execution, funding of 10 to 15 percent of the following year's program is required each year. The funding requested for FY 2017 will provide necessary planning and design to the 35 percent stage for most projects included in the planned FY 2019 program, and will complete design for projects planned for FY 2018. This will move the Institution closer to meeting the National Academy of Public Administration's (NAPA) recommendation that firm baselines be established before funding requests to provide more accurate cost estimates and to enable timely award of construction contracts upon receipt of future-year funding.

The Institution requests a total of \$29,350,000 for planning and design in FY 2017. These funds will be used to design several major revitalization projects at the Smithsonian Institution Building (SIB) (\$4.8 million); National Museum of Natural History (\$3 million); National Zoological Park (\$2.5 million); National Air and Space Museum (\$4.5 million); and Pod 6 at the Museum Support Center (\$5.5 million). Also included is funding to prepare designs for numerous smaller revitalization projects, including security upgrades and master planning (\$9.05 million). This Budget request will also enable the Smithsonian to prepare comprehensive master planning studies to guide future facilities decisions, and other studies to ensure more effective use of existing space.

CONSTRUCTION PROJECTS

PROJECT TITLE: Construct Dulles Collections Storage Module 1
INSTALLATION: National Air and Space Museum (NASM) — Udvar-Hazy Center
LOCATION: Chantilly, Virginia

FY 2017 COST ESTIMATE (Thousands of Dollars): \$50,000

BACKGROUND:

An exhaustive evaluation of the Smithsonian's collections storage space has identified the Garber collections storage site, originally constructed as 10- to 15-year temporary buildings in the 1950s, as having almost half of the Smithsonian's unacceptable collections space. Much of the more than 384,700 square feet of space at Garber, of which approximately 233,000 square feet houses NASM artifacts, is either not up to code requirements for structural support or is compromised by hazardous materials in and around the collections.

The expansion of collections storage space at the Smithsonian's Dulles site establishes a permanent facility to take collections from the aging buildings of the Garber facility, which are being phased out after 60 years of service. Two three-story collections storage modules for medium and large-size objects, and one single-story collections storage hangar for air and spacecraft, are proposed for construction adjacent to the NASM Udvar-Hazy Center (UHC) in Chantilly, Virginia.

These are the first modules of a larger Dulles Collections Center (which will total approximately 237,000 gross square feet), and will enable NASM to move a significant number of its remaining collections out of the Paul E. Garber Facility in Suitland, Maryland, as well as provide improved collections storage facilities.

PROJECT JUSTIFICATION:

As NASM proceeds with the move of collections out of Garber in accordance with its long-term strategy for collections consolidation at the Dulles site, it has determined that the Museum will run out of space for medium-size objects in the existing Udvar-Hazy Center in 2017.

Construction of the first storage module of approximately 124,000 gross square feet is required to support the continued move out of Garber. Furthermore, in the near term, the first storage module will also serve the immediate need for temporary collections swing space during the upcoming NASM National Mall Building (NMB) Envelope and Infrastructure Revitalization project (projected for FYs 2018–2023).

The April 2015 feasibility study for collections swing space identified a critical need for at least 40,250 net square feet of off-site space for exhibit collections for the duration of the NASM-NMB Envelope and Infrastructure Revitalization project. Relocation of artifacts off site significantly reduces the risk of damage to the collections during the building-wide renovation. The strategy also minimizes the number of collections that would require expensive "protect-in-place" enclosures during the renovations.

PROJECT DESCRIPTION:

The Smithsonian requests \$50 million in FY 2017 to construct Storage Module 1. The new facility (approximately 124,000 gross square feet) will provide approximately 108,000 square feet of collections storage space within an energy-efficient building envelope, with the appropriate temperature and humidity controls meeting Smithsonian standards for collections storage.

PROGRESS TO DATE:

Design work began in February of 2015 and the 35 percent design stage was reached in August of 2015. The design documents are due in September of 2016.

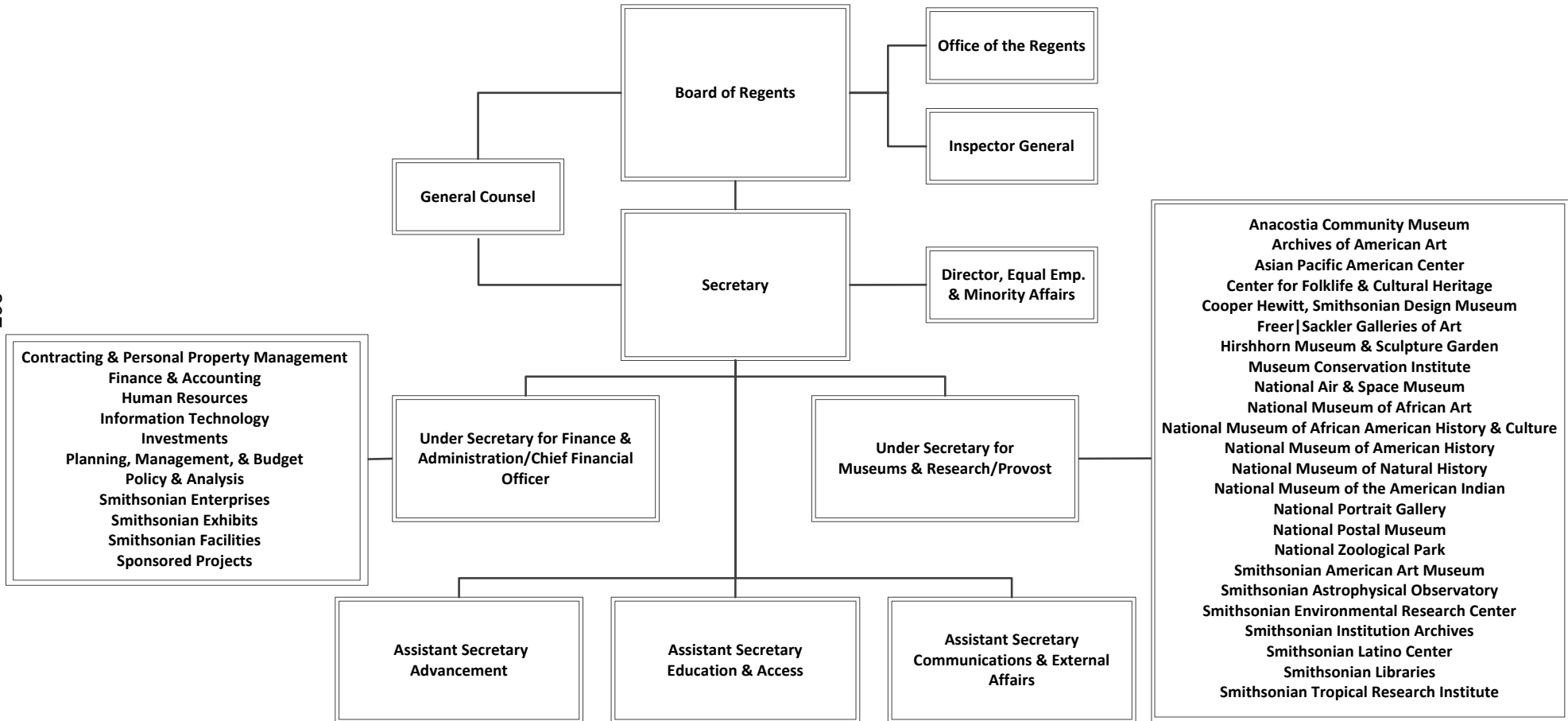
IMPACT OF DELAY:

Delaying construction of this essential collections storage facility would have a two-fold impact. First, it would delay the start of the NASM-NMB Envelope and Infrastructure Revitalization project. As stated earlier, the Dulles Collections Storage Module 1, in the near term, will serve the immediate need for temporary collections swing space during the upcoming NASM-NMB Revitalization and is on the critical path. Secondly, such a delay would halt the ongoing relocation of NASM collections out of the Garber facility to more appropriate and accessible storage space.

SMITHSONIAN INSTITUTION

; ZW Vgn 1 %&

267



**VISITS TO THE SMITHSONIAN
FYs 2011–2015**

<u>MUSEUM</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>
MALL					
SI Castle	1,599,986	1,453,220	1,405,651	1,158,617	1,103,499
A&I Building ¹	0	0	0	0	0
Natural History	6,768,580	7,378,612	8,281,983	7,047,560	7,049,730
Air and Space/ Silver Hill	7,283,019	6,907,969	7,167,075	6,377,840	6,902,206
American Indian	1,326,457	1,605,547	1,444,279	1,260,756	1,307,568
Freer Gallery	542,792	567,183	401,101	357,282	389,113
Sackler Gallery	373,800	400,950	225,053	192,132	155,998
African Art	369,635	405,441	227,547	180,608	226,743
Ripley Center	447,224	519,878	226,052	140,701	156,318
American History	4,588,853	4,764,131	4,978,559	3,971,987	4,100,718
Hirshhorn	617,751	722,008	717,663	514,922	658,312
OFF MALL					
DW Reynolds Center (AA/PG)	1,080,177	1,078,774	1,063,299	1,075,866	1,265,223
Anacostia	50,785	37,952	37,611	37,440	32,983
Cooper Hewitt ²	233,732	328	0	0	218,840
American Indian ³ (Heye Center/CRC)	352,463	422,665	602,056	554,063	514,527
Renwick ⁴	161,765	175,183	138,951	17,199	0
National Zoo	1,825,329	2,237,922	2,092,824	2,304,129	2,194,194
Postal	334,039	325,571	284,971	363,802	401,124
Udvar-Hazy Center	<u>1,198,873</u>	<u>1,324,297</u>	<u>1,366,322</u>	<u>1,214,284</u>	<u>1,529,293</u>
TOTAL	29,155,260	30,327,631	30,660,997	26,769,188	28,206,389

¹ The Arts and Industries (A&I) Building closed to the general public in January 2004.

² The Cooper Hewitt, Smithsonian Design Museum closed to the public in October 2011 for phase two of the Carnegie Mansion renovation project and reopened in December 2014.

³ Includes the George Gustav Heye Center in New York City and the Cultural Resources Center in Suitland, Maryland.

⁴ The Renwick Gallery closed to the public in December 2013.

TRUST FUNDS

In addition to support provided by federal appropriations, the Smithsonian Institution receives and generates trust funds to expand and enrich its programs. Trust funds are used to leverage the Smithsonian’s research capacity through partnerships with federal agencies, universities, non-Governmental organizations, industry, and other private organizations, both national and international. Trust funds will also be raised to meet the Institution’s funding commitment with Congress to build and open the new National Museum of African American History and Culture. In addition, trust funds will be used to renovate and modernize exhibits throughout the Institution. The following provides an overview of the current sources of trust funds.

The Institution’s trust funds include general trust funds with limited or no restrictions on their use, funds restricted by the donor or sponsor, and Government grants and contracts. Projections are subject to the uncertainty of the size of donations, grants, and contracts; to fluctuations in visitor attendance; and to the volatility of the economy, which together directly affect the return on the endowment, short-term interest income, and donor giving, as well as restaurant, magazine, catalogue, and museum shop revenues, memberships, and other business activities. The Institution’s gross operating revenue, less the expenses of the auxiliary activities, represents the net operating revenue available for programmatic and related purposes. The following table summarizes the sources of trust operating funds.

(Dollars in Millions)	FY 2014 Actuals	FY 2015 Estimates	FY 2016 Estimates
General Trust	79.6	89.0	94.1
Donor/Sponsor-Designated	240.3	244.0	240.6
Government Grants and Contracts	124.2	143.2	150.0
Total Available for Operations	\$444.1	\$476.2	\$484.7

SOURCE AND APPLICATION OF TRUST FUNDS — The following sections describe the sources of each category of trust funds as well as a general account of how they are used.

General Trust Funds — The sources of general trust funds are investment income; payout from unrestricted endowments; net proceeds from the museum shops, catalogues, and food service concessions; sales of Smithsonian books, records, and other products based on designs and objects in the collections; theater/planetarium operations at the National Air and Space Museum and the Samuel C. Johnson IMAX Theater in the National Museum of Natural History; licensing fees from the Smithsonian Channel and student travel programs; rental of exhibitions of the Smithsonian Institution Traveling Exhibition Service; membership programs (including subscriptions to *Smithsonian* and *Air*

and Space magazines); the sale of posters, exhibition brochures, catalogues, and other publications; and admission fees. Projected sources of FY 2016 general trust funds total \$94,100,000. These funds are used to support administrative programs such as central management, legal counsel, accounting, personnel, contracting, and budget, as well as fund raising, education, research and public programs, scholarly studies, and exhibitions.

Donor/Sponsor-Designated Funds — Designated trust funds include gifts, grants, and earnings on endowments from individuals, foundations, organizations, and corporations which specify the purpose of the funds. Designated funds in FY 2016 are projected to total \$240,600,000. Generally, these funds support a particular exhibition or program, or are used to manage the Smithsonian collections and/or support research projects in accordance with the Institution's mission.

Government Grants and Contracts — Various Government agencies and departments provide grants and contracts for specific projects that align with the Smithsonian's expertise in a particular area of science, history, art, or education. For FY 2016, Government grants and contracts are projected to total \$150,000,000. Of this amount, \$95,000,000 would be available for astrophysical research and development programs carried out by the Smithsonian Astrophysical Observatory.

APPROPRIATION LANGUAGE AND CITATIONS

The Act of August 10, 1846, codified within 20 U.S.C. §§ 41–70, established the Smithsonian Institution “for the increase and diffusion of knowledge,” and provided the organizational structure for the Institution’s administration. The mission of the Smithsonian Institution has remained unchanged throughout its 170-year history, although additional authority for many of the Institution’s programs and operations has been enacted over the years. Selected provisions of those statutes, along with selected provisions of the Smithsonian charter and prior-year appropriations acts, are cited below as authority for the Smithsonian Institution’s FY 2016 appropriations language.

Appropriation: Salaries and Expenses

1. For necessary expenses of the Smithsonian Institution, as authorized by law, including research in the fields of art, science, and history;

20 U.S.C. § 50 provides that “...all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens...shall be so arranged and classified...as best to facilitate the examination and study of them...”

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for...the making of solar observations at high altitudes...”

20 U.S.C. § 69 provides that “The Secretary of the Smithsonian Institution is hereby authorized...to continue independently or in cooperation anthropological researches among the American Indians and the natives of lands under the jurisdiction or protection of the United States...”

20 U.S.C. § 75b(b) provides that “The [National Portrait] Gallery shall function as a free 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.”

20 U.S.C. § 76bb(c) provides that “The Joseph H. Hirshhorn Museum and Sculpture Garden...shall be used for the storage, exhibition, and study of works of art...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...provide educational material for the historical study of aviation and space flight.”

20 U.S.C. § 78 provides that “The Secretary of the Smithsonian Institution is hereby authorized to cooperate with any State, educational institution, or scientific organization in the United States, for continuing paleontological investigations...”

20 U.S.C. § 80m(a)(3) provides that “(a)...the Board [of Regents] may-- ... (3) conduct programs of research and education [in the Museum of African Art]...”

20 U.S.C. §§ 80q-1(b)(1) & (3) provide that “(b)The purposes of the National Museum [of the American Indian] are to-- (1) advance the study of Native Americans, including the study of language, literature, history, art, anthropology, and life;... (3) provide for Native American research and study programs...”

20 U.S.C. § 80r-2(b)(1) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for-- (1) the collection, study and establishment of programs relating to African American life, art, history and culture that encompass [certain periods of the African American diaspora]...”

2. development, preservation, and documentation of the National Collections;

20 U.S.C. § 50 provides that “...all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens...shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified...as best to facilitate the examination and study of them...”

20 U.S.C. § 50a provides that “The Smithsonian Institution is . . . authorized to include in its estimates of appropriations such sums as may be needful for the preservation and maintenance of the [John Gellatly art] collection.”

20 U.S.C. § 59 provides that “All collections of rocks, minerals, soils, fossils, and objects of natural history, archaeology, and ethnology...when no longer needed for investigations in progress shall be deposited in the National Museum.”

20 U.S.C. § 69 provides that “The Secretary of the Smithsonian Institution is hereby authorized...to continue independently or in cooperation...the excavation and preservation of archaeological remains.”

20 U.S.C. § 75e(1) provides that “...the Board [of Regents] may-- (1) purchase, accept, borrow, or otherwise acquire portraiture, statuary, and other items for preservation, exhibition, or study.”

20 U.S.C. § 76c(b) provides that “...the Regents are hereby authorized...to acquire (by purchase or otherwise) and sell contemporary works of art or copies thereof...”

20 U.S.C. § 76cc(a) provides that “There is established in the Smithsonian Institution a Board of Trustees...which shall have the sole authority (i) to purchase or otherwise acquire (whether by gift, exchange, or other means) works of art for the Joseph H. Hirshhorn Museum and Sculpture Garden...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...collect, preserve, and display aeronautical and space flight equipment of historical interest and significance...”

20 U.S.C. § 80a(a) provides that “...the Smithsonian Institution shall collect, preserve, and exhibit military objects of historical interest and significance.”

20 U.S.C. §§ 80m(a)(1) & (2) provide that “(a)...the Board [of Regents] may-- (1) purchase, accept, borrow or otherwise acquire additional works of art or any other real or personal property for the Museum [of African Art]; (2) preserve, maintain, restore...or otherwise hold any property of whatsoever nature acquired...”

20 U.S.C. § 80q-1(b)(2) provides that “(b) The purposes of the National Museum [of the American Indian] are to--...(2) collect, preserve, and exhibit Native American objects of artistic, historical, literary, anthropological, and scientific interest...”

20 U.S.C. § 80r-2(b)(3) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for-- ...(3) the collection and study of artifacts and documents relating to African American life, art, history, and culture...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed under the direction of the Regents of the Smithsonian Institution, who are authorized to transfer to it any living specimens, whether of animals or plants, in their charge, to accept gifts for the park...[and] to make exchanges of specimens...”

3. presentation of public exhibits and performances;

20 U.S.C. § 75b(b) provides that “The [National Portrait] Gallery shall function as a free public museum for the exhibition and study of portraiture and statuary...”

20 U.S.C. § 76c(b) provides that “In order to encourage the development of contemporary art and to effect the widest distribution and cultivation in matters of such art, the Regents are hereby authorized to...conduct exhibitions...”

20 U.S.C. § 76bb(c) provides that “The Joseph H. Hirshhorn Museum and Sculpture Garden...shall be used for the storage, exhibition, and study of works of art...”

20 U.S.C. § 77a provides that “Said national air and space museum shall...collect, preserve, and display aeronautical and space flight equipment of historical interest and significance...”

20 U.S.C. § 80a(a) provides that “...the Smithsonian Institution shall collect, preserve, and exhibit military objects of historical interest and significance.”

20 U.S.C. § 80m(a)(2) provides that “(a)...the Board [of Regents] may--...(2)...display...any property of whatsoever nature acquired [for the Museum of African Art]...”

20 U.S.C. § 80q-1(b)(2) provides that “(b) The purposes of the National Museum [of the American Indian] are to--...(2) collect, preserve, and exhibit Native American objects of artistic, historical, literary, anthropological, and scientific interest...”

20 U.S.C. § 80r-2(b)(3) provides that “(b) The purpose of the [National] Museum [of African American History and Culture] shall be to provide for--...(3) the collection and study of artifacts and documents relating to African American life, art, history, and culture...”

4. collection, preparation, dissemination, and exchange of information and publications;

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for...preparation of manuscripts, drawings, and illustrations for publications.”

5. conduct of education, training, and museum assistance programs:

20 U.S.C. §§ 65a(a)(1),(3) & (4) provide that “(a)The Director of the National Museum under the direction of the Secretary of the Smithsonian Institution shall-- (1) cooperate with museums and their professional organizations in a continuing study of museum problems and opportunities, both in the United States and abroad;... (3) prepare and distribute significant museum publications; (4) perform research on, and otherwise contribute to, the [development of] museum techniques....”

20 U.S.C. § 77a provides that “Said national air and space museum shall...provide educational material for the historical study of aviation and space flight.”

20 U.S.C. § 79a provides that “The purpose of setting aside such an area [Barro Colorado Island] is to preserve and conserve its natural features...thus providing a place where duly qualified students can make observations and scientific investigations for increase of knowledge, under such conditions and regulations as may be prescribed by the [Smithsonian Institution].”

20 U.S.C. § 79e provides that “There are authorized to be appropriated annually...such sums as are necessary for the administration of [the Canal Zone Biological Area] ... and for the maintenance of laboratory or other facilities...”

20 U.S.C. § 80m(a)(3) provides that “(a)...the Board [of Regents] may-- ... (3) conduct programs of research and education [in the Museum of African Art]....”

6. maintenance, alteration, operation, lease agreements of no more than 30 years, and protection of buildings, facilities, and approaches;

20 U.S.C. § 53a provides that “Appropriations are hereby authorized for the maintenance of the Astrophysical Observatory and...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

20 U.S.C. § 76ee provides that “There is authorized to be appropriated...such additional sums as may be necessary for the maintenance and operation of such [Hirshhorn] museum and sculpture garden.”

20 U.S.C. § 79b(c) provides that “The ...[Smithsonian Institution] shall...(c) be responsible for the construction and maintenance of laboratory and other facilities on the area provided for the use of students authorized to carry on studies within the confines of the area...”

20 U.S.C. § 80m(a)(2) provides that “(a)...the Board [of Regents] may--
...(2) preserve, maintain...any property of whatsoever nature acquired
[for the Museum of African Art]...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed
under the direction of the Regents of the Smithsonian Institution, who
are authorized...to administer and improve the said Zoological Park for
the advancement of science and the instruction and recreation of the
people.” Public Law 101-512 making appropriations for the Department
of the Interior and Related Agencies for the fiscal year 1991 extended
the maximum term for federal leases from ten years to thirty.

7. not to exceed \$_____ for services as authorized by 5 U.S.C. 3109;

5 U.S.C. § 3109(b) provides that “When authorized by an appropriation
or other statute, the head of an agency may procure by contract the
temporary (not in excess of 1 year) or intermittent services of experts or
consultants or an organization thereof, including stenographic reporting
services.”

8. and purchase, rental, repair, and cleaning of uniforms for employees,

5 U.S.C. § 5901(a) provides that “There is authorized to be appropriated
annually to each agency of the Government of the United States...on a
showing of necessity or desirability, such sums as may be necessary to
carry out this subchapter.

40 U.S.C. § 6306(c) provides that “The employees designated as special
police under subsection (a) [covering the Smithsonian Institution] may be
provided, without charge, with uniforms and other equipment as may be
necessary for the proper performance of their duties...”

9. \$_____, to remain available until September 30, 2017, except as otherwise
provided herein;

Wording added by the Congress in Public Law 111-88 making
appropriations for the Department of the Interior and Related Agencies
for fiscal year 2010 to extend the availability for the Salaries and
Expenses account from one year to two years unless otherwise
provided.

10. of which not to exceed \$_____ for the instrumentation program, collections
acquisition, exhibition reinstallation, the National Museum of African American
History and Culture, and the repatriation of skeletal remains program shall
remain available until expended;

Wording added by the Congress in Public Law 100-446 making appropriations for the Department of the Interior and Related Agencies for fiscal year 1989 to permit the Institution to establish no-year funding within the Salaries and Expenses account for the development of major scientific instrumentation. Public Law 101-512, making appropriations for the Department of the Interior and Related Agencies for fiscal year 1991, allowed no-year funding to be used for the instrumentation program as well as purchases for museum collections and the repatriation of skeletal remains. Public Law 108-447 making appropriations for the Department of the Interior and Related Agencies for fiscal year 2005 allowed additional no-year funding for exhibition reinstallation; and the National Museum of African American History and Culture.

31 U.S.C. § 1301(c)(2) provides that “(c) An appropriation in a regular, annual appropriation law may be construed to be permanent or available continuously only if the appropriation--... (2) expressly provides that it is available after the fiscal year covered by the law in which it appears.”

11. and including such funds as may be necessary to support American overseas research centers:

Wording added by the Congress in Public Law 99-190 making appropriations for Other Related Agencies for fiscal year 1986.

12. *Provided*, That funds appropriated herein are available for advance payments to independent contractors performing research services or participating in official Smithsonian presentations.

31 U.S.C. § 3324(b)(1) provides that (b) “An advance of public money may be made only if it is authorized by-- (1) a specific appropriation or other law...”

Appropriation: Facilities Capital

1. For necessary expenses of repair, revitalization, and alteration of facilities owned or occupied by the Smithsonian Institution, by contract or otherwise, as authorized by section 2 of the Act of August 22, 1949 (63 Stat. 623),

20 U.S.C. § 53a provides that “Appropriations are hereby authorized...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

20 U.S.C. § 81 provides that “The National Zoological Park is placed under the direction of the Regents of the Smithsonian Institution, who are authorized...to administer and improve the said Zoological Park for the advancement of science and the instruction and recreation of the people.”

Public Law 108-108, making appropriations for the Department of the Interior and Related Agencies for fiscal year 2004, established the Facilities Capital appropriation. The appropriation includes activities formerly financed through the Repair, Restoration and Alteration of Facilities appropriation and the Construction appropriation.

2. and for construction,

20 U.S.C. § 53a provides that “Appropriations are hereby authorized...for repairs and alterations of buildings and grounds occupied by the Smithsonian Institution in the District of Columbia and elsewhere...”

3. including necessary personnel,

Wording added by Congress for clarification in Public Law 108-7 making appropriations for the Department of Interior and Related Agencies for fiscal year 2003.

4. \$ _____ to remain available until expended,

31 U.S.C. § 1301(c)(2) provides that “(c) An appropriation in a regular, annual appropriation law may be construed to be permanent or available continuously only if the appropriation--... (2) expressly provides that it is available after the fiscal year covered by the law in which it appears.”

5. of which not to exceed \$_____ shall be for services as authorized by 5 U.S.C. 3109,

5 U.S.C. § 3109(b) provides that “When authorized by an appropriation or other statute, the head of an agency may procure by contract the temporary (not in excess of 1 year) or intermittent services of experts or consultants or an organization thereof, including stenographic reporting services.”

**Adjustments for FY 2016
(Dollars in Thousands)**

Unit	FY 2016 Appropriation	Reorganizations and Reprogrammings		FY 2016 Adjusted Base
		Collections Scholarship 1	Permanent Transfers FY 2015/16	
	\$000s	\$000s	\$000s	\$000s
MUSEUMS AND RESEARCH CENTERS				
<i>Unlocking the Mysteries of the Universe</i>				
National Air and Space Museum	18,937	272	0	19,209
Smithsonian Astrophysical Observatory	24,141	0	0	24,141
Major Scientific Instrumentation	4,118	0	0	4,118
Universe Consortium	184	0	0	184
Subtotal, Unlocking the Mysteries of the Universe	47,380	272	0	47,652
<i>Understanding and Sustaining a Biodiverse Planet</i>				
National Museum of Natural History	48,503	0	0	48,503
National Zoological Park	26,382	0	0	26,382
Smithsonian Environmental Research Center	3,956	0	0	3,956
Smithsonian Tropical Research Institute	14,166	0	0	14,166
Biodiversity Consortium	1,523	0	0	1,523
Subtotal, Understanding and Sustaining a Biodiverse Planet	94,530	0	0	94,530
<i>Valuing World Cultures</i>				
Arthur M. Sackler Gallery/Freer Gallery of Art	6,111	0	0	6,111
Center for Folklife and Cultural Heritage	2,581	0	0	2,581
Cooper Hewitt, Smithsonian Design Museum	4,810	0	0	4,810
Hirshhorn Museum & Sculpture Garden	4,414	0	0	4,414
National Museum of African Art	4,263	136	0	4,399
World Cultures Consortium	284	0	0	284
Subtotal, Valuing World Cultures	22,463	136	0	22,599
<i>Understanding the American Experience</i>				
Anacostia Community Museum	2,116	136	0	2,252
Archives of American Art	1,880	0	0	1,880
National Museum of African American History & Culture	41,347	0	0	41,347
National Museum of American History, Behring Center	22,013	684	0	22,697
National Museum of the American Indian	31,726	0	0	31,726
National Portrait Gallery	6,064	136	0	6,200
National Postal Museum	1,109	0	0	1,109
Smithsonian American Art Museum	9,587	136	0	9,723
American Experience Consortium	595	0	0	595
Subtotal, Understanding the American Experience	116,437	1,092	0	117,529
TOTAL, MUSEUMS AND RESEARCH CENTERS	280,810	1,500	0	282,310

**Adjustments for FY 2016
(Dollars in Thousands)**

Unit	FY 2016 Appropriation \$000s	Reorganizations and Reprogrammings		FY 2016 Adjusted Base \$000s
		Collections Scholarship ^{\1} \$000s	Permanent Transfers FY 2015/16 \$000s	
MISSION ENABLING				
Program Support and Outreach				
Outreach	9,229	0	(184) ^{\2}	9,045
Communications	2,594	0	0	2,594
Institution-wide Programs	14,784	(1,500)	0	13,284
Smithsonian Exhibits	3,009	0	0	3,009
Museum Support Center	1,866	0	0	1,866
Museum Conservation Institute	3,277	0	0	3,277
Smithsonian Institution Archives	2,203	0	50 ^{\3}	2,253
Smithsonian Libraries	10,654	0	0	10,654
Subtotal, Program Support and Outreach	47,616	(1,500)	(134)	45,982
Office of the Chief Information Officer	50,400	0	62 ^{\4,5,6}	50,462
Administration	34,554	0	219 ^{\2,3,4,7}	34,773
Office of the Inspector General	3,451	0	0	3,451
Facilities Services				
Facilities Maintenance	73,985	0	(108) ^{\5}	73,877
Facilities Operations, Security, and Support	205,229	0	(39) ^{\5,6,7}	205,190
TOTAL MISSION ENABLING	415,235	(1,500)	0	413,735
GRAND TOTAL, SMITHSONIAN INSTITUTION	696,045	0	0	696,045

Footnotes for FY 2016 Appropriation:

- ^{\1} Realignment of \$1,500,000 from the Collections Care and Preservation Fund to support unit curatorial staffing to provide optimal care for the National collections.
- ^{\2} Transfer of \$184,000 from Outreach to Administration for operational support.
- ^{\3} Transfer of \$50,000 from Administration to Smithsonian Archives to fund expenses for commercial records management and retrieval services.
- ^{\4} Transfer of \$100,000 from Administration to Chief Information Officer to return funding previously provided for an Information Technology (IT) position.
- ^{\5} Transfer of \$108,000 from Facilities Maintenance and \$50,000 from Facilities Operations, Security, and Support to Chief Information Officer to support an IT Specialist.
- ^{\6} Transfer of \$196,000 from Chief Information Officer to Facilities Operations, Security, and Support for additional leased space.
- ^{\7} Transfer of \$185,000 from Facilities Operations, Security, and Support to Administration for operational support.