



Smithsonian

Fiscal Year 2016

Submitted to the Committees on Appropriations
Congress of the United States

Smithsonian Institution

Fiscal Year 2016

Budget Justification to Congress

February 2015

SMITHSONIAN INSTITUTION
Fiscal Year 2016 Budget Request to Congress
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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 it plays 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 169 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: “the increase and diffusion of knowledge.”

We continue to implement our 2010 Strategic Plan that focuses on four “Grand Challenges” and is reinforced by four consortia to promote interdisciplinary and Institution-wide collaboration. That plan has been extended to 2017. Accordingly, 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 199 affiliate museums in 44 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 130 countries. Last year, our museums had almost 27 million visits, and another 4.5 million people visited our traveling exhibitions, in all 50 states, in 263 communities around the nation. In addition, *Smithsonian Magazine* is now read by more than 7 million people.

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 — 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; 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.

In 2014, our visitors enjoyed nearly 100 new exhibitions, including: *Nation to Nation: Treaties Between the United States and American Indian Nations*, at the National Museum of the American Indian (NMAI); *The Last American Dinosaurs* at the National Museum of Natural History (NMNH); *Wilderness Forever: 50 Years of Protecting America's Wild Places*, marking the 50th anniversary of The Wilderness Act, at NMNH;

Pacific Exchange: China & U.S. Mail at the National Postal Museum (NPM); *Modern American Realism: The Sara Roby Foundation Collection* at the Smithsonian American Art Museum (SAAM); *Gravity's Edge* at the Hirshhorn Museum and Sculpture Garden; *D-Day 3D: Normandy 1944* at the National Air and Space Museum (NASM); *Visions from the Forests* at the National Museum of African Art (NMAfA); *An American in London: Whistler and the Thames* at the Sackler Gallery; *Raise it Up! Anthem for America* at the National Museum of American History (NMAH); the unveiling of portraits of Maya Angelou, Renee Fleming, and Robin Williams at the National Portrait Gallery (NPG); *Genome: Unlocking Life's Code* at NMNH; *American Cool* at NPG; and *Spirit & Opportunity: 10 Years Roving Across Mars* at NASM.

At the National Zoo, we celebrated the first birthday of our panda cub, Bao Bao; added a new female Asian elephant, Bozie; and welcomed three new Asian elephants from the Calgary Zoo in Alberta, Canada, expanding our herd to seven. In addition, four lion cubs were born at the Zoo, and all are doing well.

The year 2014 also marked many anniversaries at the Smithsonian: the bicentennial of the Star-Spangled Banner; the 125th anniversary of the founding of the National Zoo; the 50th anniversary of NMAH; the 50th anniversary of NMAfA; the 10th anniversary of the opening of the NMAI on the National Mall; the 20th anniversary of NMAI's Heye Center in New York City; and the 10th anniversary of the opening of NASM's Steven F. Udvar-Hazy Center in Virginia. In addition, the Charles McC. Mathias Laboratory opened in September at the Smithsonian Environmental Research Center in Edgewater, Maryland, and the Cooper Hewitt, Smithsonian Design Museum reopened to the public on December 12.

As part of our work to broaden access to the nation's treasures, a new report, *Delivering on the Promise of the Digital Smithsonian*, outlines the action agenda we have set for the digital arena. It highlights the Institution's major priorities: 1) use technology to enhance the in-person visitor experience; 2) digitize the collections; 3) make Smithsonian digital content easy for the public to find and use; and 4) spark engagement and participation among learners everywhere.

Digital technology allows us to reach new, diverse audiences more than ever before. In 2014, our 200+ websites attracted 100 million unique visitors, and, in social media, we had 5.5 million followers on Facebook and Twitter alone, with tens of thousands more engaging with us on other online platforms. The Smithsonian Channel, which this year featured exciting content on the Civil War and the history behind the Star-Spangled Banner, now has more than 35 million viewers.

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 2.2 million objects, specimens and books, and electronic records for 25 million artifacts and items in the national collections. Our archives have created 3.5 million digital images, and have electronic records for close to 100,000 cubic feet of archival material. Our new Transcription Center, with 4,400 volunteers, has transcribed 49,000 pages of data in the last year and a half alone. Furthermore, we are implementing conveyor-belt technology to

digitize full collections. The Freer Gallery of Art and Arthur M. Sackler Gallery released their entire collections online on January 5, 2015, providing unprecedented access to one of the world's most important holdings of Asian and American art. "Open F|S" (Freer/Sackler) is free to the public and allows access to most of the 40,000 artworks, in high resolution and without copyright restriction. Approximately 73 percent of the Cooper Hewitt, Smithsonian Design Museum's collections are now available online, with the rest scheduled to be digitized in the coming months. This track record establishes the Smithsonian as a leader in digitizing our nation's intellectual capital and cultural heritage for future use.

Through our Digitization Program Office, we are now leaders in the field of 3D scanning, allowing our treasures and specimens to be seen in an entirely new light. We unveiled our Smithsonian X 3D collection and website, which features 20 items from the collections, including Lincoln's life mask, the Wright Flyer, fossil whales, and a remnant of the CasA supernova. With the new Explorer tool offered on the website, users can not only view objects from every angle, they can print replicas via 3D printer for scientific research or use in the classroom. We recently made history when our digitization team scanned President Barack Obama, creating a life mask and bust, which went on display to the public in the Smithsonian Castle in December 2014. Later, these models will join the Lincoln life mask as a part of the collection of the National Portrait Gallery.

On the education front, our digital badging program (similar to merit badges in Scouting) is called Smithsonian Quests. This exciting new digital tool motivates young learners by helping them build skills, explore their interests, and try out new Smithsonian-inspired roles. The program now has more than 4,000 registered users from all 50 states and more than 50 countries. In addition, this year we piloted a first-of-its-kind collaboration with the National Park Service and the U.S. Department of State's Diplomatic Reception Rooms to create two digital badge opportunities under the Inter-Agency Collaboration on Education's "Declaration of Learning" initiative.

Our collections are a vital national asset and we have improved their display and storage conditions, balancing the preservation of and access to these collections. As mentioned, we are stepping up efforts to digitize as many of the collections as funds permit. 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 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 ecosystems. Federal, state, and local authorities often look to our collections for answers during events such as flu epidemics, oil spills, volcanic eruptions, and aircraft downed by bird strikes.

We operate in more than 130 countries by coordinating across the federal Government and with 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.

Closer to home, we have signed a new Memorandum of Agreement with the U.S. Patent and Trademark Office (USPTO) for \$6.4 million that will be used to explore American innovation across the Smithsonian. Projects include “Innovation Festivals” at the National Air and Space Museum (held November 1, 2014) and the National Museum of American History, family and young professionals’ events at the Smithsonian American Art Museum, a joint USPTO–Smithsonian exhibition at the National Museum of American History, and an innovation website to be produced by Smithsonian Enterprises. Strategic planning between the Smithsonian and USPTO will provide even more potential for creative programs and exhibitions in the years ahead.

On June 12, 2014, the Smithsonian signed a Memorandum of Understanding (MOU) with the University of Tennessee-Batelle to formalize collaboration between the Institution and the Oak Ridge National Laboratory in scientific and educational areas. Current shared interests include climate change; human-environmental interactions; genomics; computational sciences; bioinformatics; data analytics; and science, technology, engineering, and mathematics (STEM) education. Activities will include sharing of data and staff expertise as well as collaborating to secure financial resources.

Also last June, the Smithsonian and the Penn Cultural Heritage Center, in cooperation with the Syrian Interim Government’s Heritage Task Force, held a three-day training program on “Emergency Care for Syrian Museum Collections.” The program provides Syrian participants with information on how to secure their museum collections safely during emergencies; they were also given basic supplies for such tasks.

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. Working with the USAID-funded Emerging Pandemic Threats Program, the Smithsonian is helping public health officials avoid the 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.

The Smithsonian’s 500 scientists are tackling vital issues of the day, making important discoveries — and sharing them with the public. On October 9th, we used our influential reputation in the scientific community to address the pressing issue of global climate change. We held a one-day symposium, *Living in the Anthropocene: Prospects for Climate, Economics, Health, and Security*, with speakers from Oak Ridge National Laboratory, the Centers for Disease Control and Prevention, the World Bank, Booz Allen Hamilton, *The New York Times*, and many other public- and private-sector institutions. The symposium produced a statement on climate change, available to the public, and it has attracted more than 13,000 visits.

In December, our consortia launched the Smithsonian Institute for Biodiversity Genomics (SIBG) in conjunction with a special issue on avian genomics in *Science* magazine. The launch of the SIBG will provide the high-profile, multidisciplinary scholarship, leadership, collaborative spirit, and logistical support necessary to enhance our understanding of the natural world through genomics. The collections and field-based

initiatives of our museums and research centers include the NMNH, the Smithsonian Tropical Research Institute (STRI), the National Zoo (NZA), the Smithsonian Conservation Biology Institute (SCBI), the Smithsonian Environmental Research Center (SERC), and the Museum Conservation Institute (MCI).

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 tackle biodiversity issues. The Smithsonian's ForestGEO (Global Earth Observatories) network is a worldwide partnership of more than 80 institutions working to monitor the health of four million trees (8,500 species) on 53 plots in 23 countries. Our new initiative, Tennenbaum Marine Observatories, or MarineGEO, seeks to replicate this success and assess the health of coastal areas and the oceans at large.

Looking upward, at the University of Arizona, Smithsonian scientists continue to help with construction of the large mirrors, 28 feet in diameter, for the Giant Magellan Telescope, which will be built at the Las Campanas Observatory in Chile. This project is the brainchild of an international consortium led by the Carnegie Institute, with the Smithsonian as a member. This powerful new telescope will enable researchers to see distant stars and galaxies 10 times more clearly than with the aging, space-based Hubble Telescope.

Meanwhile, scientists at the Harvard-based Smithsonian Center for Astrophysics are using telescopes in outer space to discover new planets. Smithsonian Astrophysical Observatory (SAO) scientists have discovered an exoplanet dubbed a "mega-Earth." Found in the constellation Draco, Kepler-10c is a rocky world weighing as much as 17 Earths. The star it orbits is a little smaller and older than our sun. Kepler 10c's surface temperature is around 300 degrees centigrade, but the planet still could host life. Back in our own solar system, a NASM geologist is serving at NASA's Jet Propulsion Laboratory, helping with the *Curiosity* mission on Mars. He analyzes data to understand the geological history of the Gale Crater and discover if there might have been habitable environments there in the ancient past.

The National Museum of Natural History is the leading partner in a global effort called the *Encyclopedia of Life* (EOL), an ambitious, 10-year project that will become 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. It features text, multimedia, and trait data on more than 1.3 million of the world's 1.9 million known species of animals, plants, and other life forms. Today, scientists, students, and teachers worldwide use the EOL as a resource for research, classwork, academic and professional studies, with more than 5.5 million unique visitors to the EOL website last year. On a related note, the

Biodiversity Heritage Library (BHL) is the scientific literature cornerstone of the EOL. It is an international consortium of natural history and botanical libraries. Led by the Smithsonian Libraries, biodiversitylibrary.org now has more than 144,000 volumes and 44 million webpages freely available online. More than 762,000 unique visitors per year access its records.

The NMNH also houses the Consortium for the Barcode of Life (CBOL), an international initiative devoted to developing DNA barcoding as a global standard for the 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 our partners in expanding the frontiers of knowledge in this exciting new field.

Our cutting-edge work in biogenomics 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 biogenomic initiative 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 documenting our discoveries.

As part of our mission, the "diffusion of knowledge," we now deliver educational materials to students and teachers in all 50 states. More than 2,000 learning resources, all tied to state standards, are available online for free. We have seven new education centers in different stages of completion at our museums: the NMAI center in Washington, DC, is now open and its New York center will open in the spring of 2015; the NMAH center opens in the summer of 2015; the NMNH and SAAM centers are now open; the Postal Museum's William H. Gross Stamp Gallery that opened in September of 2013 features two education centers, the Byrne Education Loft and the EdLab Innovation Center; and NMNH opened *Q?rius*, our new 10,000-square-foot science education center for teenagers, in December of 2013.

In addition, our continuing partnership with the Cricket Media ePals global online learning network enables us to offer lesson plans and resources to more than one million schools. The Smithsonian Learning Center within ePals has had 4.2 million visitors and 11 million page views, including more than 485,000 downloads of student work based on Smithsonian content. This year, the Center for Folklife and Cultural Heritage partnered with ePals to launch the Junior Folklife Challenge. Held in conjunction with the Smithsonian Folklife Festival, students from seven countries submitted more than 100 entries that illustrated the vibrant diversity of their communities' cultural traditions.

In October, we launched our first limited online course through edX, the Massively Open Online Course (MOOC) platform, jointly sponsored by Harvard and the Massachusetts Institute of Technology. It is a free, six-week offering called "Teaching

Historical Inquiry with Objects,” in which 512 secondary school teachers across the country are enrolled. (The course is at maximum capacity for now, but we will expand eligibility soon.) Our American History Museum produced it in collaboration with Smithsonian Enterprises. Successful participants receive certificates that can be used to meet their continuing education requirements.

Now in its third year, the *Spark!Lab Invent It Global Challenge* received more than 400 invention submissions from K–12 students from the United States and around the world. Working alone or in small groups, students identified a problem, researched possible solutions, sketched their ideas, and built and tested a prototype. Students’ inventions have ranged from an adjustable ice scraper that a driver can use while sitting inside a car, to a vehicle designed for refugees to carry their children and belongings over long distances, to a leash equipped with solar-powered lights for walking a dog at night.

Thanks to the NMAH and our affiliates, the *National Youth Summit: Freedom Summer* took place on February 5, 2014. Eleven affiliates hosted live events, and schools from all 50 states participated, in addition to learners in Canada, the United Kingdom, Tanzania, Pakistan, and Belgium — for a total of more than 8,000 students.

We can do all this thanks to more than 6,400 dedicated employees, including award-winning scientists and scholars, curators, researchers, historians, and experts in fields from astrophysics to zoology, and more than 6,300 generous volunteers, 788 Fellows, 1,331 interns, and 980 research associates — brain power that benefits the Smithsonian and the world many times over. They all care deeply about their work and the Smithsonian. That is why the Smithsonian was, for the fifth year in a row, 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 open more doors in the future — like the new National Museum of African American History and Culture currently under construction. We have maintained a tradition of serving 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 remains a valuable resource for the American people.

The Institution is full of surprises, big and small. But what we do best is no surprise: inspire the next generation of scholars, scientists, doctors, educators, innovators, entrepreneurs, and just ordinary folks who have questions to ask or simply want to learn more about the world around them. We provide people with a universal lens for learning, no matter where they live — all free of charge.

The Smithsonian is more innovative, disciplined, focused, nimble, and self-reliant than ever before. We are determined to expand access to new and diverse audiences, in keeping with our original mission. As we face both exciting new opportunities and imposing challenges, we will continue to take full advantage of our many strengths.

SMITHSONIAN INSTITUTION FY 2016 BUDGET REQUEST SUMMARY

Account	FY 2014 Enacted	FY 2015 Enacted	FY 2016 Request
Salaries and Expenses	\$647,000,000	\$675,343,000	\$735,825,000
Facilities Capital	<u>\$158,000,000</u>	<u>\$144,198,000</u>	<u>\$200,000,000</u>
Total	\$805,000,000	\$819,541,000	\$935,825,000

For fiscal year (FY) 2016, the Smithsonian's request to fund operating expenses and revitalization of the Institution's physical infrastructure is **\$935.8 million**. The amount includes **\$735.8 million** for Salaries and Expenses (S&E) and **\$200.0 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 (+\$8,497,000)** — This request funds a 1.3 percent pay raise for FY 2016; annualization of the 2015 pay raise (1.0 percent); an increase for employee benefits; and an increase for Workers' Compensation.
- **Non-pay Mandatory Items (+\$5,726,000)** — The Institution requests additional funding, largely for inflation-related increases in rent, utilities, software licenses, and other mandatory operating costs. Details are provided in the S&E section of this budget submission.

PROGRAM CHANGES

This budget request for FY 2016 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 strategic goals.

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. This program is a cornerstone priority of the Institution's biodiversity strategic plan and will leverage private fund raising. This request will specifically direct genomic research across the Institution and enable coordination with global partners on a longer term basis.

- **MarineGEO (+\$400,000)** — The Institution's Marine Global Earth Observatories, or MarineGEO, provide a global-scale network of ecological observatories dedicated to understanding changes in the structure and function of marine ecosystems. This comprehensive approach will provide a new, fundamental understanding of our oceans, their sustainability, and their importance to human life and society. This request supports network expansion, staffing, and equipment needs.

BROADENING ACCESS

- **Digitization (+\$1,800,000)** — The Smithsonian continues work on its Strategic Plan to become the trusted source of information on the World Wide Web by using new technologies to share its vast collections and extensive research, along with the expertise of its scholars, scientists, researchers, museum specialists, and curators. This request supports the Smithsonian's Digitization Strategic Plan to stimulate learning and innovation. Digitizing the collections and making them accessible online are major Strategic Plan priorities.
- **Web Access (+\$1,325,000)** — The funds requested will support redesign of the current website to reflect the Institution's mission strategy and consolidate Institution-wide websites into a stronger, more effective, and cost-efficient whole, thereby improving collections search tools. This request, along with the above increase for digitization, supports the overall improvement of digital services.
- **Exhibits Maintenance (+\$850,000)** — This funding request will enable museums to keep up with the routine maintenance needs resulting from expanded exhibition space, increased visitation, and the more popular, maintenance-intensive interactive exhibitions.
- **Latino Initiatives (+\$879,000)** — This funding request will increase the total resources in the Latino Initiatives Pool to \$2 million and enable the Smithsonian to increase support for projects in research and collections, as well as for exhibitions and educational and public programming. These additional funds will allow all Smithsonian museums to compete for project funds that will advance the knowledge and understanding of the contributions of Latinas and Latinos to U.S. history, art, culture, and science.
- **Asian Pacific American Initiatives (+\$400,000)** — This budget request will establish an Asian Pacific American Initiatives Pool that will provide annual funding for Smithsonian programs that focus on the Asian Pacific American experience and contributions to science, history, art, and culture. Pool funds

will enhance the Smithsonian's capability to provide public programming and support exhibitions, education, research, and collections acquisition.

REVITALIZING EDUCATION

- **STEM Engagement (+\$5,000,000)** — This funding request will enable the Institution to work collaboratively with federal agencies offering Science, Technology, Engineering, and Mathematics (STEM) programs. The request will support the implementation of the Federal STEM Education 5-Year Strategic Plan and the Government-wide reorganization of STEM education programs so that the Smithsonian may: 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 engagement offerings. The Smithsonian will create discipline- and subject-based committees that coordinate the efforts of STEM engagement providers, including Smithsonian units, mission agencies, and other non-profit collaborators.

STRENGTHENING COLLECTIONS

- **Collections Scholarship (+\$1,980,000)** — This will fund staffing needs to provide optimal care for the Smithsonian's vast collections, as well as strengthen and increase sharing of collections with a diverse national and international audience. These funds will help the Smithsonian reinvigorate its curatorial staffing strength to support excellent research; improve exhibitions and digitization of the nation's vast collection of artifacts; and fully realize the benefits from the Institution's facilities infrastructure investments.
- **Collections Care Initiative (+\$3,000,000)** — 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 by providing essential resources to meet professional standards of collections care. The funding will also correct specific collections management deficiencies identified in the Smithsonian's Inspector General audit recommendations, and address the Institution's highest priority collections management needs.
- **Animal Welfare (+\$700,000)** — The National Zoological Park (NZIP) is requesting this increase to support the Zoo's medical team, primarily in the Pathology unit, and ensure the health, safety, and welfare of the living collection. The requested funds would support pathology staffing to maintain animal care standards at NZIP, continue the NZIP's board-certified veterinary residency program, and raise the standard of animal care.

MISSION ENABLING

- **Facilities Maintenance (+\$14,710,000)** — The Smithsonian requests an increase of \$14.7 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 maintenance backlog and meet the standards for annual maintenance budgets as endorsed by the Government Accountability Office and the National Research Council. The increase also supports the essential facilities funding required to open the new National Museum of African American History and Culture.

- **Facilities Operations, Security, and Support (+\$12,700,000)** — The Institution also requests an increase of \$12.7 million to address high-priority operating and safety needs. The increase will enable the Institution to provide better facilities operations and cleanliness. The increase also supports the critical facilities funding required for the new National Museum of African American History and Culture.
- **Diversity (+\$155,000)** — Diversity is one of the expressed values in the Smithsonian Strategic Plan. This increase for the Office of Equal Employment and Minority Affairs is requested to hire one affirmative employment specialist to conduct regular and comprehensive audits of Smithsonian units Diversity to ensure consistent Equal Employment Opportunity practices across the Smithsonian.

FACILITIES CAPITAL PROGRAM

The requested funds for the Facilities Capital Program (**\$200,000,000**) will be applied to arrest deterioration of some of the Smithsonian's oldest 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 ready to be fixed in FY 2016.

For FY 2016, the requested funds will enable the Institution to continue major revitalization work at the National Museum of Natural History (\$23.0 million); the National Zoological Park (\$29.59 million); National Museum of American History (\$15.0 million); and to perform critical revitalization work at the National Air and Space Museum (NASM) (\$12.65 million); National Museum of the American Indian — New York facility (\$5.35 million); Cooper Hewitt, Smithsonian Design Museum (\$4.6 million); Freer-Sackler Gallery (\$4.0 million); Hirshhorn Museum and Sculpture Garden (\$4.45 million); Museum Support Center (MSC) (\$16.7 million); Smithsonian Environmental Research Center (\$5.9 million); Suitland Collections Facility (\$1.75 million); and the Smithsonian Tropical Research Institute (\$1.65 million). The request also provides for critical revitalization projects throughout the Institution and costing under \$1 million each (\$19.45 million). This request also accounts for planning and design of future projects estimated at \$55.91 million, including NASM (\$20.0 million) and Pod 6 at MSC (\$6.3 million). Details are provided in the Facilities Capital section of this budget request.

**SMITHSONIAN INSTITUTION
FY 2016 REQUIRED BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

SALARIES AND EXPENSES	FTEs	Amount
FY 2015 Enacted	4,327	\$675,343,000
FY 2016 Increases		
<u>FIXED COSTS INCREASES</u>		
Salaries and Related Costs	0	8,497,000
Utilities, Postage, Rent, Communications, and Other	0	5,726,000
<u>PROGRAM INCREASES</u>		
Excellent Research		
Greenland Telescope	0	2,000,000
Biodiversity Genomics	2	360,000
MarineGEO	5	400,000
Broadening Access		
Digitization	0	1,800,000
Web Access	0	1,325,000
Exhibits Maintenance	0	850,000
Latino Initiatives	0	879,000
Asian Pacific American Initiatives	0	400,000
Revitalizing Education		
Science, Technology, Engineering, and Mathematics	15	5,000,000
Strengthening Collections		
Collections Scholarship	11	1,980,000
Collections Care Initiative	0	3,000,000
Animal Welfare	4	700,000
Mission Enabling		
Facilities Maintenance	64	14,710,000
Facilities Operations, Security, and Support	115	12,700,000
Diversity	1	155,000
Total FY 2016 Salaries and Expenses	4,544	\$735,825,000

**SMITHSONIAN INSTITUTION
FY 2016 REQUIRED BUDGET SUMMARY
BY APPROPRIATION ACCOUNT**

FACILITIES CAPITAL	FTEs	Amount
FTEs in Base	48	
Revitalization		
National Museum of Natural History		23,000,000
National Zoological Park		29,590,000
National Museum of American History		15,000,000
National Air and Space Museum		12,650,000
National Museum of the American Indian		5,350,000
Cooper Hewitt, Smithsonian Design Museum		4,600,000
Freer-Sackler Gallery		4,000,000
Hirshhorn Museum and Sculpture Garden		4,450,000
Museum Support Center		16,700,000
Smithsonian Environmental Research Center		5,900,000
Suitland Collections Facility		1,750,000
Smithsonian Tropical Research Institute		1,650,000
Multiple Location Revitalization Projects		19,950,000
Planning and Design		
Facilities Planning and Design		55,410,000
Total FY 2016 Facilities Capital	48	\$200,000,000
FY 2016 REQUEST, ALL ACCOUNTS	4,592	\$935,825,000

**SMITHSONIAN INSTITUTION
SALARIES AND EXPENSES (S&E)
FY 2016 Summary of Increases**

	FTEs	Amount
FY 2015 Enacted	4,327	\$675,343,000
Fixed Costs Increases		
Salaries and Related Costs		8,497,000
Utilities, Postage, Rent, Communications, and Other		<u>5,726,000</u>
Total Fixed Costs Increases		\$14,223,000
Program Increases		
Excellent Research		
Greenland Telescope	0	2,000,000
Biodiversity Genomics	2	360,000
MarineGEO	5	400,000
Broadening Access		
Digitization	0	1,800,000
Web Access	0	1,325,000
Exhibits Maintenance	0	850,000
Latino Initiatives	0	879,000
Asian Pacific American Initiatives	0	400,000
Revitalizing Education		
Science, Technology, Engineering, and Mathematics	15	5,000,000
Strengthening Collections		
Collections Scholarship	11	1,980,000
Collections Care Initiative	0	3,000,000
Animal Welfare	4	700,000
Mission Enabling		
Facilities Maintenance	64	14,710,000
Facilities Operations, Security, and Support	115	12,700,000
Diversity	<u>1</u>	<u>155,000</u>
Total Program Increases	217	\$46,259,000
Total Increases	217	\$60,482,000
FY 2016 Total Salaries and Expenses	4,544	\$735,825,000

SMITHSONIAN INSTITUTION
Salaries and Expenses
Unit Detail of the FY 2014 Enacted and FY 2015/2016 Requests
(\$ in Thousands)

Page #	FTE = Full-Time Equivalent	FY 2014		FY 2015		FY 2016		ANALYSIS OF CHANGE					
		Enacted	FTEs	Enacted	FTEs	Congress Request	FTEs	Fixed Costs (FY 2016 Increases)	Pay & Benefits \$000	Rent & Utilities \$000	Other \$000	Program Increase FTEs \$000	
		FTEs	\$000	FTEs	\$000	FTEs	\$000						
	MISSION ENABLING												
	<i>Program Support and Outreach</i>												
173	Outreach	65	9,121	65	9,150	80	14,317	167	0	0	0	15	5,000
181	Communications	22	2,556	22	2,567	22	3,945	53	0	0	0	0	1,325
185	Institution-wide Programs	0	7,778	0	10,505	0	14,784	0	0	0	0	0	4,279
195	Office of Exhibits Central	28	2,950	28	2,974	28	3,037	63	0	0	0	0	0
197	Museum Support Center	18	1,836	18	1,848	18	1,884	36	0	0	0	0	0
199	Museum Conservation Institute	22	3,222	22	3,244	22	3,308	64	0	0	0	0	0
204	Smithsonian Institution Archives	20	2,149	20	2,167	20	2,223	56	0	0	0	0	0
207	Smithsonian Libraries	86	10,337	86	10,399	86	10,748	199	0	150	0	0	0
	Subtotal, Program Support and Outreach	261	39,949	261	42,854	276	54,246	638	0	150	0	15	10,604
211	Office of the Chief Information Officer	93	47,856	93	48,929	93	53,395	376	0	2,290	0	0	1,800
214	Administration	185	34,185	181	34,067	182	34,977	705	0	50	1	1	155
218	Office of the Inspector General	24	3,392	24	3,416	24	3,476	60	0	0	0	0	0
	<i>Facilities Services</i>												
220	Facilities Maintenance	357	69,032	382	71,403	446	86,695	582	0	0	0	64	14,710
224	Facilities Operations, Security and Support	1,357	185,401	1,476	197,879	1,591	214,429	1,329	2,521	0	115	12,700	
	Subtotal, Facilities Services	1,714	254,433	1,858	269,282	2,037	301,124	1,911	2,521	0	179	27,410	
	Total Mission Enabling	2,277	379,815	2,417	398,548	2,612	447,218	3,690	2,521	2,490	195	39,969	
	GRAND TOTAL, SMITHSONIAN INSTITUTION	4,154	647,000	4,327	675,343	4,544	735,825	8,497	3,186	2,540	217	46,259	

SALARIES AND EXPENSES

FY 2014 Enacted	\$647,000,000
FY 2015 Enacted	\$675,343,000
FY 2016 Request	\$735,825,000

For FY 2016, the Institution requests **\$735.8 million** in the Salaries and Expenses (S&E) account. Within the total increase requested, approximately 24 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, including an increase of \$10.5 million for the facilities and security operations of the National Museum of African American History and Culture.

FIXED COSTS

SALARY AND PAY-RELATED COSTS (+\$8,497,000) — The Institution requests an increase of \$8.5 million for higher salary and pay-related costs. The increase funds the proposed 1.3 percent pay raise in January 2016, annualization of the 2015 1.0 percent pay raise, increased employee benefit costs, and increased Workers' Compensation costs, as follows:

<i>Salary and Related Costs:</i>	<u>Request</u>
▪ 2016 pay raise (3/4 year at 1.3%)	\$4,293,000
▪ Annualization of 2015 pay raise (1/4 year at 1.0%)	\$1,168,000
▪ Employee benefits	\$3,000,000
▪ Workers' Compensation	<u>\$36,000</u>
Total	\$8,497,000

- **Proposed 2016 Pay Raise (+\$4,293,000)** — This provides for a 1.3 percent January 2016 pay raise for three-quarters of a year.
- **Annualization of the 2015 Pay Raise (+\$1,168,000)** — This funds the annualization of the anticipated 1.0 percent pay raise in January 2015 for the first quarter of FY 2016.
- **Employee Benefits (+\$3,000,000)** — This funds increased employee benefit costs, including health care premiums and retirement costs, along with the shift of federal employees from the Civil Service Retirement System (CSRS) to the Federal Employees Retirement System (FERS).
- **Workers' Compensation (+\$36,000)** — This supports the provisions of Section 8147(b) of Title 5, *United States Code*. The Workers' Compensation bill for FY 2016 is estimated at **\$3,454,000**, based on projected costs incurred from July 1, 2013 through June 30, 2014.

FY 2016 Increased Pay Costs
(Dollars in Thousands)

Line Item	FY 2015 Annualized	FY 2016 Pay/Benefits
National Air and Space Museum	51	455
Smithsonian Astrophysical Observatory	42	344
National Museum of Natural History	119	824
National Zoological Park	60	423
Smithsonian Environmental Research Center	11	72
Smithsonian Tropical Research Institute	30	216
Biodiversity — Consortium	0	5
Arthur M. Sackler Gallery/Freer Gallery of Art	14	106
Center for Folklife and Cultural Heritage	5	40
Cooper Hewitt, Smithsonian Design Museum	8	59
Hirshhorn Museum and Sculpture Garden	11	76
National Museum of African Art	8	67
Anacostia Community Museum	5	37
Archives of American Art	5	34
National Museum of African American History and Culture	25	285
National Museum of American History, Behring Center	57	393
National Postal Museum	2	13
National Museum of the American Indian	65	518
National Portrait Gallery	16	105
Smithsonian American Art Museum	26	173
American Experience — Consortium	0	2
Outreach	18	149
Communications	7	46
Museum Support Center	4	32
Museum Conservation Institute	8	56
Smithsonian Institution Archives	6	50
Smithsonian Institution Libraries	24	175
Office of Exhibits Central	8	55
Office of the Chief Information Officer	42	334
Administration	69	600
Inspector General	7	53
Facilities Maintenance	127	455
Facilities Operations, Security, and Support	288	1,041
Total Increased Pay Costs	\$1,168	\$7,293

UTILITIES, POSTAGE, RENT, COMMUNICATIONS, AND OTHER FIXED COSTS (+\$5,726,000) — For FY 2016, the Institution requests an increase of \$5,726,000 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 federal regulatory compliance requirements.

The following table displays the FY 2015 and FY 2016 estimates. The details that follow address the specific changes impacting the FY 2016 accounts.

**Federal Utilities, Postage, Rent, Communications,
and Other Fixed Costs
FY 2015–FY 2016
(Dollars in Thousands)**

	FY 2015 Estimate	FY 2016 Request	Change
Utilities:			
Electricity	19,566	20,487	921
Chilled Water	6,632	6,614	-18
Steam	7,909	7,749	-160
Natural Gas	3,068	3,211	143
DC Gov't Water/Sewer	2,792	3,222	430
Other Water and Fuel Oil	<u>1,105</u>	<u>1,151</u>	<u>46</u>
Subtotal, Utilities	41,072	42,434	1,362
Postage	1,611	1,511	-100
Motor Fuel	370	370	0
Rental Space:			
Central	30,972	32,231	1,259
Unit	<u>7,557</u>	<u>8,222</u>	<u>665</u>
Subtotal, Rent	38,529	40,453	1,924
Communications	17,463	19,753	2,290
Other Support	2,277	2,527	250
Total	\$101,322	\$107,048	\$5,726

UTILITIES (+\$1,362,000) — Justified here, but included in the Facilities Operations, Security, and Support line item, is a requested increase to cover the higher costs of electricity; natural gas; Washington, DC Government Water and Sewer; and other water and fuel services. The request includes the following:

- **Electricity (+\$921,000)** — 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 cost increases in FY 2016 to current services for all accounts (+\$331,000). Also included is the balance required for six months of electrical service for the new National Museum of African American History and Culture (NMAAHC) (+\$590,000).
- **Chilled Water (-\$18,000)** — 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 net decrease includes a nominal rate increase for FY 2016 (+\$15,000), and an offsetting decrease for the lower-than-expected rate increase in FY 2015 and prior years (-\$33,000).
- **Steam (-\$160,000)** — The Smithsonian uses steam for heating and humidification, and to produce hot water for facilities on the Mall and in New York City. The net decrease includes anticipated rate increases in FY 2016 (+\$48,000) and an offsetting decrease for lower steam costs as a result of energy conservation (-\$208,000).
- **Natural Gas (+\$143,000)** — The Smithsonian uses natural gas for heating and generating steam. The net increase covers anticipated rate changes in FY 2016 (+\$9,000), the balance required for six months of gas service for NMAAHC (+\$182,000), and a downward adjustment for lower-than-expected rate increases in FY 2015 and prior years (-\$48,000).
- **DC Water and Sewer (+\$430,000)** — Funds cover the costs of both water and sewer services provided by the District of Columbia Water and Sewer Authority (DCWSA). The increase represents rate and billing adjustments transmitted by DCWSA to the Smithsonian in April 2014 (+\$430,000).
- **Other Water and Fuel Oil (+\$46,000)** — Funds provide water service for facilities outside of Washington, DC, fuel oil used in dual-fuel boilers, and fuel oil and propane used in generators for emergency power. The estimate covers rate increases for water to all facilities (+\$46,000). No increase is requested for fuel oil in FY 2016.

POSTAGE (-\$100,000) — Funds provide for all official domestic and international mail services. The estimate for postage reflects a decrease in postage costs (-\$100,000) due to the Smithsonian's increased use of electronic communication, such as email.

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 2016.

RENTAL SPACE (+\$1,924,000) — Funds provide for the long-term rental of office, collections and warehouse storage, and laboratory space. For FY 2016, the Smithsonian requests increases of \$1,259,000 for centrally-funded lease requirements and \$665,000 for unit-funded, programmatic lease requirements, as follows:

- **Central Rent (+\$1,259,000)** — Justified here, but included in the Facilities Operations, Security, and Support line item, are increases needed to support leased office and storage space, as follows:

Escalation (+\$1,259,000) — Provides for 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 at four percent above FY 2015 estimates.

- **Unit Rent (+\$665,000)** — 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 (+\$80,000) — Provides funding for the annual escalation of contractual lease costs and lease-related services. The requested increase supports leased space occupied by the National Museum of African American History and Culture (+\$43,000); Center for Folklife and Cultural Heritage (+\$5,000); Cooper Hewitt, Smithsonian Design Museum (+\$20,000); National Postal Museum (NPM) (+\$10,000); and the Smithsonian American Art Museum (+\$2,000).

National Museum of African American History and Culture (+\$500,000) — Provides funds for rental of additional leased space and one-time, fit-out costs for NMAAHC to house an anticipated increase in essential staff to set up the exhibitions, programming, and operations of the Museum before it opens to the public.

Hirshhorn Museum and Sculpture Garden (HMSG) (+\$67,000) — This increase provides base rent funds for 2,015 square feet of existing leased collections-storage space. The requested funds ensure continuation of

current leases that are essential to preserve and ensure continued access to the Museum's permanent art collections.

National Postal Museum (+\$18,000) — The request funds annual lease costs for approximately 2,400 square feet of leased collections-storage space to be identified by Museum staff. The NPM has a collection of more than 6.1 million objects and needs additional space to house its three-dimensional postal collection, including its historic collection of postal vehicles. Currently, the postal vehicles are being temporarily stored in various U.S. postal facilities that are scheduled to close. The requested funds will provide a secure, climate-controlled space for the vehicle collection, thereby ensuring the future preservation of and access to the collection.

COMMUNICATIONS (+\$2,290,000) — The communications base 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.

The Institution maintains a centrally supported Digital Asset Management System (DAMS) that is used to store, manage, and share digital versions of our collections objects. The underlying storage and data protection components of DAMS are experiencing rapid growth in storage demand that is projected to continue for the foreseeable future. This rapid growth is due to a number of factors, including a deliberate focus on adoption of this system by all Smithsonian units for all digitized collection objects to ensure these assets are properly protected. Additionally, the DAMS provides mechanisms to make the digitized collections accessible to the public, which is a strategic priority of the Institution. Other factors causing this growth are more efficient digitization processes that are dramatically improving the rate of digitizing objects, and technology advances that produce higher resolution assets with larger individual file sizes (+\$1,310,000).

Additional funding is also needed for business-critical systems to cover mandatory upgrades and/or rising software and hardware maintenance fees. These systems include the Collections Information System used by the seven art museums, National Air and Space Museum, National Postal Museum, and the Anacostia Community Museum, the Smithsonian Institution Research Information System (SIRIS), and the Institution's Enterprise Resource Planning (ERP) financial management system (+\$400,000).

Additional funding is also required to address increased software and hardware maintenance costs due to changes in vendor software license models and the increased number of wireless access points deployed in our public spaces to provide Wi-Fi for staff and visitors. The Smithsonian needed to increase its number of Internet access points to meet visitor expectations and to

enable a mobile, friendly and interactive experience and allow the Institution's many units to offer more interactive products (e.g., mobile apps) that are accessible by visitors anywhere on the National Mall (+\$580,000).

OTHER SUPPORT (+\$250,000) — An additional \$250,000 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 (+\$150,000). This increase will enable the Libraries to cover the inflation costs of purchasing journals and electronic databases, which are critical to support the Institution's many research programs and scientists.

The Institution requests an increase of \$50,000 to support the Smithsonian Folklife Festival's compliance with new regulations instituted by the National Park Service (NPS) in its management of the turf on the National Mall, which strictly limit how the Festival can use both the turf and tree panels. The new regulations require the Festival to provide annual funding to NPS to restore the turf and tree panels after the annual Festival.

In addition, the Institution requests \$50,000 to support the Smithsonian's Project SEARCH program, which is a school-to-work transition program for young adults with intellectual and developmental disabilities. The Smithsonian piloted Project SEARCH in 2013 based on the outstanding outcomes of the programs at the National Institutes of Health and in the Montgomery County government (in Maryland). The business-driven program provides opportunities for participating interns to develop job skills that will lead to success in the workplace and possible long-lasting paid employment. The Smithsonian anticipates hiring six to 10 individuals each year who have successfully completed the 10-month intensive internship program, working in positions across the Institution. The additional funding will enable eligible offices to hire an intern at the completion of the internship, rather than waiting until a slot becomes available. The long-term goal is to increase the Smithsonian's hiring of people with disabilities. Project SEARCH provides a way for the Smithsonian to become a model employer in this area, thereby improving the diversity of the Institution's workforce while also serving under-represented communities throughout the National Capital Region.

SUMMARY OF S&E PROGRAM INCREASES

	\$000s	
	FY 2015 Base	FY 2016 Request
Excellent Research (Grand Challenges)	83,896	+2,760
• Greenland Telescope	500	+2,000
• Biodiversity Genomics	0	+360
• MarineGEO	0	+400
Broadening Access	78,678	+5,254
• Digitization and Web Access	11,581	+3,125
• Exhibits Maintenance	1,400	+850
• Latino Initiatives	1,121	+879
• Asian Pacific American Initiatives	0	+400
Revitalizing Education	19,479	+5,000
Strengthening Collections	74,664	+5,680
• Collections Scholarship	0	+1,980
• Collections Care Initiatives	5,197	+3,000
• Animal Welfare	18,706	+700
Mission Enabling	418,626	+27,565
• Facilities Maintenance	71,403	+14,710
• Facilities Operations, Security, and Support	197,879	+12,700
• Management Operations	77,894	+155
Total S&E Program Increases	\$675,343	+\$46,259

Note: For a complete list of program categories, see page 36

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 Institution has established consortia in each Grand Challenge area to fuse and optimize efforts across the Institution and coordinate work with the Smithsonian’s research partners to ensure that our combined efforts are as cost-effective and productive as possible. The consortia also help the Institution raise funds for these efforts. However, in the interest of efficiency, all research will continue to be conducted by our existing museums and research centers.

For FY 2016, the Institution will continue implementing its Strategic Plan with the following requested increases for Excellent Research:

<u>Category</u>	FY 2015 Base \$000s	FY 2016 Increase \$000s
EXCELLENT RESEARCH	\$83,896	
• Greenland Telescope	500	+2,000
• Biodiversity Genomics	0	+360
• MarineGEO	0	+400
Total Increases		+\$2,760

Unlocking the Mysteries of the Universe — Greenland Telescope (+\$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 (+\$360,000, +2 FTEs)

This request (+\$360,000, +2 FTEs) supports expanded Institution-wide efforts on collaborative, multidisciplinary 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 20 years of systematic development and federal investment, and will further leverage and give credence to increased private fund raising. Additional details are

provided in the Grand Challenges and Interdisciplinary Research section of this budget request.

Understanding and Sustaining a Biodiverse Planet — MarineGEO (+\$400,000, +5 FTEs)

The Institution requests \$400,000 and 5 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, dedicated to understanding changes in the structure and function of marine ecosystems. This project builds on existing Smithsonian federal and trust investments, collaboration with the National Oceanic and Atmospheric Administration and the National Science and Technology Council’s Subcommittee on Ocean Science and Technology, and leveraging in-kind support from a range of academic partners to allow expansion of the network beyond the initial sites. Additional details are included in the Grand Challenges and Interdisciplinary Research section of this budget submission.

BROADENING ACCESS

<u>Category</u>	FY 2015 Base \$000s	FY 2016 Increase \$000s
BROADENING ACCESS	\$78,678	
• Digitization/Web Access	11,581	+3,125
• Exhibits Maintenance	1,400	+850
• Latino Initiatives	1,121	+879
• Asian Pacific American Initiatives	0	+400
Total Increases		+\$5,254

Digitization (+\$1,800,000)

This budget request seeks funding to accelerate digitization progress by turning time-limited rapid digitization prototypes into production projects that enable the Smithsonian to digitize entire priority collections. Increasing the quantity and quality of digital inventory records and digital images advances each of the major goals of the Smithsonian’s Strategic Plan, and is a basic requirement for Broadening Access to the public. The Smithsonian has successfully implemented a framework of digitization policies, assessments to account for the state and progress of digitization, and Institution-wide digitization priorities to guide resource allocations and planning. Operationally, funding to date has allowed the Institution to establish prototypes for: (a) cost-efficient, high-quality, and rapid digitization, and (b) the application of 3D technology in a museum setting. Additional details are provided in the Office of the Chief Information Officer section of this budget request.

Web Access (+\$1,325,000)

One of the Institution's goals is to broaden access to the Smithsonian and enhance the experience of online visitors. The requested funding will provide new tools and technologies to broaden access to the Institution worldwide. The nation's growing diversity challenges the Smithsonian to reach new audiences and ensure that the Institution's collections, exhibitions, and outreach programs speak to all Americans. The Smithsonian also aims to remain relevant to visitors who come from around the world. To accomplish this goal, the Institution is building a robust, multi-channel platform that can support the Smithsonian's digital presence. Additional details are included in the Communications section of this budget submission.

Exhibits Maintenance (+\$850,000)

Smithsonian museums have a long tradition of raising private funds to design and install new exhibitions. For generations, these exhibitions have been the reason why millions of visitors have come to the National Mall. However, the success of these exhibitions comes with a cost. The mere presence of record numbers of visitors results in significant damage to the spaces and displays within the museums' halls, and increases the cost to maintain them. Currently, exhibits maintenance is defined as custodial, exhibit, and conservation operations of exhibit areas; cleaning of casework and objects; paint touch-ups; carpet replacement; and upkeep of other exhibit components, including media and interactive technology. The requested funding increase will support the Institution's continuing efforts to address the exhibits maintenance backlog and maintain existing and new exhibits at a standard that reflects a world-class institution.

Specifically, funding would be provided to the National Museum of the American Indian (+\$50,000); the National Portrait Gallery (+\$150,000); the Smithsonian American Art Museum (+\$150,000); the National Postal Museum (+\$100,000); the National Museum of African Art (+\$150,000); the Hirshhorn Museum and Sculpture Garden (+\$150,000); and the Anacostia Community Museum (+\$100,000). Additional details are included in each Museum's narrative.

Latino Initiatives (+\$879,000)

The Smithsonian requests an increase for the Institution's Latino Initiatives Pool. This pool, established in FY 1996, has not been substantively increased from its \$1 million initial level. Yet, during that time, the U.S. Latino population has doubled and the collections of Latino artifacts and artworks in the Smithsonian's collections have multiplied exponentially. This increase will enable the Smithsonian to increase support for projects in research and collections, and for exhibitions and educational and public programming that will advance the knowledge and understanding of the contributions of Latinas and Latinos to U.S. history, art, culture, and science. By increasing the funding, the pool will be able to fund more projects to enhance the Institution's capabilities to reach a wider, national audience. The Smithsonian will also be able to produce more exhibitions, including traveling and virtual exhibitions, and to

offer more opportunities for internships, Fellowships, and teacher training throughout the United States. Additional details are provided in the Institution-wide Programs section of this budget submission.

Asian Pacific American Initiatives (+\$400,000)

The Smithsonian requests \$400,000 to establish an Asian Pacific American Initiatives Pool. The *Consolidated and Further Continuing Appropriations Act, 2015*, encourages the Smithsonian to develop a more robust program “which will promote a better understanding of the Asian Pacific American experience.” This pool will provide annual funding for Smithsonian programs that focus on the Asian Pacific American experience and contributions to science, history, art, and culture. Pool funds will improve the Smithsonian’s ability to provide public programming and support exhibitions, education, research, and collections acquisition. Projects will be funded on a competitive basis from proposals that demonstrate effective use of pool funds leveraged by other Smithsonian resources (such as gifts and grants). Additional details are provided in the Institution-wide Programs section of this budget request.

REVITALIZING EDUCATION

Science, Technology, Engineering, and Mathematics (STEM) Engagement — (+\$5,000,000, +15 FTEs)

The Smithsonian is requesting **\$5 million** to provide authentic and inspiring STEM experiences for teachers and students by drawing on the scientific and engineering assets of the federal Government — including scientists, labs, satellites, museums and research centers. The Smithsonian’s STEM engagement supports the implementation of the Federal STEM Education 5-Year Strategic Plan and the Government-wide reorganization of STEM education programs. The Smithsonian will serve as a conduit between federal mission agencies and other non-profit organizations — including the Smithsonian’s 199 Affiliate museums. The Institution will grow and support learning communities that include educators in schools and informal learning settings; assist with the identification of curricula in a variety of modalities; and work with our partners to identify, develop, and disseminate STEM engagement materials and experiences. The STEM initiative will also advance professional development opportunities that draw on guidance from the Next Generation Science Standards and align with state education standards.

The Smithsonian will work collaboratively with federal agencies offering STEM programs to: identify and disseminate content that takes advantage of each agency’s unique assets; create complementary materials; avoid duplication of effort; and share a centralized portal for the broad dissemination of our learning resources.

The Smithsonian will manage these endeavors by creating discipline- and subject-based committees that coordinate the efforts of STEM engagement

providers, including Smithsonian units, mission agencies, and other non-profit collaborators. We will also increase the capacity of Smithsonian units that offer programs, experiences and services in the creation, dissemination, and evaluation of STEM education content. Additional information is included in the Outreach section of this budget submission.

STRENGTHENING COLLECTIONS

<u>Category</u>	FY 2015 Base \$000s	FY 2016 Increase \$000s
STRENGTHENING COLLECTIONS	\$74,664	
• Collections Scholarship	0	+1,980
• Collections Care Initiatives	5,197	+3,000
• Animal Welfare	18,706	+700
Total Increases		\$5,680

Collections stewardship is a key component and core priority of the Smithsonian’s Strategic Plan. Assembled over 169 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 Reauthorization Act of 2010, the proper management, documentation, preservation, and accessibility of collections are critical to the nation’s research and education infrastructure. Smithsonian collections serve a unique and important role in addressing scientific and societal issues of the 21st century, enabling researchers to address such significant challenges facing society as the effects of global change, the spread of invasive species, and the loss of biological diversity and its impact on the global ecosystem.

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, 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 critical 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.

Collections Scholarship (+\$1,980,000, +11 FTEs)

The Smithsonian curatorial staffing levels have declined to expose significant gaps in the Institution's ability to research, interpret, exhibit, and care for its national collections. This request will fund staffing needs to provide optimal care for the Smithsonian's vast collections as well as strengthen and increase sharing of collections with a diverse national and international audience. These funds will help the Smithsonian reinvigorate its curatorial staffing strength to support excellent research, exhibitions, and digitization of the nation's vast collection of artifacts.

This request will provide the necessary federal support to begin to reverse this trend in several Smithsonian units. Units requesting this funding include: the National Museum of American History (5 FTEs); National Portrait Gallery (1 FTE); Smithsonian American Art Museum (1 FTE); National Museum of African Art (1 FTE); Anacostia Community Museum (1 FTE); and National Air and Space Museum (2 FTEs). Additional details are included in each Museum's narrative.

Collections Care Initiatives (+\$3,000,000)

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 (+\$700,000, +4 FTEs)

The National Zoological Park (NZN) is requesting an increase of \$700,000 and 4 FTEs to support the Zoo's medical team, primarily in the Pathology unit, and ensure the health, safety, and welfare of the living collection. The requested funds would support pathology staffing to maintain animal care standards at NZN, continue the NZN's board-certified veterinary residency program, and raise the standard of animal care.

These additional funds will allow diseases and medical issues to be diagnosed more quickly. This will ensure the appropriate treatment of sick animals, thereby preventing any diseases from spreading outside the Zoo. Additional details are provided in the NZN section of this budget submission.

MISSION ENABLING

<u>Category</u>	FY 2015 Base \$000s	FY 2016 Increase \$000s
MISSION ENABLING	\$418,626	
• Facilities Maintenance	71,403	+14,710
• Facilities Operations	197,879	+12,700
• Management Operations	77,894	+155
Total Increases		+\$27,565

Facilities Maintenance (+\$14,710,000, +64 FTEs)

For FY 2016, the Smithsonian requests an increase of \$14.7 million and 64 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 the maintenance program for the new National Museum of African American History and Culture (NMAAHC). The increase will also allow the Smithsonian to operate at a solid rating of 3 (out of 5) — Managed Care — in the Smithsonian's Association of Higher Education Facilities Officers, or APPA, maintenance level rating for the Institution. This level of preventive maintenance and building system reliability will ensure that proper conditions are maintained for collections and that public expectations are met.

The following chart summarizes the requested requirements:

<u>Category</u>	FY 2015 Base (\$000s)	FY 2016 Increase \$000s	FY 2016 Increase FTEs
Facilities and Systems Support		+10,875	+40
Support for NMAAHC		+3,600	+24
Security Maintenance		+235	0
Total Facilities Maintenance	\$71,403	\$14,710	+64

Additional details are included in the Facilities Maintenance section of this budget submission.

Facilities Operations (+\$12,700,000, +115 FTEs)

For FY 2016, the Smithsonian requests an increase of 115 FTEs and \$12.7 million to address high-priority operating, safety, and security requirements. The increase will fund high-priority needs, including support to fund facilities and security operations for the new National Museum of African American History and Culture. 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 funds requested will allow the Smithsonian to make progress toward achieving level 2.

The following chart summarizes the requested requirements:

<u>Category</u>	FY 2015 Base (\$000s)	FY 2016 Increase \$000s	FY 2016 Increase FTEs
Facilities Operations		+3,700	+33
Support for NMAAHC		+6,900	+80
Security Requirements		+2,100	+2
Total Facilities Operations, Security, and Support	\$197,879	+\$12,700	+115

Additional details are included in the Facilities Operations, Security, and Support section of this budget request.

Management Operations (+\$155,000, +1 FTE)

- **Diversity (+\$155,000, +1 FTE)** — Diversity is one of the expressed values in the Smithsonian Strategic Plan. This increase for the Office of Equal Employment and Minority Affairs is requested to hire one affirmative employment specialist 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. The specialist will also focus on retention and extension of term appointments; reviews of internal policies and practices regarding leave and telework, as well as display of EEO posters; and implementation of a comprehensive barrier analysis protocol that includes the presentation of findings, appropriate action, and reports. Taken together, all of these actions will significantly strengthen the Smithsonian's commitment to ensuring a diverse workforce.

NO-YEAR FUNDING — The following table provides the FY 2015 and FY 2016 Salaries and Expenses requests for No-Year Funding.

No-Year Funding Request
(Dollars in Thousands)

Salaries and Expenses	FY 2015 Enacted	FY 2016 Request	Change from FY 2015
No-Year Funds			
National Museum of African American History and Culture	40,648	41,501	+853
National Museum of Natural History			
Exhibition Reinstallation	954	954	0
Repatriation Program	1,367	1,379	+12
Major Scientific Instrumentation	4,118	6,118	+2,000
Collections Acquisition	435	435	0
Total, No-Year Funds	\$47,522	\$50,387	+\$2,865

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 2015 Enacted	FY 2016 Request	Change from FY 2015
Salaries and Benefits	425	450	+25
Travel and Transportation	5	5	0
Rent, Utilities, Communications, and Other	91	97	+6
Other Services	110	132	+22
Supplies and Materials	18	21	+3
Equipment	20	25	+5
Land and Structures	6	6	0
Total, Object-Class Funds	\$675	\$736	+\$61

FEDERAL RESOURCE SUMMARY BY PERFORMANCE OBJECTIVE AND PROGRAM CATEGORY

The Smithsonian has developed its FY 2016 budget request by reviewing all resources, both base amounts and identified increases or decreases, in relation to the Institution's performance plan and Strategic Plan. In the sections that follow, detailed justifications are provided for all funding and FTEs by the Institution's strategic goals and by performance objectives under each goal.

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 on the following page summarizes the Institution's FY 2015 and FY 2016 **Salaries and Expenses** estimates and the proposed changes by strategic goal, performance objective, and program category.

Federal Resources by Performance Objective and Program Category
Salaries and Expenses (\$s in thousands)

Performance Objective/Program Category	FY 2015		FY 2016		Change	
	FTEs	\$000	FTEs	\$000	FTEs	\$000
Excellent Research						
Research						
Engage in research and discovery	432	66,466	438	70,275	6	3,809
Ensure the advancement of knowledge in the humanities	120	17,430	122	18,177	2	747
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	68	11,581	70	14,984	2	3,403
Public Programs						
Provide reference services and information	128	16,658	129	18,318	1	1,660
Exhibitions						
Offer compelling, first-class exhibitions	350	50,439	346	51,368	-4	929
Revitalizing Education						
Education						
Engage and inspire diverse audiences	162	19,479	177	24,805	15	5,326
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	539	74,664	554	81,894	15	7,230
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	736	136,198	804	147,238	68	11,040
Implement an aggressive and professional maintenance program	382	71,403	446	86,695	64	15,292
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	591	1	584	0	-7
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	755	66,602	802	72,754	47	6,152
Provide a safe and healthy environment	44	6,385	44	6,454	0	69
Information Technology						
Modernize the Institution's information technology systems and infrastructure	142	59,553	142	62,383	0	2,830
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	187	27,427	187	28,503	0	1,076
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	91	17,845	92	18,342	1	497
Modernize the Institution's financial management and accounting operations	89	13,950	89	14,190	0	240
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	27	3,805	27	3,870	0	65
Modernize and streamline the Institution's acquisitions management operations	56	7,789	56	7,913	0	124
Ensuring Financial Strength						
Secure the financial resources needed to carry out the Institution's mission	18	7,078	18	7,078	0	0
TOTAL	4,327	675,343	4,544	735,825	217	60,482

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 2014 ENACTED	10	2,581	0	0	0	560	0	0
FY 2015 ENACTED	10	2,581	0	40	0	192	0	0
FY 2016 REQUEST	17	3,348	0	50	0	15	0	0

STRATEGIC GOAL: EXCELLENT RESEARCH

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	4	1,704	11	2,469	7	765
Ensure the advancement of knowledge in the humanities	6	877	6	879	0	2
Total	10	2,581	17	3,348	7	767

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 most of the actual expenditures are made by existing Smithsonian units with subject-matter expertise in the areas being supported.

The Smithsonian created interdisciplinary consortia around each of the four Grand Challenges to leverage the scholarship and experience that reside in each field of knowledge. These consortia spark innovative research and educational programs, as well as broker partnerships with private and public entities that support these goals. In addition, the Smithsonian will fortify existing external relationships and forge new ones as potential collaborators emerge in priority areas. These consortia are not new programmatic units, but work through existing museums and research centers to facilitate innovative scholarship and outreach.

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 2016, the Smithsonian’s budget request includes funding increases for research in the Biodiversity Consortia for Genomics and MarineGEO, and \$7,000 for necessary pay for existing staff funded under this line item. The Institution will continue to advance the prior-year research funding in the other three Grand Challenges. Below is a summary of the FY 2016 Consortia budget.

Consortium	FY 2015 Base \$000s	FY 2016 Increase \$000s	FY 2016 Total \$000s
Universe	184	0	184
Biodiversity	1,520	+765	2,285
Biodiversity Genomics	0	+360	+360
MarineGeo	0	+400	+400
Consortium Pay Increase	0	+5	+5
World Culture	284	0	284
American Experience	593	+2	595
Total	\$2,581	+\$767	\$3,348

Understanding and Sustaining a Biodiverse Planet — Biodiversity Genomics (+\$360,000, +2 FTEs)

This request (+\$360,000, +2 FTEs) supports expanded Institution-wide efforts on collaborative, multidisciplinary 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 20 years of systematic development and federal investment, 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; drug discovery; and biosurveillance related to national security and commerce. Genomic approaches provide novel tools to explore the traits and properties of unknown or poorly known organisms. Collections are one of the key resources of 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.

This genomics research will span existing Smithsonian interests, use the findings of the National Science Foundation Tree of Life decadal program, enhance Smithsonian collaboration with the Department of Energy's Oak Ridge National Laboratory, and facilitate the new (started in 2013) international network — The 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 our Earth observation platforms, MarineGEO and ForestGEO. It will facilitate building the vital distributed infrastructure of biological diversity collections and tissues, develop big data (genome level) of unparalleled quality and provenance, and secure international cooperation on standards for these key observation sets.

This request will provide two federal researchers to specifically help foster, coordinate, and implement biodiversity genomics research across the Smithsonian and in coordination with our federal, national, and global partners. These two researchers will accelerate the initiative by providing critical core expertise, facilitate development and adoption of standards, and build a foundation to leverage further private support.

The bioinformatic scientist will 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 a critical element of biodiversity genomics.

The core-laboratory and biorepository scientist will provide central support, integration, and coordination of core programmatic laboratory needs, including shared approaches, protocols, and resources for the collection, preservation, archiving, and sharing of genomic grade samples. This scientist will also help develop and document the variety of evolving molecular genetic technologies and methods for assessing molecular genetic information.

Understanding and Sustaining a Biodiverse Planet — MarineGEO
(+\$400,000, +5 FTEs)

The Institution requests \$400,000 and 5 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 into the context of longer time frames; (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 our oceans.

The expanded MarineGEO program will be a global-scale network of sites, which spans latitudes and ocean basins and engages a diverse consortium of partner institutions and collaborators. This network will provide the platform for integrative, multidisciplinary 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, resource managers, and policy makers. MarineGEO has begun as a select set of core nodes, or sites, where the Smithsonian already has 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 the Smithsonian Tropical Research Institute [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 Global Forest Earth Observatories. MarineGEO is also being implemented in collaboration with the expansion of the Smithsonian genomics analytical and collections capacities, because of the importance of DNA-based analyses.

As protocols are established at the core sites, MarineGEO has expanded to the other two Smithsonian sites (Belize and STRI, Naos), and has begun working with NOAA and state agencies to augment existing monitoring sites, and

to include key international partners both latitudinally into the polar region and longitudinally to encompass the world's ocean basins. The Smithsonian will continue to develop strategic partnerships with other institutions and organizations to establish these new sites and form a global-scale network that promotes the MarineGEO protocols and publically accessible websites.

Private financial support will be harnessed to address some of the program's infrastructure and equipment needs. Together with federal funds, private-sector resources will support the expansion of the network, fully integrate the data and information into national and international Earth observation data streams, use core information for model development and testing, and support sustainable management and adaptation options in coastal regions.

The requested funds (+\$400,000) will provide salaries and benefits for 5 FTEs (i.e., a data manager; two field site molecular technicians; and two bioinformatics/collections specialists). In addition, federal funds will support staff travel to the MarineGEO sites.

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 2014 ENACTED	161	18,123	53	6,795	20	4,972	4	1,462
FY 2015 ENACTED	161	18,603	46	6,061	22	6,525	6	504
FY 2016 REQUEST	163	19,469	46	6,061	22	6,525	6	504

**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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	3	1,124	3	1,156	0	32
Ensure the advancement of knowledge in the humanities	25	3,116	25	3,169	0	53
Broadening Access						
Public Programs						
Provide reference services and information	6	864	6	894	0	30
Exhibitions						
Offer compelling, first-class exhibitions	40	5,756	40	5,836	0	80
Revitalizing Education						
Education						
Engage and inspire diverse audiences	12	1,290	12	1,324	0	34
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	47	2,857	49	3,301	2	444
Mission Enabling						
Information Technology						
Modernize the Institution's information technology systems and infrastructure	9	1,031	9	1,062	0	31
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	19	2,565	19	2,727	0	162
Total	161	18,603	163	19,469	2	866

BACKGROUND AND CONTEXT

The mission of the National Air and Space Museum (NASM) is to commemorate the development of aviation and space flight, and educate and inspire the nation by:

- preserving and displaying aeronautical and space flight equipment and data of historical interest and significance to the progress of aviation and space flight;
- developing educational materials and conducting programs to increase the public's understanding of, and involvement in, the development of aviation and space flight; and
- conducting and disseminating new research in the study of aviation and space flight and their related technologies.

NASM is administered as one Museum with multiple locations: the National Mall building; the Udvar-Hazy Center in Chantilly, Virginia; and the 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 around the world 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.

In FY 2016, NASM will 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.

The FY 2016 budget request includes an increase of \$866,000 and 2 FTEs. The increase includes \$506,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$360,000 and 2 FTEs for Collections Scholarship.

MEANS AND STRATEGY

Public Engagement — NASM continues to reach diverse audiences through exhibitions, educational programming, publications, and electronic outreach. The exhibitions incorporate written labels, interactive devices, and programming elements that appeal to a wide range of ages and interests. Based on the success of several of our new exhibits, all future plans for galleries will include components that are physically and intellectually accessible to the Museum's youngest visitors, ages 3–8, as well as designs that reach a new group of millennials. To illustrate complex concepts, exhibitions will continue to build on past success by using mechanical and computer interactive devices, but will also include more way-finding and social media concepts which appeal to a broad range of visitors and families.

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. Our Flights of Fancy, Early Childhood Program is a model for both museum programming and school outreach. In FY 2015, NASM is exploring designs for an Early Childhood Education Center to ensure more robust programming at the Udvar-Hazy Center. In addition, NASM will continue to build on the student Explainers programs at both Museum locations, and will be exploring an eExplainer approach to reach audiences beyond the Museum walls. The astronomy programs, which include the Public Observatory and educational programming in the planetarium, will remain an important component of science, technology, engineering, and mathematics (STEM) education throughout FY 2016.

With the National Mall building revitalization on the immediate horizon, NASM is undergoing a tremendous transformation — both physically as well as organizationally. To support our outreach efforts, we have created a new Department of Public Engagement that includes communications, Web/media, lectures and seminars, publications and education outreach. This department will play a pivotal role in emphasizing the objective of reaching beyond the walls of the Museum. NASM will continue to develop digital outreach programs that educate and inspire audiences onsite, online and on the go. Concepts will be developed to increase access to Museum assets, activities, content and expertise, with a focus on creating unique online experiences and educational programs. In addition, NASM staff will develop new models for online learning and work to involve audiences more directly in achieving our mission.

In FY 2015, NASM continued to inspire and educate audiences at the National Mall building and the Udvar-Hazy Center through new and updated exhibitions. The Museum celebrated the tenth anniversary of the opening of the Udvar-Hazy Center in 2015 with an Open House event that will continue to provide visitors with a behind-the-scenes experience. Also, in FY 2014, an exhibition of Mars exploration images was mounted in the *Flight and the Arts* gallery, and *Hawaii by Air* was displayed in gallery 104; in early FY 2015, *Outside the Spacecraft: 50 Years of Extra-Vehicular Activity* was opened to mark the 50th anniversary of the first spacewalks in 1965. The exhibit features art, photography and artifacts flown in space, including spacesuits from the Gemini program. This temporary exhibit will be on display until June of 2015. In addition, NASM has begun the major reinterpretation and revitalization of the Boeing *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. They are scheduled for reopening in the summer of 2016.

As part of NASM's ongoing efforts to achieve the strategic goals of Broadening Access and Strengthening Collections, aircraft and spacecraft

continued to be moved into the Udvar-Hazy Center for restorations and relocations in our state-of-the-art conservation and restoration facility.

Collections — The Museum's new conservation and restoration hangar and collections storage areas 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 the 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 2016 and beyond, as funding permits. NASM will continue its loan program, which encompasses more than 1,300 aviation and space artifacts, including some of the most sought-after artifacts of the last century: spacesuits and lunar spacecraft.

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. NASM's electronic resources allow more people access to the Museum's archival collections, with a resulting increase in archival information requests by the public.

Scientific Research — To achieve the strategic goal of Excellent Research, NASM's Center for Earth and Planetary Studies 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.

Historical Research — NASM will continue to lead in the field of flight history by publishing books and papers, 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 kept available to the public.

Management — NASM will achieve the Mission Enabling strategic goal by using the single organizational approach it has developed to support the National Mall building, the Udvar-Hazy Center, and the Garber Facility, while continuing to strive for operational excellence at each facility.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$866,000 and 2 FTEs. The increase includes \$506,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$360,000 and 2 FTEs for Collections Scholarship, as detailed below.

Collections Scholarship (+\$360,000, +2 FTEs)

The FY 2016 budget request includes an increase of \$360,000 and 2 FTEs for additional curators. 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 positions will fill the highest priority gaps in our scholarly foundation. For NASM, these are in the areas of space history and the collections, where more than 50 percent of the curatorial staff is eligible for retirement. These areas represent the collections of national importance and involve topics of planned exhibitions.

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 galleries 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 2014 ENACTED	99	23,746	103	21,085	11	6,617	211	74,445
FY 2015 ENACTED	99	23,957	99	24,108	13	8,200	206	75,649
FY 2016 REQUEST	99	24,343	107	23,808	20	14,518	201	73,764

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

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	90	19,385	90	19,646	0	261
Broadening Access						
<i>Public Programs</i>						
Provide reference services and information	1	181	1	186	0	5
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	70	0	80	0	10
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	159	0	169	0	10
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	8	4,162	8	4,262	0	100
Total	99	23,957	99	24,343	0	386

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 a strong 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 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.

Since the Observatory moved to Cambridge in 1955, 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 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 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.

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 for radio astronomy. Other major awards received by SAO scientists included the Gold Medal of Merit from the Institute of Applied Astronomy of the Russian Academy of Sciences, and the Henry Norris Russell Lectureship, the highest honor of the American Astronomical Society. These are only a few examples of the many awards received by SAO staff in FY 2014 and FY 2015. 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.

The budget estimate includes an increase of \$386,000 for the 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 at 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 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 and engineers play leading roles in the development of new techniques and instrumentation for astronomy. In early FY 2015, SAO scientists prepared the preliminary design for the Giant Magellan Telescope (GMT)-Consortium Large Earth Finder (G-CLEF), a planet-finding spectrograph that will be the first scientific instrument to be installed on the GMT. In addition, SAO scientists and engineers led the design of critical elements of the GMT wavefront control system that allows the seven GMT mirrors to work as a single optical element.

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 management officials 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 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 Defense Contract Audit Agency and 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 2014 ENACTED	0	4,118	0	0	0	0	0	0
FY 2015 ENACTED	0	4,118	0	0	0	0	0	0
FY 2016 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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
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 is consistent with 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 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 the past 50 years, astronomers have made 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 2016 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 2016 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, Dr. Margaret Geller received the 2014 Karl Schwarzschild Medal, which recognizes a lifetime of outstanding contributions to astrophysics. Dr. James Moran won the Grote Reber Prize for Radio Astronomy, which is the highest award for radio astronomy. Dr. Michael Pearlman was awarded the 2014 Gold Medal of Merit by the Institute of Applied Astronomy of the Russian Academy of Sciences, and Dr. Giovanni Fazio was awarded the 2015 Henry Norris Russell Lectureship, the highest honor of the American Astronomical Society. These are only a few examples of the many awards received by SAO staff in FYs 2014 and 2015. Together with its partner, the Harvard College Observatory, SAO is the top choice of graduate- and postdoctoral-level young scientists. Federal support makes this continued leadership possible.

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 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 critically dependent on equipping the SMA and MMT with powerful new instruments and establishing the new Greenland Telescope. 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 multiyear MSI funding.

Greenland Telescope (\$500,000)

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 in Taiwan.

Significant funding for instrument development for the telescope is being provided by external partners, including the international University 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 Vertex Prototype antenna (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.

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

The SMA is an array of eight 6-meter-diameter antennas located on the summit of Mauna Kea, Hawaii, that functions as one giant telescope. It is a collaborative project of SAO and the Academia Sinica Institute of Astronomy and Astrophysics in Taiwan. With its unprecedented capability to observe at high resolution and high frequency, this facility enables scientists to study a wide range of astronomical phenomena, from the formation of the earliest galaxies in the universe to the formation of new planets around nearby stars.

The feasibility of conducting a particular scientific observation with the SMA is directly linked to instrument sensitivity. Given that the total data-collecting area of the array antennas is fixed, sensitivity is governed by three factors: the receiver noise, the instantaneous system bandwidth, and atmospheric transmission and stability.

Instrument sensitivity can be improved by adding duplicate sets of receivers similar to those currently in operation, increasing receiver bandwidth, or compensating for the effects of atmospheric instabilities to improve the signal and image quality. Thanks to recent developments in microwave technology, and innovative millimeter-wave technology developed at SAO, we have increased the receiver bandwidth by a factor of four from the original SMA instrument design. We are continuing to implement the first phase of a second-generation spectrometer, which, when coupled with the broadband receivers, will enable 16 gigahertz of bandwidth to be processed in a single observation. This will increase the throughput and sensitivity of the SMA by another factor of two, and will enable spectral line surveys to be conducted on a wide variety of astronomical sources.

While the second-generation spectrometer (SWARM) will improve all types of astronomical observations with the SMA, even more spectrometer capacity is needed to fully exploit the increase in bandwidth offered by the new SMA receivers. We are currently working toward building the second copy of SWARM, which will be

used to phase out the original SMA spectrometer — now 15 years old and in need of replacement. The Institution is requesting funds in FY 2016 to complete this replacement and to begin work on a third section of the SWARM, which will further increase the throughput of the SMA. During FYs 2017 and 2018, we expect to build and commission a fourth section, which will complete the SWARM upgrade.

In June of 2014, the SMA Visiting Committee, which is made up of international experts in the field of millimeter and submillimeter astronomy, endorsed plans to add a second set of 1.3-mm wavelength receivers to the SMA. Coupled with the additional spectrometer capacity, these receivers will also enable sensitive, broadband, dual-polarization observations. This upgrade will increase our understanding of the role that magnetic fields play in star formation, the formation of proto-planetary disks, and the accretion of matter into black holes. The SMA is the leader in submillimeter polarimetry, and a two-fold increase in sensitivity will significantly increase the population of observable sources. To maintain this leadership, the Smithsonian requests additional funds for FY 2016 to fabricate, install, and commission the required additional receiver hardware.

In addition, the proposed upgrades will enable the SMA to become fully compatible with other facilities, which are themselves undergoing upgrades as part of the Event Horizon Telescope that has the long-term goal of imaging supermassive black holes and addressing fundamental questions of general relativity theory.

Multiple Mirror Telescope (\$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 expects 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 will enable 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 will enable 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 will help attract 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 2016, MSI funds will be used to complete the calibration and commissioning of Binospec. With additional external support (from committed NSF funds competed for in the Telescope System Instrumentation Program), Binospec will be shipped to the MMT for commissioning and its first research observations early in FY 2016.

MSI funds will also be used to recommission MMIRS, the MMT-Magellan InfraRed Spectrograph, at the MMT. This excellent multiple-object infrared spectrograph has been in use at the Magellan facility since 2009. MMIRS was recently refitted with a cutting-edge infrared detector. Following recommissioning, MMIRS will become the MMT's most powerful instrument for observations during bright moon phases, accessing dust-obscured regions of star formation and observing the red-shifted light from distant galaxies.

SAO's expertise in building large and powerful instruments is a crucial capability in the era of extremely large telescopes that is now upon us. 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 2016 budget request seeks an increase of \$2 million to help develop the existing Greenland Summit research station to support astronomy in preparation for installation of the Greenland Telescope, a 12-meter radio antenna that will be the first major astronomy project in Greenland. The funds will be used to support the Smithsonian's interests in this effort, including establishing laboratory space and other infrastructure, and development of astronomical instrumentation for the telescope.

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 2014 ENACTED	343	47,428	29	5,426	47	15,283	14	3,665
FY 2015 ENACTED	343	47,992	30	5,860	53	22,550	15	4,055
FY 2016 ESTIMATE	343	48,935	30	5,860	56	24,800	16	4,550

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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	119	16,678	119	17,006	0	328
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	4	477	4	486	0	9
Public Programs						
Provide reference services and information	14	1,681	14	1,714	0	33
Exhibitions						
Offer compelling, first-class exhibitions	48	6,793	48	6,926	0	133
Revitalizing Education						
Education						
Engage and inspire diverse audiences	27	3,425	27	3,493	0	68
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	97	14,095	97	14,372	0	277
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	4	812	4	828	0	16
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	175	1	179	0	4

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	14	2,155	14	2,197	0	42
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	554	4	565	0	11
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	7	721	7	735	0	14
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	327	3	334	0	7
Modernize the Institution's financial management and accounting operations	1	99	1	100	0	1
Total	343	47,992	343	48,935	0	943

BACKGROUND AND CONTEXT

The mission of the National Museum of Natural History (NMNH) is 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, 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 improved 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). One recent addition to the collections included a Martian meteorite that fell to Earth in the desert of southern Morocco; it was the first Martian meteorite to fall since 1962 and is only the fourth known.

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 2013, the Museum hosted more than eight 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, 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 2016 budget request includes an increase of \$943,000 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 multidisciplinary, 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 FY 2014, NMNH welcomed more than 7 million visitors, and recent evaluations show that exhibitions now engage visitors for longer periods and in more dynamic ways than they did 10 years ago. The effectiveness of NMNH exhibitions and programming can be seen in the excitement they generate and their popularity with family audiences.

Having completed the planning and design phase, FY 2015 marks the start of the actual renovation of the 30,000-square-foot Fossil Halls in preparation for the *Deep Time* exhibit scheduled to open in 2019. This project has 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.

In December 2013, the Museum opened Q?rius, a new Science, Technology, Engineering, and Mathematics (STEM) learning facility that brings the NMNH Research and Collections assets to the forefront, allowing for public participation on site, online and through classrooms.

In FY 2014, the Museum opened five new temporary exhibits, thanks to donor support and some creative partnerships. Temporary exhibitions included *Unintended Journeys* (February 2014), which tells the story of migrations of people around the world who are forced by environmental disasters to relocate. Featuring photographs from professional photographers, stories include the tsunami in Japan, Hurricane Katrina in New Orleans and an earthquake in Haiti. This project was funded by the Windland Smith Rice Nature's Best Photography fund. *Beyond Bollywood: Indian Americans Shape the Nation* (February 2014) explores the heritage, daily experience and numerous, diverse contributions that Indian immigrants and Indian Americans have made to shaping the United States. This exhibition is part of a collaboration with the Smithsonian's Asian Pacific American Center, which provided funding for this exhibition. The Smithsonian Traveling Exhibition Service (SITES) will take the exhibition on tour for four years after its run of 20 months at NMNH. The *Wilderness Forever* photography show (September 2014) commemorates the 50th anniversary of the passage of the Wilderness Act and features approximately 50

images taken by people around the country. Selected through a nationwide photography contest developed specifically for this purpose, the images feature wilderness landscapes and wildlife from around the United States. This exhibition is funded through donations from the Wilderness 50 Coalition, made up of non-Governmental organizations and Government agencies with a commitment to celebrating and preserving American wilderness. In addition, several temporary exhibits supplemented our dinosaur programming, including an augmented reality dinosaur exhibit, the Rex Room, a display based on photographing, scanning, and processing our new *Tyrannosaurus Rex* specimen, and several smaller displays.

Five temporary exhibits are planned for FY 2015. *The Last American Dinosaurs* (which opened in November of 2014) introduces visitors to the major themes of our new *Deep Time* exhibition, provides a venue to test exhibition concepts and strategies, and allows visitors continued access to the FossilLab where paleontological experts prepare specimens for research and display. Funded by a gift from David H. Koch, and supplemented with federal funds, this exhibition will provide continued access to dinosaur collections while the main halls are under renovation. Other exhibitions include *Nature's Best Photography* (October 2014); *Orchid Innovations* (January 2015); *Into Africa: The Photography of Frans Lanting* (June 2015); and *Primordial Landscapes: Iceland Revealed* (July 2015).

In FY 2016, NMNH will continue implementing its public engagement plan to coordinate and integrate 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 FY 2016, the Museum's fundamental commitment to education and outreach will be further deepened and expanded in support of the Smithsonian's strategic goal of Revitalizing Education. The Museum will build on its cutting-edge research, vast collections, and exciting exhibitions such as the *Sant Ocean Hall*, *David H. Koch Hall of Human Origins*, *Race: Are We So Different?*, and *Butterflies + Plants: Partners in Evolution*. In addition, the Museum's new STEM education and experience center, Q?rius, brings out NMNH science experts and collections from behind the scenes and provides opportunities to engage with scientists, their research, collections and research-grade scientific equipment. The Museum will 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 website, Q?rius.si.edu and digitized collections, as well as long-standing programs of lectures, films, and teacher education. These 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, there is a focused effort 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. These efforts will serve visitors to our nation's capital and, through innovations in educational technology, tens of millions of people around the world who cannot visit the Museum in person. NMNH will continue to study the effectiveness and impact of its public education and outreach efforts with focused audience research and evaluation.

For FY 2016, a primary focus of the Museum's exhibit efforts will be on the design and renovation of the NMNH Fossil Hall. The design of the exhibit has been completed to the 65 percent level in advance of the renovation component to ensure coordination between construction and the exhibit. The Museum is in the second of three major renovation stages associated with this project, and will enter the final phase of exhibit construction in 2017.

Additional exhibit maintenance funds provided to the Museum have been invested in upgrading the audiovisual elements of older exhibits and the general maintenance and cleaning of all NMNH exhibits.

Also in FY 2016, NMNH will continue a rich array of monthly on-site and online public programs to complement the Museum's exhibitions, including the *Hall of Human Origins* and *Sant Ocean Hall*, and the new paleontology temporary exhibition. These programs will include intergenerational programming, public lectures, hands-on lab experiences and additional events for local and national audiences. NMNH will continue to prepare and disseminate new educational resources for the public, and for students and teachers, to support major exhibitions. In particular, NMNH will focus its science programs on greater outreach to the public and on increased public access to the collections through Web-based resources and use of distance-learning technologies. This outreach includes maintaining engagement through the qrius.si.edu, the Ocean Portal and Human Origins interactive educational websites, beginning development on a new paleobiology website, and continuing to incorporate evolving social media. NMNH will continue to increase access to exhibits, research, and collections for people with disabilities as well as economically disadvantaged students. In addition, NMNH will continue to expand its professional volunteer community to enhance the visitor experience and enrich programming at the Museum, now with more than 850 volunteers engaging the public with information and informal educational programming in English and 16 additional languages. New media tools and new partnerships and services will be used to reach traditionally underserved audiences.

A critical element of NMNH's plans for FY 2016 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 critical 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 international science network.

In FY 2016, the NMNH will continue 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. A high-impact project for FY 2016 is the continuing integration of the national parasite collection which was transferred from the U.S. Department of Agriculture (USDA) in FY 2014, and which requires re-housing, data migration, and reorganization. In addition to these strategic initiatives, other high-priority collections improvement projects identified through the comprehensive, quantitative assessment of the collections will continue. These include the re-housing of large collections of marine invertebrates; integration of DNA sequences generated from NMNH's research activities into the biorepository; inventory of selected ethnographic collections; re-housing of geological collections in need of microclimates to prevent deterioration; securing vertebrate collections cabinetry; improving mitigation and prevention strategies for management of pests; re-housing and

organization of unique collections of slide-mounted microscopic invertebrates; re-housing and creation of digital surrogates of selected insect collections; and recuration and arrangement of fossil plant and animal collections.

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. 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. 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 2016, 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 a more integrated quality, providing 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.

In FY 2016, NMNH will ramp up the Global Genome Initiative (GGI) to collect genomic samples and voucher specimens from every major branch of the Tree of Life — each of the approximately 10,000 families and half of the major known genera. Biodiversity genomics is at the forefront of innovation and discovery due to technological advances resulting from the Human Genome Project. By sequencing a broad representation of the Earth's biodiversity —

initially, at least one specimen representative of every family — GGI will extend the genomics revolution, which began with human and model organisms, to the rest of life on Earth, and provide data that will accelerate biological inquiry and innovation for the 21st century. Less than 20 percent of our planet's 12 million or more species have been identified, yet extinction and habitat loss could eliminate many of them before we even know they exist.

The NMNH alone has invested \$11.7 million to date in infrastructure and currently spends \$2 million annually to support core analytical laboratory operations and 10 staff. Additional funds are spent to support the associated collections and necessary infrastructure, and to fund research and field collecting activities. The Bio-Repository at the Museum Support Center (MSC) represents the primary infrastructure for the storage of genomic samples. The reliability and maintenance of the ultra-cold freezer equipment is critical to the preservation and availability of these genomic samples for future generations of scientists. In FY 2014, NMNH received private support of \$6 million to accelerate work on the GGI. This private support will also expand the Global Genome Biodiversity Network (GGBN), a consortium of the world's major biorepositories and genomic research collections. The Museum organized this network, which now has 24 collaborating member institutions and will serve to accelerate and optimize research everywhere. Its vision is to have one federated database of the world's genomic resources — tissues and DNA — accessible to all stakeholders. The combination of federal infrastructure and private support will provide an important asset for scientific study and enable Smithsonian researchers to do more than would be possible with public- or private-sector resources alone.

Highlights of other research that NMNH scientists will continue in FY 2016 include: dinosaur evolution research indicating that early dinosaurs quickly reached large body sizes as they occupied new ecological roles; international fieldwork that yields discoveries like the first new species of mammalian carnivore identified in 35 years, the olinguito (a member of the raccoon family); research on the springsnails of western North America that are currently afforded protection under the Endangered Species Act; interdisciplinary research on island ecology and biodiversity in the Channel Islands, forcing evaluation of ecosystem restoration goals and reducing risks of climate change; work in ocean environments and studies on current circulation, focusing on past intervals and greenhouse climate, as well as on coral reefs, trying to understand how settlement can aid in restoring Caribbean reefs; studies of the large-scale evolutionary relationships among birds, insects, and plants as part of collaborative research projects in the National Science Foundation (NSF)-funded *Tree of Life* initiative; new research on past climate instability indicating that early humans adjusted to their environment in stages, through development of a large brain, long legs, and making tools; research on ecological recoveries from mass extinctions and the innovations in the history of life; research as part of the Endangered Language Program, which will preserve and make accessible through digitization more than 11,400 sound recordings of endangered

languages in the National Anthropological Archives and Human Studies Film Archives; and NSF-funded research into the spread of the earliest humans from Africa and Asia.

NMNH also continues to lead the way in training the next generation of scientists. In FY 2014, NMNH hosted 219 Fellows and more than 350 interns, from 35 different countries and 32 different U.S. states, as well as the District of Columbia. One endowment and two significant NSF grants support these endeavors, with training of more university faculty members in the future.

Finally, the NMNH will continue to develop the *Encyclopedia of Life* (EOL), a landmark effort to digitally gather, organize, curate and freely share trusted information on the 1.9 million known species of life on Earth (and many extinct ones as well). Started in 2007, the *Encyclopedia of Life* provides global access to knowledge about life on Earth through a free website (<http://eol.org>) that is available in more than a dozen languages. The NMNH hosts the Secretariat (administrative and leadership hub) and the Content Working Group for the *Encyclopedia of Life*, which is based on federal funding, grants and contributions from member institutions, and Web visitors. EOL content can be organized to meet the needs of different user communities, from educators and scientists to policy makers and the general public. EOL's most recent innovation was the introduction of TraitBank, a unique repository of computable species trait data that has dramatically increased the amount of information in EOL. With extensive, broad collections, an engaged community of scientific contributors, and highly skilled public programs staff to provide insights into these collections, the NMNH is uniquely positioned to digitally document all of Earth's biodiversity.

In FY 2016, the NMNH will continue to support the strategic goal of Strengthening Collections by providing maintenance for mobile shelving, nitrogen cabinets, and freezers at the state-of-the-art research, conservation, and collection storage facility at the MSC in Suitland, Maryland, as well as by relocating tissue collections from various sites into the Bio-Repository at MSC, moving the National Parasite Collection and associated materials to MSC and NMNH, and assisting in remediating collections damaged in the 2011 earthquake. The Museum will continue renovating major building systems and improving security in the building, resulting in better collections housing, upgraded laboratory facilities for researchers, and more useful public spaces for exhibitions and educational opportunities. Management will continue to support a robust and reliable information technology infrastructure for new online facilities, and to broaden access to the Museum's collections and research through Web programs which support NMNH-specific electronic outreach goals. This focus on Broadening Access helps make collections data easily accessible via the Internet, maintains important collaborative Web projects such as the Ocean Portal and the Human Origins websites, and enables the Museum to launch new websites and update them with current information in a timely manner.

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 critical to support exhibition hall renovations, such as the major gifts that are helping to fund the ongoing major renovations of the *Fossil Hall* and *Human Origins Hall*, establish Fellowship programs at the Museum, and educational activities and programs in Q?rius, the STEM education and experience center that opened in December of 2013. 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 multidisciplinary 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.

The NMNH had a successful year in private fund raising through the Smithsonian Campaign, raising \$25.6 million in FY 2014, which focused on the Human Origins, Global Genome and Fellows programs. Importantly, \$15 million of this campaign success was through a Human Origins endowment, which turns this Museum initiative into a sustainable, long-term program augmenting the basic research of the Museum. In addition, an NMNH board member gave the Museum a \$6 million leadership gift to launch the Global Genome Initiative, which will focus on collecting genomic samples.

The Museum continues to receive grants and contracts from both non-Government and Government institutions. The NMNH was awarded grants and contracts totaling \$7.1 million in FY 2014. These funds support both cutting-edge research and exhibitions, and demonstrate international collaboration in addition to cross-agency collaboration on shared projects and issues. For example, researchers in the Departments of Mineral Sciences and Paleobiology continue to receive significant grants from NASA and the NASA Jet Propulsion Laboratory for various research projects. Two significant foundation grants are going to preserve recordings and manuscripts of languages no longer actively spoken in the United States and other parts of the world. The remaining community members rely heavily on NMNH collections to help revive their dying languages. The U.S. Air Force and the U.S. Department of Transportation continue to support the bird/aircraft strike hazard program that provides critical data to the FAA and other agencies on the types of birds that are a flight risk for

aircraft. Funds were provided to continue work on the Consortium for the Barcode of Life, an international initiative devoted to developing DNA barcoding as a global standard for the identification of biological species. In addition, NMNH has received funds from a health research company to analyze specimens related to malaria outbreaks in Brazil. Also, the U.S. Department of Health and Human Services has provided funding to identify invasive fish species, and the U.S. Park Service is supporting indigenous language documentation in the Bering Strait region of Alaska.

The effects of environmental change are documented, monitored, and assessed in various ways. One NMNH researcher and his colleagues at George Mason University received an NSF grant to develop new computer models which will simulate human societies and analyze their responses to climate change. The NMNH also continues to receive funding from the National Cancer Institute to inventory important plant voucher and invertebrate specimens. Finally, NMNH also receives funds from the U.S. Department of Defense to continue environmental monitoring in and around the St. Lucie Estuary and the Southern Indian River Lagoon in Florida, an area rich in biological diversity.

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 2014 ENACTED	204	24,533	31	4,803	24	6,163	7	1,717
FY 2015 ENACTED	204	25,420	31	5,000	24	7,000	7	1,700
FY 2016 REQUEST	208	26,603	31	5,000	24	7,000	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	25	2,586	25	2,644	0	58
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	5	757	5	769	0	12
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	2	259	2	264	0	5
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	155	18,706	159	19,775	4	1,069
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	5	793	5	804	0	11
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	4	816	4	825	0	9

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	6	1,105	6	1,119	0	14
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	282	2	287	0	5
Total	204	25,420	208	26,603	4	1,183

BACKGROUND AND CONTEXT

In FY 2016, Smithsonian National Zoological Park (NZIP) will mark the mid-point of the NZIP strategic plan, “Our Plan to Save Species.” With the Strategic Plan as the roadmap, the focus in FY 2016 will be:

Ensuring the Survival of Species at Risk: Wildlife Health, Captive Animal Husbandry, and Welfare

Maintaining a live collection is a multifaceted challenge. The first priority is to maintain the health of the collection as it exists today. The second is to ensure that there are systems and processes in place to ensure the continued viability of a live collection into the future, which is a cooperative effort among American Zoological Association (AZA) zoos. NZIP is a leader of both efforts, and the medical unit is at the forefront of its field.

NZIP medical professionals ensure the reproductive health of mothers and the vitality of newborns, and provide geriatric care for a morphologically diverse collection ranging from elephants to cuttlefish. NZIP has traditionally staffed the medical unit with board-certified veterinarians and pathologists regulated by the American College of Zoological Medicine (ACZM) and the American College of Veterinary Pathologists (ACVP), both rigorous programs involving residency training and significant research and publishing. Today, only two veterinarians and NZIP’s sole pathologist are board-certified. NZIP has traditionally maintained one of the country’s few residency training programs, a requirement to ensure a future staff of these medical professionals. The program is also critical in raising the standard of animal care in American zoos. Retaining ACZM board-certified veterinarians and pathologists is a requirement to maintain this residency program.

The field of zoological pathology is crucial to safeguarding the health of our rare and endangered animals. Information learned from biopsies and necropsy reports helps identify the cause of illnesses, allowing clinical veterinarians to halt the spread of disease before the rest of the collection is affected. The data in these reports has helped both Zoo animals and wildlife globally. NZIP’s pathology

team was the first to identify and describe in detail the EEHV herpes virus, the leading cause of young captive elephant mortality, and was subsequently instrumental in the identification of six additional virus species in captive and wild elephants. The NZP pathology department also identified the chytrid fungus, which is now ravaging amphibian populations globally. NZP pathologists in New York were the first to identify the emergence in our continent of the West Nile Virus — a disease that affects both the animal and human population, potentially causing illness lasting months, or death. In addition to the program's significant impact the health of giant panda cubs, and training programs in Vietnam, our pathologist managed the longest continually running zoological pathology training program.

During the last 50 years, NZP has trained 15 veterinary pathology residents and many more veterinary students who are now leaders in the professional community. Pathology service and guidance is also instrumental in most animal-related research regarding pathogens, nutrition, genetics, and physiology. Much of the NZP pathology archive, which is used by researchers, museums, and educational facilities to track the spread and origins of disease in the animal world, exists only because of the commitments of the Zoo pathologists.

Last but not least, our pathologists continue to help ensure the absence of disease and pathological agents. One of NZP's primary responsibilities is keeping both staff and visitors safe. Several times each year, pathologists are called upon to rapidly and accurately detect the presence or absence of a zoonotic agent — such as Influenza, Tuberculosis, Salmonella or E. coli and Balamuthia. Due to the critical nature that our pathology team plays in maintaining and safeguarding both animal and human health, the lack of pathology resources and related capabilities puts our animal collection and related species survival programs in danger, and the Zoo and general public at risk. The NZP pathology program serves as a vital component, and participant in our Institution's missions of advancement and diffusion of knowledge, understanding a biodiverse planet, and saving species.

The pathology program also maintains a rigorously controlled collection of samples in different forms: desiccated fecal samples, tissues stored in alcohol, histological slides, frozen blood/serum/tissues, and samples stored in paraffin. Only NZP maintains an active collection that spans a significant period of time. As health issues emerge in a captive animal population, only NZP can answer the question of whether a pathogen has been living undetected in an animal population for years, or whether it has newly emerged. Our banked samples can and have been used in many research projects to answer questions about infectious disease, chronic disease, and genetics. NZP is the only Zoo in North America to take on the role of a collecting entity, preserving a comprehensive library of biological samples to fulfill future researchers' needs for data which cannot be anticipated in advance.

Expanding Our Reach and Impact through the Guest Experience

NZP is the top destination for families with children in the Washington DC metro area. On site, NZP welcomes families with children, tour groups, field trips, tourists, young adults, grandparents, and those seeking to connect with nature in our urban environment. In FY 2014, NZP welcomed visitors from each of the 50 states, along with Guam, Puerto Rico, and the Virgin Islands and many international visitors. Virtually, via our web cams, NZP allows visitors throughout the world to stay in touch with Bao Bao, our panda cub, the new elephants, and the growing lion pride. Even the naked mole rats have a virtual fan club. Whether on site or virtually, the live collection is what draws the public. Metrics are being developed to measure how a Zoo visit increases the visitor's level of biodiversity literacy. Although this work is at its infancy, the earliest results of a World Association of Zoos and Aquariums (WAZA) study (*A Global Evaluation of Biodiversity Literacy in Zoo and Aquarium Visitors — 2014*) indicates that zoos increase the public's understanding of biodiversity and knowledge of actions to help protect biodiversity.

In conjunction with Friends of the National Zoo (FONZ), NZP leverages the energy of an extensive volunteer community. Volunteer interpreters are on the front lines of engaging the public in connecting to the animals they see.

NZP exhibits use a variety of techniques to connect visitors to the missions of the Zoo and the Smithsonian. Keeper demos are the highlight of a Zoo visit, as the animals of the live collection exhibit natural behaviors that educate the public, including fish feedings in Amazonia, elephant training, the sea lion demonstration, and others. These interactive components of exhibits provide a greater learning impact and appreciation for the needs and behavior of animals; it is one thing to read that an elephant can lift 700 pounds, and another to try to move the weight yourself. Visitors gain a better understanding for the need to manage animal-human interaction. In FY 2015, NZP will add new digital signs throughout the Park — both inside and outside. 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 will help orient visitors with path-finding information, provide up-to-date information about activities such as keeper demonstrations, and provide more in-depth information about the animal collection.

The NZP website is also an important component of the Zoo's educational efforts. The website serves a variety of needs, providing simple information such as opening hours, and continually updated posts about new animals. Traffic to the website is predominantly associated with the webcams (with the giant panda cam by far the most popular), with information about visiting the Zoo not far behind. One change observed over the past several years has been the large increase in those accessing the website via mobile devices. When the website was

developed, there were few Web browsers and no mobile usage. Today, the website needs to serve multiple browsers and an increasing number of different mobile platforms, which the current digital infrastructure is not well equipped to accomplish; many of the features of the site are not available on mobile devices. Updating the site requires technical expertise and knowledge. The technology underpinning the site is quickly becoming obsolete and is in need of an overhaul. In FY 2015, NZP will invest in a technical and content redesign of the current website and convert to a responsive content management system to improve the efficiency of website operations and services for those who rely on it. Once this occurs, NZP will need to continue to maintain the system to ensure that information about the collection is kept current and accessible.

The FY 2016 budget request includes an increase of \$1,183,000 and 4 FTEs. The increase includes \$483,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$700,000 and 4 FTEs to support the welfare and care of the animal collection.

MEANS AND STRATEGY

The health, safety, security, and welfare of the staff, visitors, and collections are the most important considerations in the Zoo.

An immediate influx of resources is needed to re-establish previous standards in pathology services and collections, as well as maintain leadership in veterinary medicine. Previously, NZP was able to attract and retain ACZM board-certified veterinarians. Today, that is no longer the case. NZP is no longer as attractive to this small pool of talented individuals, and the pay scale is a major barrier. Today, the staffing has shrunk to a dangerously low level in pathology, which must be corrected by hiring more staff and raising salaries to competitive levels. The Zoo's scientifically vital pathology collection will be maintained by an increase in staff and the purchase of new supplies.

When the public hears "Smithsonian's National Zoo," they think animals. Wild, exotic animals that are found in places like Africa and Asia are typically the first that come to mind. In FY 2014, NZP welcomed three additional elephants to the newly renovated Elephant exhibit. This allowed NZP to build a natural and social herd. Also in FY 2014, NZP produced one litter of tiger cubs; two litters of lion cubs; Bao Bao, the panda cub; a new sloth bear cub on Asia Trail; Andean bear cubs on American Trail; a new grey seal; and many smaller animals throughout the Zoo. Labor Day 2014 also marked the opening of the Bison exhibit in celebration of NZP's 125th birthday (because the bison was the first animal in the Zoo collection in 1890).

Since the opening of its new facilities in the fall of 2012, the Smithsonian-Mason School of Conservation (SMSC) continues to grow and serve its mission of educating the next generation of conservation professionals. The Living-Learning

Community leverages the expertise of Smithsonian and Mason faculty and staff to offer courses and programming for undergraduate scholars, graduate students, and professionals, as well as affinity groups from around the world. The program's highlights in FY 2014 include:

- SMSC has educated 49 students in its undergraduate program. Several students have selected the program as a valuable post-baccalaureate experience.
- The graduate and professional team ran 13 courses, serving a total of 134 professionals from 38 countries. Courses using new methods to measure species populations and biodiversity are among the most popular.
- SMSC has served more than 2,000 conference guests from 64 different organizations, including the World Wildlife Fund, the World Bank, and Conservation International. Conference revenue doubled in the second year of operation.
- The SMSC team continues to grow, adding two full-time and five part-time staff to support operations, increased enrollment, and conference activities.

NZP thrives on birth and renewal. New animals and refreshed exhibits are what inspire visitors to care about animals, biodiversity, conservation, and biology. Safety requirements such as two-person rules, additional time spent developing and training on safety protocols, double lock checks, and scheduling keepers to ensure that sufficient staff are available to cover animal escapes and other emergencies have put pressure on staffing in all areas of the Zoo. With a live collection, the animal care staff must have the resources to deal with emergencies. In FY 2014, two animal births resulted in the need for 24-hour keeper care. The first grey seal born at NZP in 23 years arrived in January of 2014. However, 48 hours later, it became clear that she would need to be hand-fed because her mother was not lactating enough to support the pup's healthy growth. The keeper staff started feedings six times each day, with a special formula that mimics her mother's milk. Another birth that required round-the-clock care was the sloth bear born in December.

NZP's next capital renovation will be unique as a major exhibit and the first of its kind in a zoological park or natural history museum to tell the story of bird migration and the science behind it. The new venue will enable visitors to learn and wonder about bird migration from a global perspective, reflecting NZP's mission of excellence in animal exhibition, husbandry, and scientific leadership. The development of the exhibit is a multiyear effort. With completion of concept development, FY 2015 will see the Zoo's multidisciplinary team continue to work with the design team to complete the bulk of the design phase — including schematic design, design development, and the majority of construction documents — for both the facility and the exhibit interpretation, with continued refinement of the animal collection to support the migration storyline. The remaining construction documents will be completed in FY 2016. Planning and design for collections swing space are running concurrently with the Bird House

renovation design phase, and by the summer of 2016 the collections will be ready to be moved so that construction can begin in FY 2017.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$1,183,000 and 4 FTEs. The increase includes \$483,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$700,000 and 4 FTEs to support the welfare and care of the animal collection, as detailed below.

Animal Welfare (+\$700,000, +4 FTEs)

The NZP requests an increase of \$700,000 and 4 FTEs to support the Zoo's medical team, primarily in the Pathology unit, which will help ensure the health, safety, and welfare of the living collection. The requested funds would support pathology staffing, ensure the maintenance of the pathology collection, allow NZP to attract and retain board-certified professionals, and continue its residency program. These additional funds will allow diseases and medical issues to be diagnosed more quickly. This will ensure the appropriate treatment of sick animals, thereby preventing any diseases from spreading outside the Zoo.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of the director, 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 cover 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 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 2014 ENACTED	32	3,873	9	833	8	1,554	36	4,663
FY 2015 ENACTED	32	3,909	8	850	8	1,700	40	4,706
FY 2016 REQUEST	32	3,992	8	850	8	1,800	40	4,978

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

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	24	3,121	24	3,183	0	62
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	116	1	119	0	3
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	453	4	464	0	11
Modernize the Institution's financial management and accounting operations	3	219	3	226	0	7
Total	32	3,909	32	3,992	0	83

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 achieves the goal of Revitalizing Education by engaging and inspiring diverse audiences through school-based programs, teacher training, and public outreach. SERC programs serve more than 12,000 school children and public visitors annually.

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 a particular success in reaching candidates from underserved communities.

SERC will continue to update and streamline management systems and functions, and advance construction of its Facilities Master Plan. In FY 2015, SERC will complete work on its new fire suppression water system and the renewable energy photovoltaic array associated with the recently completed Charles McC. Mathias Laboratory. In addition, the Center will begin making improvements to its one-mile entrance road, which is necessary for the safe travel of staff and visitors in passenger vehicles and school buses.

The 2016 budget request includes an increase of \$83,000 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 new Tennenbaum Marine Observatories Network. SERC is a partner site in the National Ecological Observation Network (NEON). As such, in FY 2014 construction began on 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. Construction has been completed and the site will become operational in the Spring of 2015. 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. SERC is also developing scientific and technological capabilities in analytical chemistry, remote sensing, and instrumentation in coastal watersheds and connected ecosystems. SERC has been a lead contributor in establishing a consortium, known as TMON (Tennenbaum Marine Observatories Network), in an effort to coordinate and align the extensive marine research efforts ongoing throughout the Smithsonian. 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 uses its website to provide more information to the public about environmental issues in general, and the Center's research and education programs in particular. On-site education will focus on serving more than 12,000 students and members of the general public. SERC will continue to focus on improved access for traditionally underserved audiences, as well as those participants located off site from the SERC campus.

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, besides 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 two decades. 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 has been designed to achieve a designation of Leadership in Energy and Environmental Design (LEED) Platinum — the highest measure of environmental sustainability afforded by the U.S. Green Building Council. 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 surcharge applied to 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 2014 ENACTED	202	13,940	61	2,368	31	5,036	16	2,021
FY 2015 ENACTED	202	14,025	62	1,900	32	5,000	19	2,000
FY 2016 REQUEST	202	14,271	64	2,000	32	5,000	19	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	124	8,805	124	8,950	0	145
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	3	323	3	330	0	7
<i>Public Programs</i>						
Provide reference services and information	13	707	13	723	0	16
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	421	1	423	0	2
Mission Enabling						
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	14	546	14	560	0	14
Provide a safe and healthy environment	2	145	2	148	0	3
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	6	338	6	344	0	6
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	8	718	8	732	0	14
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	5	334	5	341	0	7
Modernize the Institution's financial management and accounting operations	11	720	11	737	0	17

Performance Objective/ Program Category	FY 2015		FY 2016		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	229	3	234	0	5
Modernize and streamline the Institution's acquisitions management operations	12	739	12	749	0	10
Total	202	14,025	202	14,271	0	246

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 3 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 40 staff scientists and 160 research assistants-in-residence share our science platform with scientists from U.S. and international organizations. Each year, approximately 1,300 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 during the last 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 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, 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: prevent species extinctions by establishing ex-situ 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), Smithsonian Conservation Biology Institute/National Zoological Park (SCBI/NZP), 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 61 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 believed not to be the case.

Monitoring the Oceans: MarineGEO

The great success of ForestGEO led to the creation of MarineGEO, a new cross-bureau program that will develop 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 a set of basic parameters; i.e., water acidity, temperature, salinity, specific conductivity, dissolved oxygen, chlorophyll, among other factors, with the intent to make all data available on the Web in real time. This network and associated data sets will improve the characterization of biodiversity and ecosystem processes. 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 recent 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 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 \$246,000 for necessary pay for existing staff funded under 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 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 microorganisms, 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. 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 will play 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 two MarineGEO sites 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.

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 2016 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. 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.

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 laboratory 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 100 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 2014 ENACTED	45	6,019	7	1,879	52	9,392	0	0
FY 2015 ENACTED	45	6,049	8	2,264	65	9,904	0	0
FY 2016 REQUEST	45	6,169	8	2,332	65	10,201	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	6	1,371	6	1,408	0	37
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support		20		29	0	9
<i>Public Programs</i>						
Provide reference services and information	3	235	3	265	0	30
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	16	2,151	16	2,170	0	19
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	5	445	5	460	0	15
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	12	1,365	12	1,365	0	0
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	0	50	0	60	0	10
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	15	0	15	0	0

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	134	1	134	0	0
Modernize the Institution's financial management and accounting operations	2	263	2	263	0	0
Total	45	6,049	45	6,169	0	120

BACKGROUND AND CONTEXT

The Freer Gallery of Art and the Arthur M. Sackler Gallery (F|S) celebrate the artistic traditions of Asia, and 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 2016, the F|S will continue to build on the excitement generated from its ambitious plans for reinvigorating the Arthur M. Sackler Gallery with innovative thematic exhibitions that contextualize its growing permanent collection within an expanding global community. 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 2016 to position themselves as world leaders in digital collections management initiatives. This will be done by maintaining 100 percent digitization as its collections grow, improving the F|S website with a new search tool for online collections, and by enhancing 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 F|S and the National Museum of African Art, enters its third 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 F|S will achieve the goal of Excellent Research by maintaining its impressive record of hosting research Fellows and scholarly visitors, through its publications, and through searching for new funding sources for research.

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

The budget request includes an increase of \$120,000 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 F|S 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 2016, planned exhibitions will make strong connections to the Museums' permanent collections and recent important gifts and bequests. The year begins with a major international loan exhibition on one of the most influential and elusive figures in Japanese culture, Tawaraya Sōtatsu, which includes masterworks from the Freer's preeminent collection. This will be followed by a major exhibition, drawn nearly in its entirety from the permanent collection, on the Wu School, one of the major painting schools of Ming dynasty China. The exhibition will explore the interrelationship of painting, poetry, and calligraphy for which the Wu School artists were known. The year will close with a major exhibition of Korans — the most important exhibition of its kind ever to be shown in the United States — organized in cooperation with the Ministry of Culture in Turkey.

Exhibitions drawn from recent promised gifts and bequests to F|S collections are intended for national travel in 2016, including the Paul Singer Collection of ancient Chinese art, and the Tibetan Buddhist Shrine. F|S continues to develop major research and exhibition projects with international scholars and institutional partners in China.

Most importantly, in FY 2016, the newly renovated and reinstalled north galleries of the Sackler will be in the midst of an innovative new programming concept. This first major overhaul since the Sackler opened in 1987 provides an opportunity for a very different approach to museum display: one that is more provocative and engaging. The installation of Darren Waterston's fanciful interpretation of James McNeil Whistler's "Peacock Room"— a jewel of the F|S collection — continues, with changing thematic exhibitions that encourage a contemporary consideration of this iconic masterwork and the complex relationships among art, money, and the passage of time.

The Freer Gallery of Art will be closed to the public for all of calendar 2016 so that the building's heating, ventilation, and air conditioning system can be replaced, which is work necessary to preserve the collection. During 2016, staff will be working on reinstallation plans for the Freer's reopening in spring 2017. Planning will focus on creating a more welcoming visitor entrance, renovating the Meyer Auditorium, last updated in the early 1990's, incorporating digital technology into the galleries, and reinstalling the collections in a fashion similar to the new approach first employed in the renovated Chinese art galleries.

In FY 2016, an expansion of exhibitions and programming in the former International Gallery will allow F|S to finalize plans for long-term use of the space aligned with two of the Smithsonian strategic goals — Broadening Access and Revitalizing Education — by expanding programmatic offerings to include digital exhibitions and immersive experiences, engaging audiences of all ages. Planned for Spring 2016, an exhibition about the revitalization of Afghanistan's traditional arts will be an immersive experience chronicling the rebirth of the Old City of Kabul and its artisans and the building of a new generation of craftspeople. Rich public programs, with the

participation of visiting Turquoise Mountain artisans, are planned to accompany this inspirational story of the resilience of artistic beauty and the human spirit.

The F|S will further broaden access by reaching new and diverse audiences through its groundbreaking educational and scholarly programs on the arts of Asia. These include hosting a series of international conferences and workshops, and by 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 will undergo refinements to allow greater access to our collections, which were 100 percent digitized by the beginning of calendar 2015. 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 F|S has collaborated with Ritsumeikan University to digitize more than 100,000 images of Japanese books of art.

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

As part of its goal to advance Revitalizing Education initiatives, and to provide greater access to high-quality educational resources, the F|S will re-examine state, county, and municipal educational mandates to ensure that the Museums' programs support public schools' curricula. In addition, the F|S will devote more resources to develop long-lasting teaching materials based on the Museums' world-renowned collections, and to place more educational resources on the F|S website to make it the premier online resource in the United States for information on the arts of Asia. As a result of visitor surveys conducted in FY 2011, the F|S appointed a Visitor Advisory Team to ensure that recommendations from these surveys — as well as from a year-long study of the Freer Gallery of Art to be concluded by the end of calendar 2015 — are fully incorporated into future efforts to serve the public.

The F|S will achieve the strategic goal of Strengthening Collections by continuing to devote resources to its internationally renowned conservation department and laboratory. The department will be led by a new director, who is one of the most respected figures in the field. In FY 2016, 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 recent grant from the Andrew Mellon Foundation, F|S is establishing 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 all too many leading practitioners are due to retire within a very few years of each other. Additionally, the F|S will continue its research into Nazi-era provenance issues, further strengthening international ties developed in previous years.

To meet the goal of Mission Enabling, the F|S 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 F|S 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. The F|S updated its current strategic plan for FY 2015 – FY 2016, aligning it with the Smithsonian’s overall strategic plan in terms of both timing and goals. The F|S continues to track progress against its strategic plan through the use of its management tracking system commissioned from ManagePro. This 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 Smithsonian Channel; participation fees from traveling exhibition venues; special events; unrestricted and restricted gifts and grants; and endowment income. The Freer Gallery of Art and the Arthur M. Sackler Gallery are highly dependent upon nonappropriated sources to fund the operations necessary 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 2014 ENACTED	17	2,490	10	1,806	5	822	0	1,522
FY 2015 ENACTED	17	2,503	11	1,633	7	1,390	0	1,582
FY 2016 REQUEST	17	2,603	14	2,588	7	2,200	0	1,100

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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	0	0	2	439	2	439
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	0	0	1	120	1	120
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	9	1,293	6	878	-3	-415
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	2	332	2	217	0	-115
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	2	220	2	226	0	6
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	0	160	0	215	0	55
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	100	0	100	0	0
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	127	1	129	0	2

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	58	1	60	0	2
Modernize the Institution's financial management and accounting operations	2	213	2	219	0	6
Total	17	2,503	17	2,603	0	100

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 of “promoting the understanding and sustainability of the world’s diverse traditional cultures.” It is the largest of a triumvirate of federal offices (with the Library of Congress’ American Folklife Center and National Endowment for the Arts’ 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 Folklife recordings are its most visible products, reaching many millions of 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, 22 Grammy Award nominations, seven Grammys, one Latin Grammy, and 26 Independent Music Awards.

The CFCH, with its highly qualified staff, 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 budget request includes an increase of \$45,000 for necessary pay and other related salary costs for existing staff funded under this line item. Additionally, the request includes an increase of \$5,000 for rent and \$50,000 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.

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.

CFCH achieves this through the Smithsonian Folklife Festival (one million visitors plus tens of millions via the media), Smithsonian Folkways Recordings (more than 40 million listeners via recordings, radio programs, downloads, and audio streams), websites and social media (11 million visits), 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.

In 2015 and 2016, the CFCH will collaborate with at least nine Smithsonian units, 15 nonprofit organizations, and three foreign countries to create and deliver programmatic content. The 2015 Festival will mount a major program titled *Inside Peru: Unknown Treasures*. The Festival will highlight the rich cultural diversity of Peru, where Iberian traditions have mixed for centuries with indigenous ways of life to produce one of the most vibrant and complex cultures in Latin America. Because the National Mall will be closed for renovation, the Festival will take place on the grounds of the National Museum of the American Indian, which will be opening a major exhibition on the Inca Road at the same time.

In 2016, the CFCH plans to present the traditional arts, music, and culture of California on the Mall along with a major program to commemorate 50 years of diplomatic relations with Singapore. The 2016 Festival also plans to launch a major program titled *Freedom Sounds: Music in Solidarity and Protest* that will feature African American musical traditions to accompany the opening of NMAAHC and the release of a major box set of hip-hop music. Also in 2015 and 2016, 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 preceding, 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 2015, for a total of 7.5 million. The CFCH is also continuing its partnership with e-Pals, a social living platform that provides a course on cultural heritage developed by the Center and tied to the core curriculum, to 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 will produce 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 NMAAHC, and the CFCH will also release a major box set to highlight the enduring 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 a private partner to deliver the entire Folkways collection to more than 440 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.

Center curators and research staff will continue to publish books, articles, and Web features, and make professional presentations at gatherings of specialists. One special book, *Curatorial Conversations*, explores curatorial challenges, approaches, and highlights via the Smithsonian Folklife Festival. In addition we have set aggressive publication targets for the entire office. 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. In 2016, the Center will launch and build upon a fresh cultural heritage policy section of the CFCH website.

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. The Folklife Archives will tackle two principal challenges in

2016 — receiving a plethora of incoming ethnographic research, and assessing, cataloguing, preserving, and making available endangered, valuable, multi-media holdings through sharp prioritization of delicate and critical collections materials. Central funds from within the Institution will further support the Rinzler Archives' digitization and dissemination efforts. Similarly, strategic efforts to rapidly digitize key materials will be well under way.

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.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits of approximately one-quarter of 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. Work at the Rinzler Archives will continue to be supported by a grant from the Save America's Treasures program to digitize and preserve the Moses and Frances Asch collection of recordings and documentation, recognizing the national and international prominence of the Folkways collections. With the support of the Smithsonian National Campaign, the CFCH has already raised \$2.53 million (63 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 2014 ENACTED	36	4,710	24	4,067	17	5,744	0	952
FY 2015 ENACTED	36	4,755	30	4,559	14	6,841	0	60
FY 2016 REQUEST	36	4,842	40	5,285	15	7,850	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	4	340	4	345	0	5
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	1	102	1	105	0	3
Public Programs						
Provide reference services and information	1	122	1	125	0	3
Exhibitions						
Offer compelling, first-class exhibitions	4	310	4	315	0	5
Revitalizing Education						
Education						
Engage and inspire diverse audiences	3	255	3	260	0	5
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	7	1,900	7	1,942	0	42
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	11	1,095	11	1,110	0	15
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	170	1	170	0	0

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	105	1	110	0	5
Modernize the Institution's financial management and accounting operations	2	270	2	270	0	0
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	86	1	90	0	4
Total	36	4,755	36	4,842	0	87

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 active 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 2016. 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 budget request includes an increase of \$87,000. This increase includes \$67,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$20,000 to support rent costs, which is explained in the Fixed Costs section of this budget submission.

MEANS AND STRATEGY

In FY 2016, 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 *Beauty: National Design Triennial* and *Design with the Other 90%: USA*, the third exhibition in the Design with the Other 90% humanitarian design exhibition series. The Museum will also be working on 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 complete the digitization of the entire collection in FY 2016. 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 in Cleveland, Minneapolis, New Orleans, San Antonio, and Washington, DC has resulted in collaborations in multiple cities and provided data that will help expand access 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 2016 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.

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 2014 ENACTED	37	4,270	3	286	17	2,846	0	0
FY 2015 ENACTED	37	4,301	2	659	43	2,093	0	0
FY 2016 REQUEST	37	4,605	4	1,058	43	3,048	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	2	294	2	294	0	0
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	117	1	117	0	0
<i>Public Programs</i>						
Provide reference services and information	2	284	2	284	0	0
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	12	1,456	12	1,653	0	197
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	4	453	4	453	0	0
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	9	1,099	9	1,206	0	107
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	1	92	1	92	0	0
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	2	162	2	162	0	0

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Information Technology						
Modernize the Institution's information technology systems and infrastructure	1	75	1	75	0	0
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	2	203	2	203	0	0
Modernize the Institution's financial management and accounting operations	1	66	1	66	0	0
Total	37	4,301	37	4,605	0	304

BACKGROUND AND CONTEXT

The Hirshhorn Museum and Sculpture Garden (HMSG) is a leading voice for contemporary art and culture, and provides 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 the conservation of 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, critical essays, 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 re-designed 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 *Over Under Next*, *Out of the Ordinary*, *Speculative Forms* and *Gravity's Edge* and *At the Hub of Things* in FYs 2013, 2014, and 2015. The strength of this collection and the need to preserve it will be highlighted significantly as the

Museum moves into its fifth decade, in 2015 and 2016, 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 around the globe.

The Museum contributes to the strategic goal of Revitalizing Education with Artlab+ and numerous educational programs, including a gallery interpretive guide project that is adapted to audience areas of interest and ongoing research from many fields of contemporary culture, and efforts to bring senior, non-museum education professionals into programs where they can 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 pursues the goal of Mission Enabling by constantly improving its financial and administrative management tools and procedures.

The budget request includes an increase of \$304,000. The increase includes \$87,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$67,000 for unit rent; and \$150,000 for Exhibits Maintenance.

MEANS AND STRATEGY

In FY 2016, Excellent Research continues as the Museum 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 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 2016 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 2016 exhibitions will include:

- The Museum will open the year with ***Surrealist Sculptures***, a major loan exhibition exploring the sculptures and installations created between 1920 and 1950 by an international group of artists who espoused the Surrealist goal of expanding perceptions beyond ordinary reality.

- Surrealist Sculptures will be complemented by ***Directions: Shana Lutker***, featuring contemporary work by California conceptual artist Shana Lutker, who interprets her research into the Surrealist period through her own enigmatic sculptures and installations.
- Other major events in FY 2016 include ***Robert Irwin: All the Rules Will Change***, the first Museum exhibition to focus exclusively on this important American artist's trajectory through the masterworks of his early career. The exhibition will culminate with a new site-conditioned scrim installation created to enhance the Hirshhorn's iconic Gordon Bunshaft building.
- Major exhibitions in FY 2016 will be interspersed with smaller displays, commissions, and other artist interventions around the building, enlivening and activating all of the Museum's galleries and public spaces.

All of the exhibitions presented in FY 2016 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 in information with individualized knowledge portals. 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 still publish original catalogues to complement the viewing of its exhibitions, and produce other books which 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, 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 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 2016, the Museum's main action to achieve the strategic goal of Strengthening Collections will involve the planning and fundraising effort to reconfigure some office and storage space on the fourth floor. This will allow the Conservation Lab to be moved 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 HMSG's collection.

The Museum will seek to complete its efforts to photograph and catalogue the entire permanent collection, and bring ever 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 which help support major exhibitions and programs. By identifying and working with partners in the private sector, HMSG senior leaders will leverage the Museum's federal appropriations to the maximum extent possible.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$304,000. This includes \$87,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$67,000 for increased rent supported in the Fixed Costs section of this budget request, and a programmatic increase of \$150,000 for Exhibits Maintenance, as detailed below.

Exhibits Maintenance (+\$150,000)

The requested increase of \$150,000 for exhibits maintenance will help to ensure that the Museum's 60,000 square feet of exhibition space, including the plaza and sculpture garden, will be maintained at a level that meets the HMSG's high standards for exhibition presentation, visitor experience and interaction. This additional funding will support and maintain the technological infrastructures necessary to deliver time-based media and educational content, provide for technical staff charged with maintaining exhibitions in the Museum and the

sculpture garden, and allow for maintenance, repair and replacement of exhibition props, fixtures, finishes, furniture, equipment and lighting systems.

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 2014 ENACTED	27	4,209	4	950	6	2,252	0	17
FY 2015 ENACTED	27	4,227	4	940	4	771	0	0
FY 2016 REQUEST	28	4,632	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	3	483	3	492	0	9
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	202	1	207	0	5
<i>Public Programs</i>						
Provide reference services and information	4	544	4	553	0	9
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	8	1,300	8	1,436	0	136
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	480	3	489	0	9
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	4	657	5	849	1	192
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	176	1	176	0	0
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	3	385	3	430	0	45
Total	27	4,227	28	4,632	1	405

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 African 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. 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 digital technology in exhibitions, provides online educational resources, and promotes public access to the Museum’s art and photographic collections. 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 2016, the Museum will present one new temporary exhibition, *Artists in Dialogue 3*, which features contemporary African art (and will include a publication). The Museum may also commission a Nigerian’s artist’s sound installation that will complement *Artists in Dialogue 3*. In addition, the temporary exhibition, *Conversations: African and African American Artworks in Dialogue*, which opened in early FY 2015, will remain on view in FY 2016. This exhibition includes a publication. A small exhibition entitled *African Artists’ Books*, which was developed in collaboration with Smithsonian Libraries, will be placed on view in late FY 2015 and remain into FY 2016; it is accompanied by an online publication and a print publication, as well.

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. It does not include a publication, but the Museum revised its popular “Looking at African Art” gallery guide in FY 2015 to assist visitors in understanding the form, materials, and messages of Africa’s traditional and contemporary arts. The Museum’s *Walt Disney-Tishman Highlights* exhibition, which closed in the second quarter of FY 2014 to allow for a conservation assessment of the collection and to prepare for a future reinstallation of selected works, will likely reopen in late FY 2016 or early FY 2017 and feature a new thematic organization for selected masterworks from this important collection.

The Museum will also develop programming and educational outreach in connection with the above-mentioned exhibitions as well as its *Gems of the Indian Ocean* project, which focuses on the peoples, arts, and cultures of the Swahili Coast and Oman. In addition to specially commissioned performances that were held in FY 2014 and are scheduled in FY 2015, the *Gems* project will include a publication and a film in FY 2016, and selected display cases in *African Mosaic* will be devoted to the arts of the people native to Indian Ocean nations.

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 eastern Africa's Swahili Coast and to Oman is planned in connection with the Museum's *Gems of the Indian Ocean* project. 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 Museum 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, revamped in FY 2014 to include intelligent design, 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, renewed annually, will enhance the Museum's 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 through use of 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 budget request includes an increase of \$405,000 and 1 FTE. This includes \$75,000 for necessary pay and other related salary costs for existing staff funded under this line item and program increases of \$180,000 and 1 FTE for a curator and \$150,000 for Exhibits Maintenance.

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 multimedia applications, and by completing additional image and object catalogue records for the Museum's public access database. The Museum's website, revised in FY 2014 with streamlined features and intelligent design, will continue to add content such as podcasts, blogs, Facebook and Twitter options, online educational resources, and activities for younger audiences.

The Museum will continue to seek visitor feedback on exhibitions and programs, and it will also continue to implement performance assessments of its public programs. The NMAfA will 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 representatives from the Museum's African Immigrant Advisory Group and local community groups, to seek input 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 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.

Selected works from the Walt Disney-Tishman African Art collection are expected to appear in a new temporary exhibition in FY 2016 or FY 2017, and will also be on view throughout the Museum's gallery and public spaces. The exhibition *African Mosaic*, which features selected highlights from the Museum's permanent collection, will continue into FY 2016, although plans will be developed to revise the exhibition with new themes and interpretive strategies.

The NMAfA will open one new temporary exhibition in FY 2016. *Artists in Dialogue 3: Wangechi Mutu and Nora Chipaumire*, developed by the Museum, is the third in a unique series in which innovative artists are invited to create new works of art in a call and response with one another: each artist responds to the work of the other, resulting in original, site-specific works at the Museum. Wangechi Mutu is a Kenyan-born artist; Nora Chipaumire is an acclaimed dancer and performance artist from Zimbabwe. Their exhibit will include a publication. Funds, schedule, and logistics permitting, the Museum may also complement this exhibition by commissioning an installation by the Nigerian artist Emeka Ogboh.

In addition, the temporary exhibition *Conversations: African and African American Artworks in Dialogue*, which opened in early FY 2015, will remain on view in FY 2016. This exhibition includes a publication.

The Museum will continue development of an exhibition and publication on Ethiopian devotional art, slated for FY 2016 or FY 2017. The Museum will also work toward opening a small exhibition on Senegalese jewelry in 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. NMAfA staff will continue to develop exhibition plans for gallery space on the Museum's third level, in a gallery that is jointly shared with the Freer Gallery of Art and the Arthur M. Sackler Gallery. The Museum will also begin to outline permanent collection publications in support of its traditional and contemporary collections.

In FY 2016, the Museum will also devote staff resources to the planning of exhibitions in FY 2017 and beyond, including possible exhibitions on Time, the Mechanics of Art, Visionary Leadership, African Minimalism, the Creativity of Work, and future reinstallations of selected works from the Walt Disney-Tishman African Art Collection. Staff members will also devote considerable effort to planning the installation of a reconfigured gallery devoted to the Museum's permanent collection. This long-term display of selected works from the NMAfA's permanent collection will 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.

In addition, the Museum will plan for an exhibition focused on African contemporary women artists, which will open in FY 2017 or FY 2018. Finally, the Museum expects to host at least one traveling exhibition of African art in FY 2017 or FY 2018, possibly *Striking Iron*, developed by the Fowler Museum at UCLA.

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 use the five-year strategic plan and feedback from visitor surveys to update the 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 websites will increase the educational value of NMAfA exhibits. Finally, the Museum will continue to forge strong relationships with news media, corporations, foundations, community interest groups, and congressional representatives. The NMAfA staff will accomplish this by expanding the Museum's contact base and distributing more information about NMAfA activities, events, and programs.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$405,000 and 1 FTE. The increase includes \$75,000 for necessary pay and other related salary costs for existing staff funded under this line item and programmatic increases of \$180,000 and 1 FTE for Collections Scholarship, and \$150,000 for Exhibits Maintenance, as detailed below.

Collections Scholarship (+\$180,000, +1 FTE)

The budget request includes an increase of \$180,000 and 1 FTE for an additional curator. 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 limited the extent to which Museum curators can develop and execute public programs and contribute to the scholarly foundations that are at the heart of the Smithsonian Institution.

The funds requested will help the Museum rebuild its curatorial strength to support excellent research, exhibitions, and digitized access to the nation's important collections of African works of art. Specifically, this position will fill the highest priority gaps in our scholarly foundation and enable the Museum to regain its national and international prominence as the leading institution devoted exclusively to the arts of Africa. An additional curator on staff will address critical shortfalls in the Museum's collection data and online collections access; yield new exhibitions and public programming, including a new and innovative permanent collection gallery; promote Smithsonian scholarship through increased research and scholarly publications; and support the Smithsonian's mission of increased outreach and audience engagement both within and outside the United States.

Exhibits Maintenance (+\$150,000)

The requested increase of \$150,000 for exhibits maintenance will ensure that the Museum's exhibitions and public spaces are well maintained and are kept clean, well lit, and in good repair, and that the audio-visual and other media components connected to exhibition spaces are fully operational and up to date. The funding in support of exhibitions rarely covers the long-term upkeep of the galleries and the necessary costs to maintain and improve public spaces.

In addition, the Museum now has joint ownership (with the Freer and Sackler Galleries) of an additional third-level gallery, increasing operation and maintenance needs. Growing numbers of visitors result in increased wear and tear on displays within the galleries and in other public areas that the Museum now uses to place more of its collection on view. This, in turn, results in higher

maintenance costs. The requested funds will allow NMAfA to maintain exhibits at a standard that benefits our visitors and will enable the Museum to adopt longer-lasting, energy-efficient and environmentally-friendly measures that are in concert with the Institution's goals.

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 2014 ENACTED	18	2,079	3	622	0	203	0	33
FY 2015 ENACTED	18	2,093	3	529	0	161	0	25
FY 2016 REQUEST	19	2,415	3	550	0	163	0	25

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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	2	322	2	327	0	5
Ensure the advancement of knowledge in the humanities	1	135	1	143	0	8
Broadening Access						
Public Programs						
Provide reference services and information	3	400	3	406	0	6
Exhibitions						
Offer compelling, first-class exhibitions	3	381	3	487	0	106
Revitalizing Education						
Education						
Engage and inspire diverse audiences	1	72	1	74	0	2
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	3	293	4	479	1	186
Mission Enabling						
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	2	220	2	223	0	3
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	88	1	90	0	2
Modernize the Institution's financial management and accounting operations	1	91	1	93	0	2
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	1	91	1	93	0	2
Total	18	2,093	19	2,415	1	322

BACKGROUND AND CONTEXT

Founded on September 15, 1967 as the first federally funded, community-based museum, the Anacostia Community Museum (ACM) has developed into 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 work of the Museum is steeped in the Smithsonian's Grand Challenge initiatives of Understanding the American Experience, Valuing World Cultures, and Understanding and Sustaining a Biodiverse Planet.

The Museum 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 (approximately 92 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 mobilize to provide technical assistance to help community entities organize, document, and preserve their cultural heritage through research, exhibitions, education, and training programs.

During the past decade, the Washington, DC 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 defines the term "community" in much broader terms and addresses issues such as the environment, housing, health, education, urban development, and other cross-sections of community life that go beyond ethnicity.

The budget request includes an increase of \$322,000, including \$42,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$180,000 and 1 FTE for Collections Scholarship and \$100,000 for Exhibits Maintenance, as detailed below.

MEANS AND STRATEGY

ACM will continue to work toward accomplishing the Institution-wide goal of inspiring generations through knowledge and discovery. ACM also continues 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, 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.

The Museum will mount three exhibitions in FY 2015. *How the Civil War Changed Washington*, will be on view in the main gallery from February 2 – October 18, 2015. This exhibition examines how many of the changes in Washington, DC during the Civil War era mirror some of the events and social changes that have affected the city in modern times. This will have the advantage of giving viewers a personal connection to the exhibit as well as the historical context of events depicted. Visitors might see in the exhibit a personal experience that they might have lived or an event that impacted their own neighborhood. The second exhibit, *Hand of Freedom: The Life and Legacy of the Plummer Family*, will be mounted in the Community Gallery and centers on Civil War-era holdings from the Museum's permanent collection. It will be on view from February 23 – November 2015. The third, *Bridging the Americas: Community and Belonging from Panama to Washington, DC*, opens on April 13, 2015 and will be a long-term exhibition mounted in the ACM Program Room. Using images and narratives, this exhibition presents the various ways in which former Canal Zone residents and Panamanians in the Washington metropolitan area think about home and belonging in and in-between Panama and Washington, DC. The exhibition shows the formal ties between the two nations but focuses on the human stories and migrations that underscore the connection.

Bridging the Americas replaces the current, semi-permanent exhibition, *Separate and Unequaled: Black Baseball in the District of Columbia*, which has been on display since 2009 and chronicles and celebrates the great achievements of African Americans in baseball in the nation's capital despite, segregation. The exhibition was developed by ACM, presented at the Historical Society of Washington, DC, in 2008, and has been in a small format at the Anacostia Museum since 2009. In addition, ACM is working with the Washington Nationals baseball team to present an expanded indoor/outdoor version of this exhibition at Nationals Stadium for the opening of the season in April 2015.

Furthermore, ACM's highly acclaimed exhibition *Word, Shout, Song: Lorenzo Dow Turner Connecting Communities through Language* has been traveling throughout the United States since October 2011. In FY 2014 and FY 2015, ACM received funding from the U.S. Department of State to send the exhibition to four major cities in Brazil. The exhibition will premiere in Rio de Janeiro in the late summer of 2015 and then be shown in Bahia, Brasília, and Sao Paulo through 2016.

Several research and collections access initiatives, facilitated by the ACM Community Documentation Initiative (CDI), are ongoing. The ACM partnership with the American University (AU) Graduate School of Communication on the "Community Stories" project continues, with AU students recording current and former residents of the city's Wards 7 and 8 as they provide oral histories documenting their personal experiences and observations. The videos and other data collected from the CDI real-time documentation of community history are accessible to scholars, students, and the public through ACM's Web-based media portals. Continued digitization of the ACM archival and material culture collections has exponentially increased public access to the Museum's holdings.

One of the Museum's current research projects, "Twelve Years that Shook and Changed Washington," will culminate with an exhibition in October of 2015. Twelve momentous and tumultuous years, 1963–75, saw a generation take to the streets to demand greater equality, justice, and peace, and in the process change the government and alter the physical, cultural, and educational character of the nation's capital. Against a national background of anti-war protests, black power, and feminism, this exhibition will focus on events and challenges that transformed Washington, DC, and provided the social, cultural, physical, and political bases for the city that exists today.

Another initiative, the "Unconventional Gateways" research project, takes a comparative look at contemporary Latino urban experiences. The project will investigate Latino urban experiences outside of traditional urban immigrant gateways, diverging from traditionally researched areas of Latino settlement in order to probe contemporary Latino urban issues of citizenship, racialization, and 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 programming, and other products. This project will be presented as an exhibition in December of 2016.

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 at the Savoy Elementary School. There will be a menu of programmatic activities, from cultural

enrichment to educational enhancement and career training, which can be tailored to meet the specific needs of each collaborative community partner.

ACM maintains substantive relationships with state and local governments through the regional partnership process. Museum staff will offer training and technical assistance to strengthen local, regional, and national partners' abilities to preserve local heritage. In addition, the Museum will increase its public awareness efforts and expand access to its programs and collections via its website, social media, press outlets, and publications.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$322,000. The increase includes \$42,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$180,000 and 1 FTE for Collections Scholarship and \$100,000 for Exhibits Maintenance, as detailed below.

Collections Scholarship (+\$180,000, +1 FTE)

The budget request includes an increase of \$180,000 and 1 FTE for an additional curator. ACM 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 seeks to rebuild its curatorial strength to support excellent research, exhibitions, and digitization of the nation's vast collection of artifacts. Specifically, this position will fill the highest priority gaps in our scholarly foundation. For ACM, these are in the areas of research aimed at understanding how communities are viewed — not as socially isolated, but as part of the natural and built environment, and at the nexus of both local and global economic, political, and cultural forces. These areas represent the material collections of national importance and are the topics of planned future exhibitions.

Exhibits Maintenance (+\$100,000)

The requested increase of \$100,000 for exhibits maintenance will ensure that the Museum's exhibitions are clean and in good repair, and that the media components are fully operational and up to date. The mere presence of record numbers of visitors results in increased wear and tear to displays within the halls, and increases the cost to maintain them. In addition, the increasingly interactive nature of today's exhibits increases maintenance needs. The requested funds will maintain ACM exhibits at a standard that is expected of a world-class museum. Specifically, the Museum requires funds to transport, document, conserve, handle and install objects in order to ensure the highest level of care and preservation of the collections. ACM requires support to ensure that exhibition

environments and conditions are designed in a manner consonant with best practices in collections care and the highest standards of the Smithsonian.

NONAPPROPRIATED RESOURCES — FY 2016 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 2014 ENACTED	17	1,844	1	531	21	2,062	0	0
FY 2015 ENACTED	17	1,859	1	544	20	2,162	0	0
FY 2016 REQUEST	17	1,898	1	549	20	2,220	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	3	271	3	248	0	-23
<i>Public Programs</i>						
Provide reference services and information	3	272	3	292	0	20
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	82	1	83	0	1
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	8	926	8	962	0	36
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	2	308	2	313	0	5
Total	17	1,859	17	1,898	0	39

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 of "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, along with descriptive information, 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 budget request includes \$39,000 for necessary pay and other related salary costs for existing staff funded under this line item.

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 2016 include one about the painter Robert Motherwell, drawn from primary sources in the Archives, in celebration of the centennial of his birth, followed by *Little Black Books*, an examination of social networks revealed through six separate address books. In addition, the Archives will also partner with the Dedalus Foundation to sponsor a one-day symposium on Motherwell, highlighting new research on his life and work. (The Dedalus Foundation was founded by Motherwell to foster public understanding of modern art and modernism.)

In addition, AAA will reach new audiences with the book *The Art of Handwriting*, forthcoming from Princeton Architectural Press in 2016. The Archives will sponsor the last of four annual graduate student essay prizes, designed to promote the use of AAA's online resources for a new generation of art historians. Through public programs, professional presentations, online exhibitions, and loans to other museums and institutions worldwide, AAA will continue to widen its audience and provide a greater understanding of the history of visual arts in the United States.

In FY 2015, the Archives' website was redesigned with a new visual identity and built using the flexible, open-source Drupal content management system. In FY 2016, 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 2016, AAA will increase its development of the Terra Foundation Center for Digital Collections with collections digitized in their entirety as part of the continuing support from the Terra Foundation for American Art and from 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. AAA will continue developing its internal digitization and Collections Information System (CIS) application to ensure proper collections documentation and to 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 initiatives of the Smithsonian's digitization program.

In FY 2016, the Archives' goal will be to process, following national archival standards and best practices, at least 10 percent of our backlog, or about 800 to 900 linear feet, resulting in new, fully searchable finding aids added to AAA's website. This work will include processing numerous previously hidden and at-risk audiovisual collections. When possible, we will continue to apply minimal-level processing and preservation strategies to diminish AAA's backlog and digitize new accessions within one year of receipt. In FY 2016, a primary goal will be to fully implement and document processing strategies for providing 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 continue to provide researchers with access to its collections and microfilm in its Washington, DC and New York research centers, as well as affiliated research centers throughout the United States, 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, thereby ensuring that the AAA workforce is efficient and skilled, and by adopting best practices to safeguard and make the most cost-effective use of Smithsonian resources.

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 2016, the Archives will 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*.

In FY 2016, the Archives will continue to develop strategies for sustaining its digitization program by building an endowment to support critical staff and by implementing improved rapid-capture technologies and techniques.

Funding from the Terra Foundation for American Art will support AAA’s digitization program, new oral history interviews, and website development. The Terra Foundation project manager for online scholarly and educational initiatives will develop online learning initiatives to spark new discoveries and create a dialogue between AAA staff and the Archives’ ever-expanding audience of Web visitors. AAA will continue to engage in fund raising as part of the Smithsonian Institution’s National Campaign, seeking 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 2014 ENACTED	106	34,162	18	1,204	5	2,967	0	2
FY 2015 ENACTED	139	40,648	12	1,344	8	1,764	0	0
FY 2016 REQUEST	139	41,501	11	1,304	7	980	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	14	2,962	14	2,993	0	31
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	3	1,229	3	1,236	0	7
Public Programs						
Provide reference services and information	10	1,498	10	1,520	0	22
Exhibitions						
Offer compelling, first-class exhibitions	13	5,749	13	5,778	0	29
Revitalizing Education						
Education						
Engage and inspire diverse audiences	26	3,230	26	3,288	0	58
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	28	7,468	28	7,531	0	63
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	6	5,209	6	5,765	0	556
Information Technology						
Modernize the Institution's information technology systems and infrastructure	0	2,460	0	2,460	0	0

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	9	1,721	9	1,741	0	20
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	123	1	125	0	2
Modernize the Institution's financial management and accounting operations	2	456	2	461	0	5
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	3	908	3	915	0	7
Modernize and streamline the Institution's acquisitions management operations	6	557	6	570	0	13
<i>Ensuring Financial Strength</i>						
Secure the financial resources required to carry out the Institution's mission	18	7,078	18	7,118	0	40
Total	139	40,648	139	41,501	0	853

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. When completed, the NMAAHC will provide a national meeting place for all 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.

NMAAHC has strategically leveraged private and public support in the effort to open its doors to an eagerly awaiting public in FY 2016. Fully cognizant of the constrained economic environment of the last several years, the Museum has been conservative in its budgetary requests. Nevertheless, with a planned opening quickly approaching, the NMAAHC must continue to increase its programmatic and staffing resources to complete construction of the building and outfit the Museum on schedule. When it opens, NMAAHC will be the first environmentally sustainable, "green" museum on the Mall.

The FY 2016 budget request includes an increase of \$853,000. The increase includes \$310,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$543,000 for increased lease costs, which is further justified in the Fixed Costs section of this budget submission.

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

MEANS AND STRATEGY

NMAAHC's first priority will be to finish the construction and outfitting of the building and open the Museum on the National Mall in FY 2016. This will include fabrication of inaugural exhibitions; acquisition and conservation of the collections for installation in the inaugural exhibitions; procurement of image rights and production of media components; purchase of furniture, equipment, and supplies; and movement of personnel from leased space in Capital Gallery to the new building.

NMAAHC will implement an Information Technology (IT) program that will make the Museum the first fully digital museum on the Mall. For the grand opening, NMAAHC will implement an initial phase of interactive, online, and mobile offerings. The Museum will review user feedback and survey museum trends to refine its existing digital presence and to develop new offerings which will become part of the Museum's comprehensive digital program. Museum-Wide Mobile, an innovative and engaging series of Web-based interactive programs, will be launched, which will connect visitors to collection objects and topics of interest. Both the digital program and the Web-based 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.

The Museum will continue its capital campaign, including a successful national membership campaign, to raise the required matching private funds to finish construction of the new building. Through FY 2016, a major portion of the capital campaign will be directed toward gaining national visibility for the grand opening of the new building. An intensified marketing and public relations campaign will target the media and the general public in major cities across the United States.

The Museum will work closely with Smithsonian Enterprises on the development of mission-related products, publications, and concessions so that NMAAHC will be a fully functioning entity with a cafeteria and shop by the time it opens.

As part of the NMAAHC grand opening, a series of planned programs of high-visibility, public engagement and ceremonial events will occur as early as May of 2015, beginning with the projected installation of the building's corona. Grand opening events will take place throughout mid-2015 to mid-2016.

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 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; and expanding the national collections.

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

In FY 2016, curatorial research will 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, collaborating on two separate, major collaborative projects, will share recent discoveries about the trans-Atlantic slave trade: the African Slave Wrecks Project and the Gorée Island Archaeological Digital Repository. Both are referenced under the strategic goal of Broadening Access and both partnerships have been instrumental in finding artifacts which will be displayed in the inaugural exhibitions.
- 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 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 FYs 2015 and 2016, the Museum will receive and begin indexing millions of digital images of the original records of the Freedmen's Bureau from Family Search. In addition, the Museum will receive a name-searchable database, including more than 1.5 million records that can be linked to the digital images. When complete, it will provide both on-site and online access to one of the largest searchable databases of the names of formerly enslaved individuals, and link those names to original Freedmen's Bureau documents.
- 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 2016, 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.
- In FY 2016, the Earl W. and Amanda Stafford Center for African American Media Arts (CAAMA) will open in the new Museum. A physical and virtual resource within NMAAHC, the CAAMA was created to encourage the preservation and interpretation of photographs, film, video, and other media by and about African Americans. To help celebrate the Museum's opening, the CAAMA will sponsor a city-wide African American film series.
- The Museum will continue to foster new research via Fellows at the pre-doctoral, postdoctoral and senior level. Two publications by former

Smithsonian Institution Fellows, with NMAAHC advisors, will be released in 2016.

- Curatorial staff sit on key standing scholarly committees within the Smithsonian Institution, including the Smithsonian Network Review Committee, the History and Culture Fellowship Committee, and the Advisory Committee for Understanding the American Experience. In FY 2016, Museum staff will lend their expertise to ongoing initiatives and special projects like the Yale/Smithsonian partnership, which will support active engagement with scientists, environmentalists, historians, and students from both institutions.

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 the second half of FY 2015 through FY 2016. The NMAAHC expects to make thousands of high-quality images available to the public via the Smithsonian's Collection Search Center.
 - NMAAHC will launch a new Sojourner Mobile tour. The tour will increase access to scholarship and help translate inaugural exhibition content into engaging and personal experiences for visitors of all ages and knowledge levels. The tour offers customized way-finding, language translation, and accessibility tools. It will have scavenger hunts for families, children and teenagers. An outdoor walking tour will also be offered.
 - NMAAHC will implement a data strategy intended 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 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, 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.
 - NMAAHC will continue to use social media technology to inform and transform its "virtual visitors," and to create and develop a sense of shared community among users.

Exhibitions

- Exhibition design is complete, and exhibition fabrication is under way. Installation of objects and media components will begin in mid-2016.
- Exhibitions will document, examine, and display the history of African Americans from slavery to the present within three principal areas: History, Culture, and Community:
 - **History** will include three exhibitions: *Slavery and Freedom*; *Defending Freedom*, *Defining Freedom: Era of Segregation*; and *Beyond 1968*.
 - **Culture** will include four exhibitions: *Cultural Expressions*; *Musical Crossroads*; *Taking the Stage: African Americans in Entertainment*; and *Visual Arts*.
 - **Community** will include four exhibitions: *Power of Place*; *Sports*; *Military History*; and *Making a Way Out of No Way*.

The NMAAHC has designed and installed the following temporary exhibitions to be presented in the Museum's gallery at the National Museum of American History (NMAH):

- *Through the African American Lens* (May 2015 – Summer 2016) will be the eighth and final temporary exhibition presented in the Museum's gallery in NMAH. The exhibition will be a preview of objects in NMAAHC's collection and will include selections from the photographic and film collections, works of art on paper, and the Black Fashion Museum Collection, among others.

In preparation for the opening of the new Museum, NMAAHC will implement a series of activities and events that will engage constituents around the country and leverage visibility, establishing the Museum as an integral resource to the nation, building on its strong supporter base, and amplifying the opening of the Smithsonian Institution's 19th museum. Other significant projects include:

- **Image Mapping of the Building**

In 2015, there will be a public event and celebration of the building's completion, kick-starting the countdown to the official 2016 opening of the building. This will garner visibility, national public awareness, and excitement for what is to come. It will consist of a special gathering of Museum supporters, followed by a wider public program and "video projection" on all four sides of the building. The video projection, also known as image mapping, will take place on three to four evenings and is expected to draw a broad range of public and media attention.

- **Grand Opening**

The NMAAHC grand opening will include programs of high-visibility, public engagement and ceremonial events occurring as early as May of 2015, beginning with the projected installation of the building's corona. The grand opening events will take place throughout mid-2015 to mid-2016.

Programming will include musical events and public engagement events and VIP receptions. Included will be public and educational programming in the Oprah Winfrey Theater, with a seasonal repertoire of engagements to showcase spoken word performances, small-scale drama plays, literature readings, scholarly conferences, film screenings and musical concerts that will engage and educate the public about the Museum's collections. Specifically envisioned are a series of TED Talks and the debut of the NMAAHC Live! series.

- **2016 Smithsonian Folklife Festival**

As part of the Smithsonian Institution's 2016 Folklife Festival, the NMAAHC will sponsor "Freedom Sounds: Music in Solidarity and Protest." Since the first Africans landed on the shores of the Americas, music has been essential to the African American struggle for freedom and equality. Music, in its many forms, has always acted as a powerful voice in the fight against social injustice and racial oppression, and has pulled people together in the spirit of hope and affirmation. The music of solidarity and protest will be explored in a social-cultural context with performances, activities, narrative sessions and discussions.

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 NMAAHC initiatives involve local, domestic and international stakeholders and constituents. A few include:

- The Florida African American Heritage Preservation Network (FAAHPN), a state-level initiative. NMAAHC supports FAAHPN through collaborative programs and by providing capacity-building training and professional development in critical areas that impact the sustainability of the nearly 50 member institutions in the state. Comparable state-level partnerships that include North Carolina, Georgia, and Virginia have been developed.
- The Association of African American Museums (AAAM). This partnership allows the NMAAHC access to the collective field of African American museums and cultural institutions. 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 work in partnership with Historically Black Colleges and Universities (HBCUs).

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), National Park Service, 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 archeology and archival research related to slave shipwrecks associated with the World Heritage Site at Gorée Island.
- Having been a lead sponsor and presenter for the 2015 conference *Reinventado nuestros Museos / Reinventing our Museums*, with AAM and the Argentine museum and arts organization Fundación TyPA, NMAAHC continues established work around strategic partnership and network development efforts with our South and Latin American sister organizations, focusing on African diaspora communities in particular.

To achieve the strategic goal of Revitalizing Education, the 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:

- target a variety of audiences. Specifically, 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 that support federally mandated heritage celebrations.
- open signature public programming to include NMAAHC Live! This program is in the style of a hosted variety program featuring leaders and provocative topics. NMAAHC will also host TED X Talks on history, culture, and community themes.
- present an on-site and traveling version of the popular *Save Our African American Treasures* exhibit, which will enable the Museum to continue engaging the American public in discovering, collecting, preserving, and sharing the material culture of African American heritage.
- continue pilot student programming on site and via videoconferencing. NMAAHC will offer unique youth programming that allows intimate access to the compelling stories highlighted in the exhibitions and which challenges them

to be active and productive citizens. College on-site and virtual internships will be ongoing during the Museum's opening year.

- work with the staff of the Center for Teaching and Learning to begin building signature programming to support educators nationwide. NMAAHC will build upon successfully piloted educator programs to include the Learning Together Series.

Visitor services staff and volunteers will advance visitor healing and reconciliation as visitors engage with often painful subject matter. In addition, Smithsonian support staff will distribute mobile tour devices, facilitate large crowds and conduct audience evaluation. The current Docent Program will offer the first in-building tours.

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

- The Museum will identify, acquire, and process collections as NMAAHC continues to develop and refine its permanent collections.
- The Museum will expand its oral history program to capture both immediate and in-depth recordings from individuals whose stories and recollections will enhance its collections and research.
- As of FY 2015, the Museum has collected more than 31,000 items, which are housed in the Pennsy Drive facility in Maryland. When completely renovated, this facility will provide the Museum with a multipurpose conservation lab and mount-making shop, and cold-storage capacity.

To achieve the strategic goal of Mission Enabling, the NMAAHC will use its resources to continue to develop its operating organizational structure and make organizational and staffing revisions as necessary to accomplish program goals. Staff will develop estimates of future personnel requirements, space and storage needs, and operating budgets and plans. This includes:

- **Information Technology**

- The Museum's newly created Information Technology (IT) Department will support the NMAAHC's mission to be a leader in providing accessible digital records of collections, interactive exhibitions, education outreach and accessible scholarly research.

- **Management Operations**

- The Museum will direct resources to efficiently administer and manage the expanded functions associated with increased staffing, purchasing and

contracting, and budget and financial management, as well as implement and manage major new initiatives in IT and facilities management.

- The Museum will fill the numerous staff openings required to ready the new building for its grand opening.
- The Museum will work with Smithsonian Enterprises to develop mission-related products, publications, and concessions so that the gift shop and cafeteria are operating during the grand opening.

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

- A key strategy in FY 2016 is leveraging the anticipated opening of the Museum to drive fund raising for the building. The funds used for cultivating and soliciting donors will help the Museum reach its goal in this final phase of the campaign. Funds used for pre-opening activities and events will heighten public awareness of the Museum and will serve as a catalyst for donors.
- NMAAHC will continue to direct its resources to support an expanded national visibility campaign. In preparation for the grand opening, the Museum's Public Affairs Department will engage two strategic communications firms to design and implement an intensified marketing and public relations campaign, targeting the media and the general public in major cities across the country. This would include a possible national advertising campaign and public events in targeted cities around the country. The Museum will also work with an acclaimed documentary producer who will document the "Making of the Museum," capturing significant milestones in the Museum's development.
- The Museum will continue to expand its national membership program in preparation for the opening of the new building. The membership program currently has approximately 72,000 charter members across the country, and will continue to leverage this membership body in support of building the Museum.

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 2014 ENACTED	158	21,381	25	3,655	43	8,393	0	1,191
FY 2015 ENACTED	158	21,767	32	4,000	50	9,300	0	400
FY 2016 REQUEST	163	23,117	35	4,250	55	9,600	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	20	2,865	20	2,915	0	50
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	13	1,685	13	1,735	0	50
<i>Public Programs</i>						
Provide reference services and information	12	1,845	12	1,895	0	50
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	46	6,212	46	6,220	0	8
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	8	1,030	8	1,130	0	100
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	40	5,302	45	6,402	5	1,100
Mission Enabling						
<i>Facilities</i>						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	1	222	1	229	0	7
Execute an aggressive, long-range revitalization program and limited construction of new facilities	1	226	1	181	0	-45
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	120	1	125	0	5

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Information Technology						
Modernize the Institution's information technology systems and infrastructure	4	775	4	780	0	5
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	2	342	2	347	0	5
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	343	3	348	0	5
Modernize the Institution's financial management and accounting operations	7	800	7	810	0	10
Total	158	21,767	163	23,117	5	1,350

BACKGROUND AND CONTEXT

The National Museum of American History (NMAH), Kenneth E. Behring Center, inspires a broader understanding of our nation 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 in order 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?

Approximately 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 physical revitalization of the NMAH continues in 2015 with the renovation of the Museum's West Wing. The revitalization is a multiphased effort that includes constructing new public spaces, redefining the visitor experience, modernizing and clarifying circulation, providing amenities, and bringing the Museum into compliance with current building codes. Following some unexpected construction delays, the physical revitalization of the West Wing construction will be completed in 2015 and includes three public floors and a mechanical room located on the fourth floor, totaling approximately 120,000 square feet.

The Museum will revitalize and refresh 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 will open to the public in the summer of 2015, will focus on the theme of American innovation and enterprise; the second floor will focus on two essential American stories — the origins of the American people and the evolution of their democracy; and the third floor 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 West Wing exhibits and programs that will captivate visitors with compelling stories, invaluable objects, state-of-the-art media, public plazas 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 \$89 million to \$150 million for the West Wing exhibits and programs will leverage the federal investment in the building renovation.

The FY 2016 budget request includes an increase of \$1,350,000 and 5 FTEs. The request includes an increase of \$450,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a program increase of \$900,000 and 5 FTEs for new curators to strengthen the Museum's scholarly foundation.

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, public 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 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, 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, multifaceted story, drawing on many strands, and illuminating a multitude of people, ideas, and experiences.

For example, in partnership with the Maryland Historical Society, in 2014 the Museum brought together, for the first time, the Francis Scott Key manuscript with the garrison flag that inspired Key's words "at dawn's early light," to commemorate the 200th anniversary of his writing "The Star Spangled Banner," which is itself on permanent display at the NMAH. This uniting of flag and song for the first time inspired our visitors to learn more about the origins of our national anthem, as well as the events and objects that inspired Key on that early morning.

To reach the entire nation with this compelling story, the Museum did extensive public outreach and public programming focused on the national anthem, titled *Raise It Up! Anthem for America*. This effort culminated in a live national concert by the Air Force band and multiple choruses, held on the National Mall and broadcast across the country. Together, individuals, organizations and municipalities from more than 115 American locations, including towns, associations, businesses, government, and religious organizations, and people from all walks of life joined in singing "The Star-Spangled Banner" on Flag Day, June 14.

Several major new exhibitions on the first floor will open in July of 2015. These include the following:

- An exhibition on ***Inventing in America***, which we are developing jointly with the U.S. Patent and Trademark Office. It will highlight the role the federal Government plays in fostering innovation through the issuance of patents and trademarks. It will include objects related to significant innovations from the early history of the nation to the present. These will range from Samuel Morse's telegraph and Thomas Edison's light bulb to the Apple I computer and the first digital camera. Finally, it will show the actual workshop of Ralph H. Baer, the man who invented the first video game system.
- ***American Enterprise*** will examine the business and consumer history of the United States from the 1770s to the 2010s. Visitors will learn how the nation's economy has been shaped by the dynamic interplay between capitalism and democracy, which results in the common good. They will see that innovation, opportunity, competition and the common good play

integral roles in the nation's history and form the underlying themes of America's business.

- ***Places of Invention*** will feature six American communities representing a surprising array of people, places, time periods, and technologies. The exhibition examines what can happen when the right mix of inventive people, ready resources, and inspiring surroundings come together to create "hot spots" for invention and innovation.
- ***The Value of Money*** will be a new permanent display to showcase objects from the National Numismatic Collection. The display will explore the many ways that money has been valuable to society throughout history: as an innovative medium of exchange for goods and services; as artifacts that document and communicate messages about the societies that produced them; and as objects of intrinsic value and artistic expression. The Museum plans to mount the exhibit so that visitors to the gallery will experience the sensation of stepping into a jewel box of captivating treasures and surprising stories.

In addition, in 2015, consistent with the innovation and invention theme, the Museum will open a small exhibit about 19th century sound recording inventions from Alexander Graham Bell's Volta Laboratory in Washington, DC. The gallery will offer an opportunity for the Museum's visitors to see some of the laboratory notes and apparatus from the 1880s, and hear some of the earliest sound recordings ever made. The Museum's ability to address the Volta Lab contributions in new ways is made possible by new sound recovery techniques developed by the Lawrence Berkeley Laboratory staff in partnership with the Library of Congress. Recovering sound from the six Volta discs is the first step in an ongoing project to preserve and catalogue the Museum's early recording collection.

Also in 2015, the NMAH is commemorating the 150th anniversary of the death of President Abraham Lincoln through a partnership with Ford's Theatre. The carriage that the Lincolns and their guest rode to the theatre will be on display this spring at the Museum, and Ford's Theatre and the Museum will collaborate on a series of public programs and the exhibit ***Silent Witnesses: Artifacts of the Lincoln Assassination***.

The NMAH will be opening the second floor of the West Wing in 2016. In preparation for that event, Museum staff are engaged in scholarly research, object collection and conservation, exhibit design 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. Plans are under way for four programmatic spaces: American Democracy: A Great Leap of Faith; Many Voices, One Nation; Liberty Square; and the Taubman Changing Gallery.

In addition, the NMAH contributes to the discussion of the American Experience through its ongoing scholarship and research. In 2015, Museum scholars will produce more than 20 new publications, including books, articles and musical recordings. Listed below are four examples:

- David K. Allison, Nancy Davis, Kathleen G. Franz, and Peter Liebhold. *American Enterprise: A History of Business in America*. Washington: Smithsonian Books.
- Helena Wright. *The First Smithsonian Collection: the European Engravings of George Perkins Marsh and the Role of Prints in the U.S. National Museum*. Washington: Smithsonian Institution Scholarly Press.
- Paul Johnston. *Cleopatra's Barge in Hawaii*. College Station, Texas: Texas A&M Press.
- Matthew Hoffman, Harry Rubenstein, and David Ward. *The Mind Behind the Mask: 3D Technology and the Portrayal of Abraham Lincoln*. Washington, DC: Smithsonian Institution. Available in the iTunes store in February of 2015.

In FY 2016, highlights of scholarly publications include:

- Ellen R. Feingold. *The Value of Money*. Washington: Smithsonian Institution Scholarly Press.
- 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.
- Steven Turner. *The Science of James Smithson*. 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 2015, the Museum will continue executing its collection stewardship plan by completing collections inventories of 30,000 objects. Inventories will be performed for: 10,000 objects from the Firearms and Edged Weapons Collection; 10,000 objects from the Ceramics and Glass Collection; 5,000 objects in the

Musical Instruments Collection; and 5,000 objects in off-site storage. All records will be captured in the Museum's collection information system. Through rapid data capture, the Museum will digitize between 200,000 and 250,000 certified proofs from the numismatics collection and create matching collections system records that meet inventory standards. Long-standing concerns about collections access and accountability issues, as well as staff health and safety concerns, will be addressed by remediating lead contamination and substandard storage of collections in Garber Building 15. NMAH will also start developing a plan to address object contamination, accountability issues, and storage deficiencies in Garber Building 18. The Museum will export 150,000 collection records to the Smithsonian Collections Search Center to be available to the public through the Web.

For FY 2016, the Museum will inventory 20,000 objects from the Ceramics and Glass Collection and the Medicine and Science Collection. The plan to address Garber Building 18 collections' contamination, accountability, and storage issues will be completed, and implementation will start. In addition, 5,000 collection records will be exported to the Smithsonian Collections Search Center.

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 2015, the Museum will open its groundbreaking learning space, "Object Project." The new space, along with a high-tech conference center and demonstration stage, will provide visitors with active, hands-on experiences to help them develop a better understanding of the role objects, and their use by individuals, play in illustrating America's ongoing story. It will be an inspiring experience that offers both adults and children new ways to think about everyday objects. The combined spaces make up the Museum's Education Center, which represents a major commitment to improving history education and helping the nation understand the American Experience.

The Museum will also be reopening Spark!Lab, a learning space for elementary school children and their families to engage in the history and process of invention and explore their inventive creativity. Visitors at Spark!Lab will be able to create, innovate, collaborate, and solve problems; in the process, developing the skills they need to succeed today and in the future. For the opening, activities and objects will focus on things that roll, make sound, and help us see.

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 2015, the Museum will expand its outreach to teachers and students by launching its first iBook and its first learning game, *Ripped Apart: A Civil War Mystery*.

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

The Museum will continue its successful *Raise It Up!* initiative in the summer of 2015 with special programming highlighting American innovation and ingenuity to complement the opening of the new West Wing exhibits. The Museum will celebrate the diversity and creativity of the American people through events that explore America's role in global innovation, a citizenship ceremony celebrating new ideas and energies contributed by our new citizens, and a digital outreach campaign that asks all Americans to consider what makes their community a place of invention and innovation.

In FY 2015, the Museum will also explore the theme of innovation and invention through extensive programming focused on the areas of food, music and theater. The Museum's first floor of the West Wing will include a demonstration kitchen that will feature food demonstrations, discussions about America's food system—from field to table—and special cooking programs. The Museum's music program will highlight the legacy of innovation through American music, particularly through its extensive jazz program. The theater program will include the premiere of a new Smithsonian film that provides a concise chronological overview of American history. In 2015, the Museum will also launch the groundbreaking *What it Means to Be American* series, a national, multi-platform conversation that will bring 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 2016, 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. Signature program offerings that will explore and celebrate our American identity include *Raise It Up!* and the continuing *What it Means to Be American* series.

The Museum will be opening **Wonderplace**, an early learning gallery, in 2016. The gallery will combine 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.

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 share its resources with more than seven million people.

Goal: Revitalize and Expand Our Staff, Board, 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 the Smithsonian Office of Facilities Engineering and Operations. Construction of the West Wing is expected to be complete in the winter of 2015, allowing for the fabrication of new exhibits and public spaces that will reopen on the first floor of the West Wing in the summer of 2015 and the second floor in 2016. While the renovation is occurring, NMAH curators are researching and developing major new exhibitions that will explore the American Experience.

Over time, the NMAH has sustained a serious loss of key staff positions. During the last 20 years, the Museum has lost 50 percent 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 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 immigration to and migration from America, which will result in a new exhibit at the NMAH. Furthermore, the NMAH has extremely active internship and Fellowship programs, hosting more than 168 interns and 14 Fellows in FY 2014. The Museum is committed to raising funds for endowed curator positions as part of its continuing fundraising efforts for exhibits and programs.

EXPLANATION OF CHANGE

For FY 2016, the budget request includes an increase of \$1,350,000 and 5 FTEs. The request includes an increase of \$450,000 for necessary pay and a programmatic increase of \$900,000 and 5 FTEs for Collections Scholarship, as detailed below.

Collections Scholarship (+\$900,000, +5 FTEs)

The budget request includes an increase of \$900,000 and 5 FTEs for additional curators. 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 the areas of Agricultural History, Asian Pacific American History, Engineering History, Labor History, and Military History. These are areas in which the Museum needs expertise to manage its current collections, expand its collections to new areas, and provide the scholarly capability 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.

NONAPPROPRIATED RESOURCES — General trust funds support salaries and benefits for 38 percent of NMAH staff — administrative, development, special events, actors, 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 approximately 75,000 square feet of exhibit and program space in the ongoing West Wing renovation project.

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 2014 ENACTED	216	31,293	2	1,119	21	3,380	0	29
FY 2015 ENACTED	216	31,444	2	1,674	21	5,757	0	1,412
FY 2016 REQUEST	216	32,077	2	1,350	21	4,930	0	1,709

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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Ensure the advancement of knowledge in the humanities	15	2,274	15	2,332	0	58
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	6	1,081	6	1,099	0	18
Public Programs						
Provide reference services and information	25	3,543	25	3,619	0	76
Exhibitions						
Offer compelling, first-class exhibitions	34	5,883	34	5,983	0	100
Revitalizing Education						
Education						
Engage and inspire diverse audiences	41	4,889	41	4,988	0	99
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	26	3,695	26	3,770	0	74
Mission Enabling						
Facilities						
Improve the overall cleanliness and efficient operation of Smithsonian facilities	13	1,864	13	1,888	0	24
Security and Safety						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	1	121	1	124	0	3

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	14	2,463	14	2,513	0	50
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	25	3,799	25	3,882	0	84
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	2	180	2	185	0	5
Modernize the Institution's financial management and accounting operations	8	930	8	954	0	24
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	2	291	2	298	0	8
Modernize and streamline the Institution's acquisitions management operations	4	431	4	442	0	11
Total	216	31,444	216	32,077	0	633

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 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 2016 budget request includes an increase of \$633,000. This includes \$583,000 for necessary pay and other related salary costs for existing staff funded under this line item and an increase of \$50,000 for Exhibits Maintenance.

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 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 consultation, Web-based technologies, video conferences, internships, seminars, 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 the 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 centers 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 September of 2015, the Museum will open 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, implementing the goals of the Smithsonian Institution, 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 2016 budget request includes an increase of \$633,000. The increase includes \$583,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$50,000 for Exhibits Maintenance, as detailed below.

Exhibits Maintenance (+\$50,000)

The \$50,000 for exhibits maintenance will ensure that the Museum's exhibitions are clean and in good repair, and that the media components are fully operational and up to date. The mere presence of record numbers of visitors results in increased wear and tear to displays within the halls, and increases the cost to maintain them. In addition, the increasingly interactive nature of today's exhibits increases maintenance needs. The requested funds will maintain our exhibits at the standard that is expected of a world-class museum. Specifically, the Museum will replace worn and dirty carpet and improve exhibit lighting by replacing outdated lighting tracks and fixtures with LED fixtures. The LED fixtures last longer and use less power, resulting in significant energy savings and reduced personnel costs.

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 2014 ENACTED	55	5,943	3	1,014	9	1,964	0	0
FY 2015 ENACTED	55	5,997	3	1,119	16	2,434	0	0
FY 2016 REQUEST	56	6,448	3	1,544	16	2,652	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	3	357	3	362	0	5
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	2	276	2	279	0	3
<i>Public Programs</i>						
Provide reference services and information	4	555	4	559	0	4
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	18	1,798	18	1,926	0	128
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	7	707	7	722	0	15
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	14	1,620	15	1,911	1	291
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	1	157	1	158	0	1

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	1	89	1	90	0	1
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	128	1	129	0	1
Modernize the Institution's financial management and accounting operations	2	169	2	170	0	1
Modernize and streamline the Institution's acquisitions management operations	2	141	2	142	0	1
Total	55	5,997	56	6,448	1	451

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 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 2015 include:

- *Elaine de Kooning: Portraits* — Elaine de Kooning (1918–1989) made both abstract and figurative paintings and drawings during the height of the Abstract Expressionism movement in New York City. Her colorful, fluid and gestural portraits include poet Allen Ginsberg, critic Harold Rosenberg, President John F. Kennedy, and her husband, painter Willem de Kooning. This exhibition will examine the gender dynamics surrounding her career, and will offer a new look at her work as well as her artistic process.
- *Eye Pop: The Celebrity Gaze* — Drawn from the NPG's permanent collection, this exhibition will explicate celebrity through the lens of achievement, considering the separate roles of the subject, artist and viewer in creating, and experiencing, the celebrity gaze. The varying range of subjects includes

politicians Barney Frank, and Condoleezza Rice, Supreme Court Justice Sonia Sotomayor, entertainers Renée Fleming, Daniel Dae Kim, and Katy Perry, plus cultural entrepreneurs, scientists, and athletes. This exhibition also features the NPG premiere of two recently commissioned, time-based media portraits: Luke Du Bois' generative video of Google founders Sergey Brin and Larry Page, and Bo Gehring's video portrait of jazz musician and vocalist Esperanza Spalding.

- *From Token to Ornament: Indian Peace Medals and the McKenney-Hall Portraits* — This exhibition pairs a selection of presidential peace medals with 13 prints of Native Americans in traditional dress wearing the medals, along with their own cultural decorative elements. The hand-colored lithographs come from Thomas McKenney and James Hall's *History of the Indian Tribes of North America* (1837–1844), an ambitious publication combining printed portraits with short biographical sketches of each individual.
- *One Life: Dolores Huerta* — The mid-1960s saw the rise of the first successful farm workers' movement in U.S. history. Led by Cesar Chavez (1927–1993) and Dolores Huerta (born 1930), farm workers from California organized to make their plight known across the country. This exhibition focuses on the years 1962–1975, bringing to the forefront Huerta's particular contributions on behalf of the farm workers.
- *Dark Fields of the Republic: Alexander Gardner Photographs, 1859–1872* — Gardner was the author of the first American photographic book and a leading contributor of photographic views to the illustrated press. The exhibition will encompass his earliest photographs, taken while employed with Mathew Brady, through his later work in the American West. As our final exhibition in a series of presentations commemorating the 150th anniversary of the Civil War, particular focus will be given to Gardner's Civil War photographs and his special relationship with President Lincoln.

The NPG will also send on tour its acclaimed exhibition *Portraiture Now: Staging the Self*, exploring the art of portrayal as seen through the eyes of six Latino and Latina artists, to the Americas Society in New York City. From there, the exhibition will continue on to the National Hispanic Cultural Center in Albuquerque, New Mexico, with a possible third venue elsewhere as well.

The NPG uses the Web as well as social media to build its virtual audience around the globe. NPG websites receive about 3.0 million visits annually, with new content added regularly. The NPG's Face to Face blog has been viewed by 150,000 readers since its launch in 2007, and the 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 60,000 followers, a nearly fivefold increase in two years. Currently, the NPG has more than 130 videos available, adding 25 new works annually, on YouTube, iTunes, iTunesU, and ArtBabble; these videos

have been downloaded by 2.5 million viewers. The Google Art Project continues to bring highlights of the NPG's collection to a vast worldwide audience, and the NPG is planning online exhibitions created in conjunction with Google's Cultural Institute in FY 2015. The NPG will implement Maphook, an application to show visitors the geographic diversity of artist entrants in the 2016 Outwin Boochever Portrait Competition. The NPG will supply two further releases of approximately 150 images to the Oxford University Press online edition of the *American National Biography*. In addition, the NPG will initiate the first phase of its "open-access" policy to provide public-domain, digital images free of charge and within 24 hours of a request.

In the spring of 2015, the NPG will launch a redesigned website that is fully scalable and available across all platforms and browsers. Rooted in the underlying objective to develop a unified presence for all NPG websites, the redesigned website will also democratize access to the NPG's collections and scholarship with a more accessible and user-friendly Collections Search. The new search engine will provide a gateway to the NPG collection, with best-of-class search aids and navigation successfully combined with social media tools for commenting, tagging and sharing. The NPG will partner with Apple to lay the groundwork for the future development of location-based technologies.

In FY 2015, the NPG will produce a catalogue to complement its *Elaine de Kooning* exhibition, and publish an updated edition of its signature *Portrait of a Nation* volume, a pictorial guide to highlights of its permanent collection.

The NPG is implementing its Teen Museum Council. "For teens, by teens" is the mission of this program. At council meetings, teens will learn about museum careers while developing programs and social media strategies for engaging their peers. The NPG will reach more educators by offering two multi-day teacher workshops, with classroom-ready lessons and activities for teaching American history. This national outreach for educators continues with the NPG's newly formed Teacher Advisory Board. These teachers contribute their professional perspective on new methods to reach beyond the NPG's physical galleries and disseminate NPG collection images and lesson plans to educators throughout the United States. The NPG is coordinating efforts with the Smithsonian office of Accessibility to add training for floor staff and volunteer programs. The NPG is also increasing its production of artwork labels in large type fonts and producing special exhibition labels in Spanish.

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 is increased through the creation and distribution of digital images of the artworks. The NPG has approximately 7,700 high-resolution images of collection objects on the Smithsonian Digital Asset Management System (DAMS), a 50 percent increase from the previous year, and the NPG is a leader in the Institution 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 1,500 prints and photographs in collaboration with the Smithsonian's Digitization Program Office, using new rapid-capture technologies.

Budgetary resources are also used for Mission Enabling activities such as administration and operations. The NPG strives to understand the distinct and evolving needs of the public, communities, and stakeholders that the NPG serves, and then support the program delivery to meet these needs by honing its abilities in information technology, procurement, human resources and financial management, business activities, and strategic planning.

The FY 2016 budget request includes an increase of \$451,000 and 1 FTE. The increase includes \$121,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$180,000 and 1 FTE for Collections Scholarship and \$150,000 for Exhibits Maintenance.

MEANS AND STRATEGY

In FY 2016, 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 2016 will feature the following:

- *Outwin Boochever Portrait Competition 2016* — The fourth installment of this triennial juried portrait competition will see the finalists from the more than 2,500 entrants selected in September 2015. The competition is open to all visual art mediums and the top finalist receives a commission for the Portrait Gallery collection. Venues are being sought for mounting a tour of the resulting exhibition through 2018.
- *Daguerreian Doubletakes* — This themed installation in the Daguerreian Gallery will highlight the depth of the NPG's early photography collection by presenting seven pairs of images for Jenny Lind, Zachary Taylor, Frederick Douglass, 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 for public consumption versus those produced as personal keepsakes.
- *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 will

include prints and photographs of Ruth, personal paraphernalia, and advertising memorabilia endorsed by Ruth, and conclude with a look at the baseball greats who chased and broke Ruth's long-standing records.

- *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 galleries newly renovated for the installation of time-based artworks.

In addition to the special exhibitions, the NPG will begin the preparations for a major reinstallation of the *America's Presidents* galleries in 2017. 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 fall 2018.

In FY 2016, the NPG will address the strategic goal of Broadening Access by continuing to digitize imagery of most of its permanent collection. Those works of art in the public domain will be made available through the website in medium and high resolution. The NPG will align its image management practices with the "open access" policies being adopted by museums and universities worldwide. Images will be free to use, fully downloadable, and license-free, providing an immense benefit to scholars, artists, and educators across disciplines and around the world. The NPG plans to have all label material in its galleries available in Spanish, French and English via mobile websites accessed from portable digital devices. With Apple's iBeacon technologies, the NPG will supplement a visitor's live experience with digital content, including curatorial interpretation, audio, and video. The NPG will also continue to work with the latest Google applications, including Google Hangouts that enables Smithsonian curators and historians to have fully interactive communications with their counterparts in other museums worldwide.

The NPG annually upgrades its Collections Information System to better fulfill the research purposes of Smithsonian staff, diverse academics from around the world, and the public. Meanwhile, the NPG Catalog of American Portraits will add 1,500 new portrait records to its research database and Web interfaces.

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 beginning an 18-month conservation treatment of the George Washington Lansdowne portrait, related to the reinstallation of the *America's Presidents* galleries.

Building off the pilot project in 2015, NPG will commence a full-scale rapid-capture initiative for all collection objects, beginning with two-dimensional works.

The NPG will bring innovative efforts to Excellent Research as it begins the Center for Visual Biography (CVB). Aimed at bolstering “intellectual capital” in the development of the NPG’s exhibitions and the expansion of its educational mission, the CVB will bring recent scholarship and new ideas from around the United States and abroad to the Smithsonian. In future years, its public offerings will expand to include a biannual award for excellence in biography, in both visual and verbal forms, and self-portrait series providing incisive interviews with living scholars and influential individuals.

NPG efforts in Revitalizing Education in FY 2016 will develop and present new programs for different age groups and audiences. Expanding teen programs will revolve around themes of identity. Members of vision- and hearing-impaired audiences will be served by custom-designed tours and programs. For teachers and educators, NPG will design and conduct challenge-based professional development programs, with an emphasis on the practical application of multi-day and multi-disciplinary workshops. The NPG’s Teacher Advisory Board will operate at its full capabilities in its second year, leveraging the expertise of these educators to expand the national reach of the NPG. The NPG will continue to present its other popular educational programming, including Pop Quiz, films in the courtyard, and Family Days events. The NPG will also continue presenting historians and artists in the galleries and in the McEvoy Auditorium, the latter enhanced with an audio induction loop hearing system to improve accessibility for hearing-impaired guests.

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 2016 budget request includes an increase of \$451,000 and 1 FTE. The increase includes \$121,000 for necessary pay and other related salary costs for existing staff funded under this line item, and programmatic increases of \$180,000 and 1 FTE for Collections Scholarship and \$150,000 for Exhibits Maintenance, which are detailed as follows.

Collections Scholarship (+\$180,000, +1 FTE)

The increase includes \$180,000 and 1 FTE for an additional curator. The National Portrait Gallery lost three curatorial positions in the last three years, out of an original total of seven positions. It is essential that the NPG replace these curators to maintain support for the highest level of research, exhibitions and publications. The NPG’s photographic collection is a key concern: currently growing at a greater rate

than all other NPG collections combined; since 2003, photographic acquisitions alone have accounted for 57.5 percent of the total number of objects entering the Museum's collections. This growth has been fueled by two goals: the NPG's high-priority commitment to better reflect and portray the diversity of the American experience by collecting and exhibiting portraits of minorities and previously unrepresented individuals who have influenced the course of our history, and shaped our national identity, as well as our commitment to acquiring contemporary figures of achievement. Because photographs are often the best means by which such individuals can be effectively represented in the NPG, it is anticipated that the growth of the NPG's photographs collections will continue to outdistance that of the Museum's other collections. The significant expansion in the NPG's photographic holdings is reflected in the increased use of photographs in the NPG's core installations as well as special exhibitions. Only a replenishment of the NPG curatorial ranks and appropriate funding to support research and exhibition development will realize these important projects to advance the nation's visual depictions of its citizenry.

Exhibits Maintenance (+\$150,000)

An additional increase of \$150,000 for Exhibits Maintenance will ensure that the NPG's permanent collection galleries are in good repair, use the latest interior illumination devices to reduce energy consumption and expenses while doing the least harm to light-sensitive artworks, and keep the media components fully operational and up to date. Millions of visitors come to the NPG to see the countless portraits of Americans who have shaped the nation, including those in the moving and historically important artworks in *American Origins* and *America's Presidents* halls. Attendance in these numbers unavoidably results in increased wear and tear to displays within the halls, the walls, and floors and carpets. The NPG is also ahead of many museums in the collection of time-based media artworks, created with the latest video and digital technologies, to display portraiture by the current generation of artists. Most significantly, the NPG will upgrade its gallery lighting with LED fixtures that last longer and use less power, resulting in significant energy savings and rivaling natural light without the harmful effects to paintings and works on paper. The NPG will also redesign two of its galleries for the regular display of time-based media artworks, including contemporary portraiture that requires projection and computer hardware to be displayed.

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.

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 2014 ENACTED	6	1,052	6	629	4	629	18	3,218
FY 2015 ENACTED	6	1,073	4	650	2	875	18	3,245
FY 2016 REQUEST	6	1,216	4	560	2	1,095	18	3,245

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

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	87	1	90	0	3
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	158	1	258	0	100
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	315	0	343	0	28
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	0	0	5	0	5
Total	6	1,073	6	1,216	0	143

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 programs which educate the public on the history of America, transportation, 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 recently completed *William H. Gross Stamp Gallery*.

The budget request includes an increase of \$143,000. The request includes \$15,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$28,000 for increased lease costs of existing space, which are both justified in the Fixed Costs section of this budget submission. The budget request also includes a programmatic increase of \$100,000 for Exhibits Maintenance.

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 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 the operation of the Museum.

In FY 2016, the Museum's Education Center, part of the *William H. Gross Stamp Gallery*, will enter its third 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. NPM's signature EdLab provides innovative training programs for educators and is designed to support the inclusion of digital media and project-based programming, using classroom teaching and field trips. 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.

In FY 2016, the Museum will continue to display the one-cent Magenta British Guiana stamp, the rarest and most valuable stamp in the world. The stamp, which is on loan to the Museum for three years, will also be displayed at the International Stamp Show in New York City in May of 2016.

Also, in FY 2016, the Museum will open a temporary exhibition that will commemorate the 100th anniversary of the founding of the National Park System. The story will be told through stamps and original art created for stamps commemorating National Parks. Objects include the 1935 series of imperforate sheets of National Park Service stamps that were obtained by Postmaster General James A. Farley from the Bureau of Engraving and Printing. The imperforate sheets, which were not available to stamp collectors, sparked a controversy in the philatelic world and became known as “Farley’s Follies.” The Bureau later reprinted the stamps in imperforate form and made them available to the public. The exhibit will also include the childhood stamp album of Ansel Adams, whose photographs of the American West and, in particular, Yosemite National Park, contributed to the expansion of the National Park System. The exhibit will also include many pieces of original stamp art from the Postmaster General’s collection.

The NPM’s federal resources are primarily dedicated to improving the stewardship of the national collections for present and future generations. In FY 2016, 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 access by the public.

A major initiative to improve accessibility to off-site collections will remain a Museum priority. In FY 2016, 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 result in the removal of 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.

In FY 2016, 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. The NPM will continue to re-house and conserve the collection, and make it available to the public through online exhibitions and through the Museum’s loan program to other museums across the country. In addition, the Museum will continue to process three archival collections related to the PMG collection.

Also, in FY 2016, 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 fall outside the scope of the collection or which 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 10 years old and showing signs of obsolescence.

EXPLANATION OF CHANGE

The budget request includes an increase of \$143,000. The request includes \$15,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$28,000 for increased lease costs of existing space, which are both justified in the Fixed Costs section of this budget. The budget request also includes a programmatic increase of \$100,000 for Exhibits Maintenance, as detailed below.

Exhibits Maintenance (+\$100,000)

The \$100,000 for exhibits maintenance will ensure that the Museum's exhibitions remain clean and in good repair, and that the media components are fully operational and up to date. The requested funds will enable the NPM to maintain exhibits at a standard that is expected of a world-class museum. Specifically, the Museum will paint and refresh several of its gallery spaces and replace exhibition graphics, murals, and panels. Upgraded software changes will be made to several interactive exhibits, and outdated projectors will be replaced with large flat screens. Exhibit lighting will be improved by replacing outdated lighting tracks and fixtures with LED fixtures. The LED fixtures last longer and use less power, resulting in significant energy savings and reduced personnel costs.

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 2014 ENACTED	88	9,391	7	1,753	30	6,452	1	107
FY 2015 ENACTED	88	9,474	8	1,453	31	10,656	2	125
FY 2016 REQUEST	89	10,005	8	1,347	35	8,567	2	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	7	680	7	728	0	48
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	6	615	6	628	0	13
<i>Public Programs</i>						
Provide reference services and information	14	1,513	14	1,545	0	32
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	22	2,494	22	2,671	0	177
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	300	3	325	0	25
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	20	2,259	21	2,462	1	203
Mission Enabling						
<i>Security and Safety</i>						
Provide a safe and healthy environment	1	80	1	81	0	1
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	2	135	2	138	0	3

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	13	1,398	13	1,427	0	29
Total	88	9,474	89	10,005	1	531

BACKGROUND AND CONTEXT

The Smithsonian American Art Museum (American Art) 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 American Art and the National Portrait Gallery) and the Renwick Gallery, dedicated to American crafts and decorative arts.

To achieve the strategic goal of Excellent Research, American Art 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, smart phones, tablets, 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. 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 broad, 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 2016 budget request includes an increase of \$531,000 and 1 FTE. The increase includes \$199,000 for necessary pay for existing staff and \$2,000 for rent escalation. Both increases are included in the Fixed Costs section of this budget request. The total increase also includes programmatic increases of \$180,000 for Collections Scholarship and 1 FTE and \$150,000 for Exhibits Maintenance.

MEANS AND STRATEGY

Research on the collections and related topics by curatorial staff continues in support of exhibitions and the permanent collection, including six new exhibition catalogues scheduled for publication in FY 2016. 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 also will feed into educational programs as well as the Web and new media.

Nearly three-fourths of American Art's collection already is 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 and 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.

Six exhibitions are planned for FY 2016 at American Art. Major exhibitions at the DWRC include: *Modernism in the US and Aboard, Irving Penn Retrospective, Romaine Brooks, and Martin Puryear*. The Renwick Gallery will reopen in 2016 after a much-needed renovation. The opening exhibition, *Wonder*, will feature commissioned installations by eight artists spread over two floors. This will be followed by the next installment of the *Renwick Craft Invitational*. After the opening exhibition closes, items from the permanent collection will be installed. The well-received rotating exhibit *Watch This!* will showcase video and new media art from the Museum's permanent collection. There also will be a major reinstallation from the folk art collection in the DWRC.

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 2015, the Museum completed the reinstallation of its third-floor permanent collection galleries, and will reinstall the folk art galleries on the first floor in FY 2016. 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 *The Art of Video Games*, which finally ends its multi-year sojourn, and *Our America: The Latino Presence in American Art* that continues to crisscross the continent. The Irving Penn retrospective starts touring late in 2016. Interactive exhibition components continue evolving to keep pace with proliferating information conduits. In addition, whenever possible, American Art honors requests by other museums for loans from the national collection.

American Art engages a diverse audience 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 quickly 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. American Art continues to develop its highly successful distance-learning program that reaches classrooms worldwide. A third videoconference center, within the MacMillan Education Center, enables American Art to serve more students than ever before. Partnerships with Government agencies such as the National Park Service and National Archives and Records Administration expand the Museum's reach to more diverse audiences. The intern program, hosting 36 students this past year (from 22 states, Washington, DC, Denmark and Russia), will prepare the next generation of museum professionals. The Museum, as part of its educational initiative, again will host two institutes for nearly 60 teachers (last year representing 22 states and Washington, DC.)

The safe storage and display of collection objects remains a top priority. American Art 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 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 renovation of the Renwick Gallery will make it the first all LED Museum in the United States. 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 American Art 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 proactive implementation and use of safer techniques and materials for both staff and the Museum environment.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$531,000 and 1 FTE. The increase includes \$199,000 for necessary pay for existing staff and \$2,000 for rent

escalation. Both increases are included in the Fixed Costs section of this budget request. The total increase also includes programmatic increases of \$180,000 for Collections Scholarship and 1 FTE and \$150,000 for Exhibits Maintenance, which are detailed as follows.

Collections Scholarship

The budget request includes an increase of \$180,000 and 1 FTE for an additional curator. American Art'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. Over time, 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, this position will fill the need for a Latino art curator to build the national collection as well as plan future exhibitions.

Exhibits Maintenance

The \$150,000 request for exhibits maintenance will ensure that American Art's exhibitions are clean and in good repair, and that media components are fully operational and up to date. However, the exhibition spaces take a beating and the increasingly interactive nature of today's exhibits as well as collection items increases maintenance needs. The requested funds will maintain our exhibits at the standard expected of a world-class museum. Specifically, American Art will upgrade multi-media components and, more importantly, improve exhibit lighting by replacing outdated lighting tracks and fixtures with LED elements. American Art is a world leader in the use of LED lighting in art museums. LED fixtures last longer and use less power, resulting in significant energy savings and reduced labor costs.

NONAPPROPRIATED RESOURCES — Nearly all of American Art'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. American Art's National Campaign is putting 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.

The Renwick Gallery's renovations, started in 2014, will be completed in FY 2015. Following renovation of the Gallery, reinstallation of the permanent collection and new opening exhibitions will occur in FY 2016. The Museum has raised half of the funds for the renovation from the private sector.

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**
- **Office of Exhibits Central**
- **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 2014 ENACTED	65	9,121	41	6,418	6	4,917	11	5,290
FY 2015 ENACTED	65	9,150	40	6,105	3	4,337	11	5,927
FY 2016 REQUEST	80	14,317	40	5,900	7	4,149	7	3,959

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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	3	1,298	3	1,304	0	6
Ensure the advancement of knowledge in the humanities	2	993	2	999	0	6
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	2	230	2	235	0	5
Public Programs						
Provide reference services and information	1	120	1	125	0	5
Exhibitions						
Offer compelling, first-class exhibitions	40	4,690	40	4,784	0	94
Revitalizing Education						
Education						
Engage and inspire diverse audiences	12	1,381	27	6,409	15	5,028
Mission Enabling						
Management Operations						
Strengthen an institutional culture that is customer centered and results oriented	5	438	5	461	0	23
Total	65	9,150	80	14,317	15	5,167

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 in close cooperation with Smithsonian museums and research centers, as well as with 199 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); the Smithsonian Institution Scholarly Press (SISP); and the Science, Technology, Engineering, and Mathematics (STEM) initiative. 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 2016 budget request includes an increase of \$5,167,000. This increase includes \$167,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of \$5,000,000 and 15 FTEs to improve the STEM engagement program.

BACKGROUND AND CONTENT — STEM ENGAGEMENT

Since its creation in 2010, the Smithsonian's Office of the Assistant Secretary for Education and Access has been charged with the Institution-wide effort of Revitalizing Education, Broadening Access, Supporting Evaluation, and Creating a Learning Community for 19 museums and nine research centers.

In implementing the Institution's effort to **Revitalize Education**, more than 300 museum educators, information technology (IT) staff, and public programmers have been creating content that specifically addresses the articulated needs of teachers; identifying, evaluating, and organizing assets that can be integrated into, or used to supplement, curriculum; tagging content that aligns with state and national standards; and supporting active learning that includes inquiry-based science learning in rich and immersive settings.

Broadening Access involves the Smithsonian's development of educational assets for a national audience, many of which will be delivered via a Web-based Participant Access System (PAS) that facilitates our ability to share collections, images, lessons, and citizen-scholar activities. We are also strengthening our partnerships and sharing and exchanging resources with more than 199 Smithsonian

Museum Affiliates across the country, colleagues from federal agencies, and the private sector.

We are **Supporting Evaluation** by training our staff and our peers, working with internal and external evaluators, and, when completed, our PAS will provide us with metrics and key information about our users and their interaction with our content.

The Institution's efforts to **Create a Learning Community** are linked to our strategies for *knowledge transfer*. In an Institution with more than 24 education departments, knowledge-transfer mechanisms enable us to better coordinate our collective assets, identify and solve common problems, broker collaborations, realize economies of scale, avoid redundancies, and learn from our successes and challenges.

MEANS AND STRATEGY

Smithsonian Institution Traveling Exhibition Service (40 FTEs and \$4,784,000) — For 64 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 annually host SITES shows in formats ranging from large-scale interactive exhibits for mainstream art, history, and natural history museums to portfolio and poster sets tailored to school classrooms. Encompassing subjects that parlay the Smithsonian's vast collection and research pursuits, SITES' FY 2016 offerings will address such topics as artistic creativity, scientific exploration, and the mosaic of diverse cultures that have made America what 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 2016 resources will continue to be dedicated to this focus, generating cross-cultural public engagement through such exhibition topics as migrant labor; a celebration of Asian American Pacific achievement; ethnic foodways; African American art; and cross-cultural ties between African American and Native American communities.

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 exhibit on hometown teams focuses on the central role of sports in sustaining community identity and local pride.

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 \$313,000) — 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 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 Smithsonian 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 199 affiliate organizations in 44 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. The Smithsonian Affiliations’ annual conference creates 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 \$1,456,000) — 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 exploration by learners of all ages. To guide these educational 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 \$1,976,000) — 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. OFI is increasing 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, 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 electronic formats, 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 underpin 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 goal of Broadening Access to scientific research and the national collections.

MEANS AND STRATEGY — STEM ENGAGEMENT

The reach of the Smithsonian — nationally and internationally — and its ability to motivate and inspire students and educators exceeds 100 million people annually.

The Institution's digital education assets are managed by the SCLDA, which aligns content with national and state education standards, pilots and coordinates

Institution-wide initiatives, provides training opportunities for educators, and conducts evaluations. The SSEC provides school districts with tools and resources for initiating and sustaining effective science education programs. Using the SSEC model for science education reform, these school districts produce research- and standards-based science instructional materials, provide professional development for their teachers, and continually assess student progress. They also develop a system-wide support structure that provides science materials to the classroom and builds support from school district administrations and communities nationwide. These programs have led to significant, documented improvement in student achievement. Research-based STEM programs are also offered at the National Zoological Park, the Smithsonian Environmental Research Center, the Smithsonian Tropical Research Institute, the Smithsonian Astrophysical Observatory, the National Air and Space Museum, the National Museum of Natural History, the National Museum of American History — specifically, with regard to the history of science and American Life — as well as the Smithsonian Gardens, and the Cooper Hewitt, Smithsonian Design Museum — which offers design and technology education.

EXPLANATION OF CHANGE — STEM (+\$5,000,000, +15 FTEs)

The Smithsonian requests \$5 million and 15 FTEs to provide authentic and inspiring STEM experiences for teachers and students by drawing on the scientific and engineering assets of the federal Government — including scientists, labs, satellites, museums, and research centers. The Smithsonian will serve as a conduit between federal mission agencies and other non-profits — including the Smithsonian’s 199 Affiliate museums. The Institution will grow and support learning communities that include educators in schools and informal learning settings; assist with the identification of curriculum in a variety of 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 into consideration the Next Generation Science Standards and align with state education standards.

The Smithsonian will work with federal agencies offering STEM programs so that we may 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 combined resources.

The Smithsonian will manage these endeavors by creating discipline- and subject-based committees that coordinate the efforts of STEM engagement providers, including Smithsonian units, mission agencies, and other non-profit collaborators. The Institution will also increase the capacity of Smithsonian units to offer more programs, experiences and services in the creation, dissemination, and evaluation of STEM education content. The following chart details the requested STEM engagement increase:

Items	(\$000s)	FTEs
SERVICES		
Develop Infrastructure to Deliver Content	2,251	3
CREATING COMMUNITY		
Teachers and Students	1,813	10
EVALUATION		
Learning and Evolving	936	2
TOTAL	\$5,000	15

Developing and Maintaining an Infrastructure to Deliver Content (+\$2,251,000, +3 FTEs) — The SCLDA is building the Smithsonian Digital Learning Laboratory — a platform that gives users broad access to Smithsonian experts, collections, and research, along with tools for customizing the experience and creating new content. In planning for this launch, SCLDA completed a review of best practices and conducted extensive user testing. External evaluators were employed to assess how educators and students work with Smithsonian resources. The information was used to develop requirements for building the Learning Laboratory, which will give teachers, parents and students access to: Smithsonian digitized collections (images, scientific specimens, historical artifacts and artworks); Smithsonian educational resources (lesson plans, educational games and videos); tools for adapting resources and creating new content (such as editing and annotating text, and building personal collections based on topics of interest); and ways to share these user-created resources with a larger audience. The Laboratory will be able to capture metrics on the use of digital assets. It will highlight and share content from other federal agencies and cultural organizations.

Additional federal funding will support collaboration with federal partners to identify existing STEM resources, develop new resources, create metadata, and offer online training and technical assistance to educators on how to use online STEM resources. The information compiled and the feedback generated will enable strategic planning and decision making for future STEM resources. The Smithsonian is requesting \$2,251,000 and 3 FTEs to: work with other federal partners to identify relevant STEM content; create metadata; analyze metrics and provide online training and technical assistance; provide contractual services for user testing and evaluation; and provide for contractual services to develop refinements and create new interactive tools based on feedback and evaluation results.

Creating Community/Teachers and Students (+\$1,813,000, +10 FTEs) — With the launch of Smithsonian X 3D, the Institution is a world leader in applying 3D technology to museum digital collections. A new education initiative is pairing educators (4 FTEs) and technology specialists (4 FTEs) to bridge the gap to the classroom, creating K–12 core curriculum STEM lesson plans.

A cohort of educators and technology specialists will use 3D digitization to formalize, document and evaluate strategies for applied learning. Approaches include prototyping, deconstruction/reconstruction and biomimicry to bring STEM education to life and ignite the enthusiasm of the next generation of engineers, designers, and

tinkerers. This will enable the STEM initiative to leverage the strength and diversity of Smithsonian collections and research assets, and empower teachers as both creators and consumers of curricula programs.

During the past decade, researchers at the Smithsonian Astrophysical Observatory have developed and tested a unique solution to the problem of providing engaging and authentic STEM learning at scale — a network of robotic telescopes, called Micro Observatory, specifically optimized for educational use by pre-college students in grades 5–12. Created with support from the National Science Foundation (NSF), National Aeronautics and Space Administration, and the Smithsonian, this network includes five automated telescopes ideally situated alongside major research instruments and controlled from the convenience of classrooms, homes, after-school centers, or even in transit, using smart phones. Requests to use the Micro Observatory are scheduled during the day, and the resulting images of planets, stars, galaxies, and even newly discovered exoplanets orbiting distant stars are used in learning activities and projects. Accordingly, the Institution requests \$200,000 and 2 FTEs to aid in expanding the Micro Observatory network's online community through museums affiliated with the Smithsonian, community-based partners, students earning digital badges, and NASA's space science missions. This support will create resources aiding the professional development of middle and high school teachers, and greatly expand opportunities for exploration of the night sky by groups currently under-represented in STEM.

Evaluation: Learning and Evolving (+\$936,000, +2 FTEs) — The Smithsonian embraces evaluation as a tool for STEM learning and engagement in both formal and informal learning settings. Our learning spaces, exhibitions and programs for youth are constantly being evaluated and appropriately altered. Evaluation is designed into exhibits and curricula early in the development process to provide feedback for improvements and ascertain the intended impact. The Smithsonian Astrophysical Observatory has provided research, development, and evaluation services that leverage STEM engagement efforts at federal agencies, thereby helping to ensure that federal efforts lead to learning outcomes that are rigorous, meaningful and substantive. Smithsonian researchers have developed valid and reliable assessments that measure changes in students' interests in STEM careers and STEM content knowledge. Dozens of education and NSF math/science partnerships use Smithsonian instruments to measure increases in teachers' subject-matter proficiency and pedagogical content knowledge, and to track changes that result in students' classroom gains. The Institution requests \$936,000 and 2 FTEs to support evaluation training and develop various methods for assessment.

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 2014 ENACTED	22	2,556	29	3,858	0	5	0	0
FY 2015 ENACTED	22	2,567	32	4,272	0	0	0	0
FY 2016 REQUEST	22	3,945	32	4,272	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	0	0	0	1,325	0	1,325
<i>Public Programs</i>						
Provide reference services and information	8	624	8	633	0	9
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	1	116	1	119	0	3
Enhance the reputation of the Smithsonian by maintaining good relations with the news media and with federal, state, and local governments	10	1,479	10	1,512	0	33
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	3	348	3	356	0	8
Total	22	2,567	22	3,945	0	1,378

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. 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 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 proactively participates in strategic decision making for advancing the Institution's goals by identifying event opportunities which will help the Smithsonian achieve its objectives; and unusual events to extend the reach of the Institution and energize its representation.

The FY 2016 budget request includes a net increase of \$1,378,000, which includes \$53,000 for necessary pay and other related salary costs for existing staff funded under this line item and a programmatic increase of \$1,325,000.

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 carry out 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 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 accomplish research projects. The OVS increases retention of volunteers by offering enrichment and recognition opportunities.

EXPLANATION OF CHANGE

The FY 2016 budget request includes a net increase of \$1,378,000, which includes \$53,000 for necessary pay and other related salary costs for existing staff funded under this line item and a programmatic increase of \$1,325,000. The specific program increase is described below.

Web Access (+\$1,325,000)

The Institution's goal is to broaden access to the Smithsonian and enhance the public's experience of what the Institution has to offer. New tools and technologies will exponentially broaden our access worldwide. The nation's growing diversity challenges us to reach new audiences and ensure that Smithsonian collections, exhibitions, and outreach programs speak to all Americans. The Institution also strives to remain relevant to visitors who come from around the world.

To accomplish this goal, the Institution is building a robust, multi-channel platform that can support the Smithsonian's digital presence into the future. The centerpiece of the project is a redesigned main Smithsonian website that makes it easy for the public to explore the Smithsonian, as well as plan a visit.

The funds requested will redesign the current website to reflect the Institution's mission strategy and consolidate Institution-wide websites into a stronger, more effective, and cost-efficient whole, including the Collections Search and Newsdesk (online newsroom). The Institution will conduct extensive research on how our customers use the current website; develop a content strategy for improved communications and content re-use, focused on public needs and internal efficiencies; and develop an open-source content management system that can grow to support all of our museums and unit websites by using a standardized technology platform. This platform will improve governance, increase economic efficiency, and allow for increased access to Smithsonian resources.

The result will be a new media that creates interactive access and reaches new audiences while allowing the Institution to use its vast collections and resources to influence the great debates of the day and engage millions more people than it does today.

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 2014 ENACTED	0	7,778	0	0	0	0	0	0
FY 2015 ENACTED	0	10,505	0	0	0	0	0	0
FY 2016 REQUEST	0	14,784	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 2015		FY 2016		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	1,121	0	2,400	0	1,279
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	0	5,197	0	8,197	0	3,000
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	0	2,987	0	2,987	0	0
Total	0	10,505	0	14,784	0	4,279

BACKGROUND AND CONTEXT

Beginning in 1993, Congress has approved the creation of the following four Institution-wide funding programs:

- Research Equipment Pool
- Latino 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 is requesting the establishment of an Asian Pacific American Initiatives Pool to explore and share the contributions of Asian Pacific Americans to the American Experience. The pool will fund competitively selected projects that support research, exhibitions, educational programs, collections, digital and media projects, and partnerships with local and regional cultural organizations.

The budget request includes an increase of \$4,279,000 for the Institution-wide programs. The budget request also includes an increase of \$700,000 for collections needs for the National Zoological Park (NZIP), which is justified here to strategically address collections care needs but is included in the NZIP line item of this budget submission.

ADDITIONAL BACKGROUND AND CONTEXT — COLLECTIONS CARE INITIATIVE

Collections stewardship is a key component and core priority of the Smithsonian's Strategic Plan. Assembled over 169 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 facing society 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; 157,000 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 like the transformational tools of 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

society. 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 million in funding to 400+ Smithsonian programs and projects.

In addition to a Latino Curatorial Initiative, launched in 2010 and aimed at increasing Latino representation and scholarship at the Smithsonian, expanded funding of the Latino Initiatives Pool will broaden 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 250 professionals and scholars, some of whom are currently employed at the Smithsonian. Programs such as LMSP play an important role in creating an extensive pool of qualified arts and museum professionals who are represented in universities, art museums and cultural centers nationally and internationally.

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 achieve targeted improvements in the documentation, inventory, preservation, storage, and accessibility of the Smithsonian's vast and diverse collections. With this funding, the Smithsonian has made significant progress at raising the level of collections stewardship in a pragmatic, strategic, and integrated manner by prioritizing and systematically addressing collections care needs, 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.

Smithsonian management acknowledges 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; 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. The Collections Space Framework Plan, completed in FY 2014, 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, decompression of overcrowded collections, and future 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 pan-Institutional 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. Constructed in the 1950s and 1960s, the Butler-style buildings at the Garber Facility were originally designed as temporary structures and have long passed their useful lifespan. The Garber Facility's environmental conditions are inadequate and hazardous to collections, have asbestos and lead-containing dust contamination, and have overcrowding issues which severely restrict physical access to as well as preservation and use of the collections. Completion of the Garber decontamination project and the continued move of National Air and Space Museum (NASM) collections to the Udvar-Hazy Center are the first steps in a phased redevelopment plan for the Garber Facility.

In FY 2016, 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, funds are used for:

- Upgrades and enhancements to the Smithsonian's Information Technology (IT) infrastructure
- Contractor support in the Network Operations Center
- Provision of Active Directory and desktop migration technicians
- Network hardware/software maintenance
- Digitization of collections information and images
- Public delivery of Smithsonian digital assets

MEANS AND STRATEGY — ASIAN PACIFIC AMERICAN INITIATIVES POOL

To achieve the Institution’s 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. The *Consolidated and Further Continuing Appropriations Act, 2015*, encourages the Smithsonian to develop a more robust program in this area, “which will 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.

EXPLANATION OF CHANGE

The FY 2016 budget request for Institution-wide programs includes an increase of \$4,279,000. This includes an increase in the Collections Care and Preservation Fund (CCPF) (+\$3,000,000); the Latino Initiatives Pool (+\$879,000); and establishment of the Asian Pacific American Initiatives Pool (+\$400,000), as outlined in the table below. These Institution-wide programs support the Smithsonian’s Strategic Plan.

Program (\$000s)	FY 2015 Base	FY 2016 Increase	FY 2016 Total
Collections Care and Preservation Fund	5,197	+3,000	8,197
Research Equipment Pool	1,200	0	1,200
Latino Initiatives Pool	1,121	+879	2,000
Collections Information Systems Pool	766	0	766
Asian Pacific American Initiatives Pool	0	+400	400
Totals	\$8,284	+\$4,279	\$12,563

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 (+\$3,000,000)**

This budget increase provides resources to meet professional standards of collections care. These funds will support and maintain an integrated, strategic, and Institution-wide approach to collections care by prioritizing and systematically addressing collections care needs based on current collection care methodologies, sound assessment data, economies of scale, and project-driven activities, including collections moves. The increases are as follows:

- (+\$1,000,000) to support the continued move of the NASM's collections from the Paul E. Garber Facility in Suitland, Maryland, to the Udvar-Hazy Center in Chantilly, Virginia. To date, the move of collections to the Udvar-Hazy Center has been primarily funded by the Collections Care Initiative as available funding permits. This increase will support the purchase and installation of storage cabinets and shelving, and the purchase of re-housing services to prepare, move, and install small and medium collections at the Udvar-Hazy Center. This increase will also be used to prepare collections to be moved to Pod 6, which is scheduled to be completed in FYs 2019–2020. The funds requested will transfer NASM collections from substandard storage conditions at the Garber Facility to the Udvar-Hazy Center, thereby improving their management, care, and accessibility as well as contributing to the redevelopment potential of the Garber site to address long-term, Institution-wide collections space needs.
- (+\$1,200,000) to purchase storage units and drawers, and to replace storage cabinetry across the Institution that places collections at risk of loss or damage and is hazardous to collections, researchers, and staff. This increase will support the purchase of new storage cabinetry and the costs of required maintenance for specialized collections equipment such as compact storage and freezers for safety and operability. Providing sufficient, secure, and appropriate storage equipment is the most effective and efficient way to minimize physical and security risks to the collections and to improve overall accessibility. The purchase of such cabinetry is a lasting infrastructure investment for the long-term preservation of Smithsonian collections.
- (+\$800,000) to support the documentation, preservation, conservation, and management of collections for long-term preservation and accessibility. Collections, by their nature and use, are subject to deterioration and risk. This increase provides resources to strategically address deficiencies in collections management identified by recent Inspector General collections-related audits, the collections physical and digitization assessments, and recommendations of the Collections Emergency Management Working Group. These resources will improve collections inventory control, processing and cataloguing, preservation, and emergency preparedness, response, and recovery capabilities, thereby improving collections accountability, preservation, and accessibility throughout the Institution.

In FY 2016, the Smithsonian will continue to take an integrated, strategic, and Institution-wide approach to collections care and improve substandard aspects of collections management to an acceptable level. This budget request provides essential resources to continue to build on important planning initiatives for strategically addressing critical collections management, emergency preparedness, and space needs. Without the requested resources, Smithsonian progress in strengthening collections care and accessibility will be greatly hindered, adversely impacting the Institution's ability to ensure the longevity and accessibility of the national collections.

- **Latino Initiatives Pool (+\$879,000)**

The Smithsonian requests an increase for the Institution's Latino Initiatives. This pool, established in FY 1995, has not been significantly increased from its \$1 million initial level. Yet, during that time, the U.S. Latino population has doubled and the collections of Latino artifacts and artworks in the Smithsonian's collections have multiplied exponentially. These funds will allow the Smithsonian to:

- increase and diversify areas of research, exhibition content, public and educational programs, Web content and digital assets, and collections and archives;
- expand the number of participating Smithsonian units, scholars, curators, educators, collection specialists, and archivists addressing the area of Latino initiatives;
- expand national outreach and access by supporting more traveling exhibitions, correlative public and educational programs, publications, and the packaging and promotion of Smithsonian digital assets, particularly in the rapidly growing field of Latino collections and archival materials;
- increase the number of emerging scholars, cultural studies and museum professionals in the rapidly growing area of Latino studies — potential future Smithsonian employees — thereby ensuring a reasonable return on investment; and
- increase the number of Latino curators and content experts in other Smithsonian museums, research centers, and service units.

The increase will help create an infrastructure and mechanism for enabling a lasting Latino presence at the Smithsonian, thereby ensuring that the Latino experience and contributions to science, history, art, music and society, historically and in contemporary expressions, are comprehensively researched, presented, celebrated and preserved for current and future generations.

- **Asian Pacific American Initiatives Pool (+\$400,000)**

This budget increase provides resources to establish an Asian Pacific American Initiatives Pool to provide annual funding for Smithsonian programs that explore and share the contributions of Asian Pacific Americans to the American experience. Pool funds 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.

- **Unit-Based Collections Care and Preservation (+\$700,000)**

The National Zoological Park (NZP) is requesting an increase to support the Zoo's medical team, primarily in the Pathology unit, and to ensure the health, safety, and welfare of the living collection. The requested funds would support pathology staffing to maintain animal care standards at NZP, continue the NZP's board-certified veterinary residency program, and raise the standard of animal care.

These additional funds will allow diseases and medical issues to be diagnosed more quickly. This will ensure the appropriate treatment of sick animals, thereby preventing an epidemic from taking hold in the collection. Additional details are provided in the NZP section of this budget submission.

OFFICE OF EXHIBITS CENTRAL

	APPLICATION OF OPERATING RESOURCES							
	FEDERAL APPROPRIATIONS		GENERAL TRUST		DONOR/SPONSOR DESIGNATED		GOV'T GRANTS & CONTRACTS	
	FTE	\$000	FTE	\$000	FTE	\$000	FTE	\$000
FY 2014 ENACTED	28	2,950	6	198	0	83	0	11
FY 2015 ENACTED	28	2,974	5	307	1	111	0	0
FY 2016 REQUEST	28	3,037	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	24	2,534	24	2,580	0	46
Mission Enabling						
<i>Management Operations</i>						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	4	440	4	457	0	17
Total	28	2,974	28	3,037	0	63

BACKGROUND AND CONTEXT

The mission of the Office of Exhibits Central (OEC) 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 OEC 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 OEC for full exhibition services, including design, editing, graphics production, cabinetry, model making, and crating. The OEC fosters collaboration among units by providing consultations, especially in the early stages of exhibition planning. With their broad array of skills, the OEC 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 OEC will continue to develop its expertise in computer-controlled production and

automated modeling technologies, such as 3D scanning and printing. In addition, the OEC 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 OEC'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 OEC 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 budget request 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

As the Institution's most comprehensive producer of exhibits, the OEC is dedicated to providing its Smithsonian clients with first-class exhibition design, editing, production, and installation services. Each year, the OEC designs and produces approximately 100 projects, large and small, for almost every office and museum in the Smithsonian.

In FY 2016, most OEC resources will stay focused on achieving the strategic goals of Broadening Access and Mission Enabling by improving the quality of exhibition design and production at the Smithsonian. This will be done 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 the OEC 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 OEC will accomplish these objectives by focusing exclusively on exhibit-related work, freeing up OEC staff with specialized experience to concentrate on the OEC's core mission: the design and production of exhibits. Building on well-established, collaborative relationships with other Smithsonian design and production units, the OEC 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 2014 ENACTED	18	1,836	0	0	0	0	0	0
FY 2015 ENACTED	18	1,848	0	0	0	0	0	0
FY 2016 REQUEST	18	1,884	0	0	0	0	0	0

STRATEGIC GOAL: STRENGTHENING COLLECTIONS

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	18	1,848	18	1,884	0	36
Total	18	1,848	18	1,884	0	36

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 (collection storage facility) of the MSC, which was recently renovated, was awarded LEED (Leadership in Energy and Environmental Design) Silver certification. The MSC accommodates collections in a variety of state-of-the-art equipment: collections in cabinets; mobile shelving for biological specimens preserved in alcohol; meteorites in nitrogen atmosphere, and 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.

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 budget request includes an increase of \$36,000 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 2016 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. Staff will also continue working to recover from the earthquake of August 2011, taking necessary steps to allow contractors to repair structural damage, and stabilizing broken and unsecured collection objects to protect them and prevent future damage.

In FY 2016, 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 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 the feasibility study for the addition of Pod 6 and necessary improvements to other Institution-wide collection facilities.

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 2014 ENACTED	22	3,222	0	0	1	125	0	77
FY 2015 ENACTED	22	3,244	0	27	1	213	0	15
FY 2016 REQUEST	22	3,308	0	20	1	142	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Engage in research and discovery	8	1,106	7	1,083	-1	-23
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	100	1	104	0	4
<i>Public Programs</i>						
Provide reference services and information	1	132	1	135	0	3
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	1	158	1	131	0	-27
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	6	899	7	990	1	91
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	4	739	4	753	0	14
Modernize the Institution's financial management and accounting operations	1	110	1	112	0	2
Total	22	3,244	22	3,308	0	64

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.

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 requests for consultations from within the Smithsonian, the MCI responds to requests from affiliates and outside organizations, such as the White House, U.S. Congress, U.S. Department of Homeland Security — Immigration and Customs Enforcement, U.S. Department of State, and other federal, museum, and academic organizations.

The budget request includes an increase of \$64,000 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 use 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. MCI's website is being enhanced 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 around the globe. 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 material behavior in artwork.

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.

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 Challenge areas, 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 operations, 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 non-appropriated 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 2014 ENACTED	20	2,149	4	430	0	0	0	5
FY 2015 ENACTED	20	2,167	4	423	0	0	0	0
FY 2016 REQUEST	20	2,223	5	434	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
<i>Research</i>						
Ensure the advancement of knowledge in the humanities	2	181	1	161	-1	-20
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	2	232	3	272	1	40
<i>Public Programs</i>						
Provide reference services and information	3	355	4	405	1	50
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	10	1,000	9	978	-1	-22
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	3	399	3	407	0	8
Total	20	2,167	20	2,223	0	56

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 budget request includes an increase of \$56,000 for necessary pay and other related salary costs for existing staff funded under this line item.

MEANS AND STRATEGY

In FY 2016, SIA will continue to focus on capturing, preserving, and providing access to research materials on Smithsonian 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.

SIA is dedicated to improving the stewardship of the Smithsonian's historical photographic collection that documents the visual history of the Institution. In 2015, SIA will re-house and relocate its nearly three million negatives and color transparencies from an aging cold storage vault located in the National Museum of American History to a newly built cold storage vault at the Pennsy Drive collections-storage facility in Landover, Maryland. The new vault will ensure the continued care and preservation of the Institution's photographic collection.

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 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 2014 ENACTED	86	10,337	10	1,695	4	1,073	0	0
FY 2015 ENACTED	86	10,399	10	1,694	7	1,023	0	0
FY 2016 REQUEST	86	10,748	10	1,713	7	1,074	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Excellent Research						
Research						
Engage in research and discovery	19	2,871	19	2,995	0	124
Ensure the advancement of knowledge in the humanities	21	2,650	21	2,743	0	93
Broadening Access						
Digitization and Web Support						
Provide improved digitization and Web support	9	980	9	987	0	7
Public Programs						
Provide reference services and information	0	62	0	62	0	0
Exhibitions						
Offer compelling, first-class exhibitions	1	62	1	62	0	0
Strengthening Collections						
Collections						
Improve the stewardship of the national collections	27	2,470	27	2,524	0	54
Mission Enabling						
Management Operations						
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	1	84	1	84	0	0
Strengthen an institutional culture that is customer centered and results oriented	8	1,220	8	1,291	0	71
Total	86	10,399	86	10,748	0	349

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 budget request includes an increase of \$349,000. The increase includes \$199,000 for necessary pay and other related salary costs for existing staff funded under this line item, and an increase of \$150,000 for inflationary increases in library subscriptions. Both of the above increases are included 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, and discovery tools to improve research productivity in support of the four Grand Challenges and Smithsonian Strategic Plan goals. In FY 2016, SIL will continue to broaden interactive engagement with users — through continuing experimentation, projects that include digital transcription of manuscripts, and Web-based communities — thereby making SIL collections and other Web content available for use by scholars, students, teachers, researchers, and interested users worldwide. 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 27,000 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 the documentation they need for their research in all fields. 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 2016, SIL will increase digitization projects in history, arts, and culture as part of the Smithsonian Libraries initiative — the Cultural Heritage Library. As a new member of the Consortium for the History of Science, Technology, and Medicine, SIL contributed all of the rare/special collections records for the Consortium's search hub. This project combines the holdings of many specialized libraries into a powerful research tool in the history of science and related 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 hosts and maintains the Scholarly Press's website. 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 the SRO are used as Smithsonian key performance indicators. 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 achieve better control over Smithsonian authors, researchers, and scientists, SIL is implementing a beta version of Smithsonian Profiles to trace 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 interlibrary lending service, SIL also provides information 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 by redesigning facilities to retain tightly focused, local collections integrated with collaborative, congenial spaces, while relieving overcrowded libraries by providing environmentally sound off-site shelving and housing at the Pennsy Drive facility in suburban Maryland.

In FY 2016, renovations will continue in the libraries at the National Museum of American History (NMAH). At the same time, SIL is working with the National Museum of African American History and Culture to plan for its library space needs before that Museum's anticipated opening date in 2016.

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 and exposes them to the research library environment.

Also, in FY 2016, SIL will provide programming to augment *Reading Color: Paging Through Our Spectrum*, taking 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. In FY 2015, the Libraries will open *Fantastic Worlds: Science and Fiction, 1780 – 1810* in its NMAH public gallery. The exhibition looks at the intersection of science and fiction, as well as innovation and invention.

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 2016, SIL will continue its efforts to raise funds through the Smithsonian's comprehensive national fundraising campaign. In addition, the Libraries will emphasize education in established priorities: acquisitions, conservation, digitization, internships and 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 2014 ENACTED	93	47,856	18	3,329	0	411	0	0
FY 2015 ENACTED	93	48,929	18	3,425	0	0	0	0
FY 2016 REQUEST	93	53,395	18	3,425	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 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	9	3,415	9	5,215	0	1,800
Mission Enabling						
<i>Information Technology</i>						
Modernize the Institution's information technology systems and infrastructure	84	45,514	84	48,180	0	2,666
Total	93	48,929	93	53,395	0	4,466

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 2016 budget request includes an increase of \$4,466,000. The increase includes \$376,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$2,290,000 for increased communication costs, which is further explained in the Fixed Costs section of this budget submission; and \$1,800,000 in programmatic increases for digitization.

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 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
- 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 Digitization Program Office (DPO) leads the implementation of the first-ever Institution-wide digitization strategic plan. The DPO has implemented a framework of digitization policies; made assessments to account for the state and progress of digitization; and set Institution-wide digitization priorities to guide resource allocation and planning. The FY 2012 Digitization Assessment showed that the Smithsonian needs to create 17 million digital inventory records and 53 million digital images for its museum, archival, and library collections holdings to successfully digitize high-priority collections. Executing on 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 DPO has strategically invested in rapid digitization prototype projects which showcase a replicable, cost-effective, high-throughput, high-quality process for addressing the Smithsonian digitization challenge. Open-house prototypes visited by more than 200 staff and senior management leaders have established a model that can be scaled up to capture entire collections as additional funding becomes available. 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,

and has captured the imagination of educators, learners, and policy makers around the nation by providing access to 3D printable data of priceless collection objects.

This budget request supports strategic and cost-effective digitization by building on the proven track record of the successful rapid capture prototypes and the Smithsonian X 3D pilot project. The new rapid capture workflows and techniques will become the foundation for executing on UDP priorities, thereby increasing the quality and quantity of digital records and images at specific collecting units and supporting Smithsonian units in their continued implementation of SD 610.

EXPLANATION OF CHANGE

The FY 2016 budget request includes an increase of \$4,466,000. The increase includes \$376,000 for necessary pay and other related salary costs for existing staff funded under this line item; \$2,290,000 for increased communications costs; and \$1,800,000 for programmatic increases for the digitization program. 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 \$1,800,000 for the requested budget increase is described in greater detail below:

- (+\$1,200,000) — to continue implementing cost-efficient models for digitizing Smithsonian collections. The requested funding increase will unlock economies of scale, implement capture workflows and methodologies which can be leveraged across units, and target digitization of collections which are crucial to broader Smithsonian strategic objectives. These basic techniques ensure the maximum return on investment for Smithsonian digitization funding.
- (+\$200,000) — to expand the number of collections under digital inventory control. Creating adequate digital records for collections is essential to appropriately manage collections, as well as provide public access to them. The requested increase will upgrade existing stub records and create standardized new records.
- (+\$300,000) — to enhance 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 leveraging future fund raising.
- (+\$100,000) — to support a platform that helps units create DAMPs and minimizes the burden on Smithsonian units in implementing the SD 610 mandate to prioritize collections objects to be digitized.

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 2014 ENACTED	185	34,185	201	36,557	5	2,959	0	379
FY 2015 ENACTED	181	34,067	200	35,741	7	2,484	3	902
FY 2016 REQUEST	182	34,977	213	37,722	7	2,453	4	1,005

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

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Broadening Access						
<i>Digitization and Web Support</i>						
Provide improved digitization and Web support	1	139	1	144	0	5
<i>Exhibitions</i>						
Offer compelling, first-class exhibitions	1	120	1	122	0	2
Revitalizing Education						
<i>Education</i>						
Engage and inspire diverse audiences	3	236	3	295	0	59
Strengthening Collections						
<i>Collections</i>						
Improve the stewardship of the national collections	2	275	2	311	0	36
Mission Enabling						
<i>Management Operations</i>						
Strengthen an institutional culture that is customer centered and results oriented	41	7,181	41	7,382	0	201
Ensure that the Smithsonian workforce is efficient, collaborative, committed, innovative, and diverse	57	10,933	58	11,273	1	340
Modernize the Institution's financial management and accounting operations	45	9,361	45	9,527	0	166
Modernize and streamline the Institution's acquisitions management operations	31	5,822	31	5,923	0	101
Total	181	34,067	182	34,977	1	910

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 Science; the Under Secretary for History, Art, and Culture; 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 budget request includes a net increase of \$910,000 and 1 FTE. This request includes:

- +\$669,000 for necessary pay and other related salary costs for existing staff funded under this line item, which are justified in the Fixed Costs section of this budget submission;
- +\$36,000 for Workers' Compensation, which is justified in the Fixed Costs section;
- +\$50,000 for the Project SEARCH program, which is justified in the Fixed Costs section; and
- +\$155,000 and 1 FTE in program increases to implement a regular and comprehensive audit process for identifying barriers to Equal Employment Opportunity (EEO) hiring and promotion.

MEANS AND STRATEGY

The Smithsonian will use best practices in management to enhance its mission of 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 and objectives.

- 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 at the Smithsonian and affiliated institutions by developing exhibitions and programs on Latino culture, history, art, and scientific achievement; supporting Latino research, collections, exhibitions, and related projects at various Smithsonian museums and research centers; promoting the leadership development of Latino youth and the professional development of emerging Latino scholars and museum professionals; and continuing innovation in new media such as the Latino Virtual Museum, social media, mobile applications, educational games, and other strategies that use rapidly growing and accessible technologies and permit expanded delivery of programs and services to increasingly diverse audiences.
- 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 that enrich the Smithsonian's collections, research, and activities relating to Asian Pacific America.
- 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 1 FTE and \$910,000, which includes \$669,000 for necessary pay and other related salary costs for existing staff funded under this line item, an increase of \$36,000 for the Workers' Compensation bill for FY 2016, and an increase of \$50,000 for the Project SEARCH program. These amounts are justified in the Fixed Costs section of this budget submission.

The programmatic summary of 1 FTE and \$155,000 for the requested budget increase is described as follows:

Diversity (+\$155,000, +1 FTE)

Diversity is one of the expressed values in the Smithsonian Strategic Plan. This increase for the Office of Equal Employment and Minority Affairs is requested to hire one affirmative employment specialist 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. The specialist will also focus on retention and extension of term appointments; reviews of internal policies and practices regarding leave and telework, as well as display of EEO posters; and implementation of a comprehensive barrier analysis protocol that includes the presentation of findings, appropriate action, and reports. Taken together, all of these actions will significantly strengthen the Smithsonian's commitment to ensuring a diverse workforce.

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. For example, the Seward Johnson and Hunterdon endowment funds are used to improve basic support and strengthen important research efforts carried out at marine stations, and for pursuing scientific opportunities in oceanographic 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 2014 ENACTED	24	3,392	0	15	0	0	0	0
FY 2015 ENACTED	24	3,416	0	0	0	0	0	0
FY 2016 REQUEST	24	3,476	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		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	3,416	24	3,476	0	60
Total	24	3,416	24	3,476	0	60

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 budget request includes an increase of \$60,000 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; 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 of collections care, animal care and safety at the National Zoological Park, the deferred maintenance program, and controls over purchase orders.

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 2014 ENACTED	357	69,032	0	0	0	0	0	0
FY 2015 ENACTED	382	71,403	0	0	0	0	0	0
FY 2016 REQUEST	446	86,695	0	0	0	0	0	0

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTE	\$000	FTE	\$000	FTE	\$000
Mission Enabling						
Facilities						
Implement an aggressive and professional maintenance program	382	71,403	446	86,695	64	15,292
Total	382	71,403	446	86,695	64	15,292

BACKGROUND AND CONTEXT

The mission of the Office of Facilities Engineering and Operations (OFEO) 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 30 million people visit the Smithsonian annually.

OFEO is responsible for the maintenance and repair of an infrastructure of approximately 12 million square feet of owned and leased buildings and structures, including 19 museums and galleries, nine research centers, and the National Zoological Park (NZIP). 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 spaces and major exhibitions 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.

OFEO has undertaken a number of initiatives to increase maintenance efficiencies, including a resource allocation study currently under way. OFEO benchmarks its maintenance staffing levels with other museums and professional organizations, including the Association of Higher Education Facilities Officers (APPA), to ensure that resources are being effectively deployed. The Smithsonian is a past recipient of the prestigious Award of Excellence from APPA in recognition of the Institution's excellence in facilities management and its efforts to establish measurable performance standards and staffing levels for maintenance and efficient operations. To build on these efforts, OFEO is exploring ways to more effectively identify and group requirements. The long-time, well-documented goal is to maintain Smithsonian facilities at APPA's highest recommended Level 1 standard for building maintenance, which is referred to as "Showpiece Facility."

To do this, the National Research Council recommends an annual maintenance budget in the range of 2 to 4 percent of the physical plant's aggregate current replacement value (CRV) to avoid adding to a deferred maintenance backlog. The CRV at the end of FY 2013, which does not yet include the National Museum of African American History and Culture, the Mathias Lab or the Gamboa Lab, was \$6.6 billion. These requirements have been validated through the Facility Condition Assessment process and Reliability Centered Maintenance (RCM) analysis. OFEO's goal is to achieve a maintenance funding level of 2 to 4 percent of the CRV for the Institution's facilities.

The budget request includes an increase of 64 FTEs and \$15,292,000. The increase includes \$582,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of 64 FTEs and \$14,710,000.

MEANS AND STRATEGY

To support the Institution's goal of Mission Enabling, OFEO continues an aggressive, long-range facilities maintenance and minor repair program, using the RCM approach that includes benchmarking efforts with organizations such as the APPA. The RCM approach is a widely accepted maintenance 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 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 increased 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.

OFE0 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, OFEO will continue to improve electronic security systems and physical security measures which provide protection for the Institution's facilities, collections, staff, visitors, and volunteers.

EXPLANATION OF CHANGE

The budget request includes an increase of 64 FTEs and \$15,292,000. The increase includes \$582,000 for necessary pay and other related salary costs for existing staff funded under this line item, and a programmatic increase of 64 FTEs and \$14,710,000 to support high-priority maintenance requirements, provide security systems maintenance, and develop a maintenance program for the new National Museum of African American History and Culture (NMAAHC). The specific increases are detailed as follows:

- **Facilities Maintenance (+\$10,875,000, +40 FTEs)** — The Smithsonian's goal is to achieve APPA's Level 1 "Showpiece Facility" service for all of its facilities. To move toward a solid Level 3 "Managed Care" service, the Smithsonian requests \$10,875,000 and 40 FTEs to support maintenance of existing facilities and systems. The Institution's facility footprint has increased by three million square feet during the past 14 years, which includes the addition of new systems. Moreover, replacement systems installed during building renovations are more sophisticated and complex. Increased funding is requested to attract additional skilled maintenance workers who can perform the more complex maintenance throughout the Institution's facilities.

The budget request includes funding for salaries and benefits of 17 utility systems repair operators, six electricians, four engineering technicians, three painters, two carpenters, two masons, two plumbers, two machinists, one pipefitter, and one maintenance project supervisor (+\$3,031,000). The new staff will help improve the preventive maintenance program and slow the increase in the Smithsonian's deferred maintenance, which, at the end of FY 2014, totaled \$733 million.

Also included is funding for contract support costs, including partial funding to support a roofing repair program, and for supplies and materials, and

equipment (+\$7,844,000). 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 overall rating for the Smithsonian's four million square feet of roofs was 73.2 percent at the end of FY 2013. A rating under 90 percent is considered poor. The state of the roofs poses a risk to staff and visitor safety as well as the preservation of the national collections. The requested funding will begin to address the roofs in the greatest need of repair, which include those at the Udvar-Hazy Center, Natural History Museum, National Zoological Park (including the Smithsonian Conservation Biology Institute), the Smithsonian Tropical Research Institute, and 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 (+\$3,600,000, +24 FTEs)** — The 400,000-square-foot National Museum of African American History and Culture is slated to open in 2016. The Smithsonian requests \$3.6 million and 24 FTEs to establish a maintenance program for the new Museum and to maintain systems as they come on line during construction. The budget request includes funding for salaries and benefits of 14 staff and to annualize 10 positions appropriated in FY 2015. The new staff includes two utility systems repair operators, three engineering technicians, one painter, one pipefitter, one mason, one security system administrator, one electronics mechanic, one craft leader, one irrigation specialist, one door mechanic, and one maintenance project supervisor (\$2,637,000). Also included is funding for contractual support and for supplies and equipment (\$963,000).
- **Security Maintenance (+\$235,000)** — Security maintenance responsibilities have also increased as a result of the larger physical footprint of the Smithsonian, and an increase in the number and complexity of security systems. Accordingly, the Institution requests \$235,000 to provide electronic security maintenance services to Smithsonian facilities. The request represents funding to move security maintenance from a predominantly reactive to a more balanced approach of preventive, reactive, and life-cycle improvement maintenance activities. The requested funds will help provide equipment, material, supplies and contract services for the life-cycle replacement of antiquated security systems, equipment and infrastructure, barrier and bollard systems, and anti-terrorism mitigation.

The requested funds provide the maintenance coverage required to keep facility systems fully functioning. Through diligent maintenance of facilities and systems, the Smithsonian can prolong the operational life of the equipment while maintaining reliable output to protect the national collections. Additionally, proper maintenance reduces the potential for unplanned equipment shutdowns which have a negative impact on visitors, staff, and collections — including the possible closure of exhibits, galleries, or entire facilities.

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 2014 ENACTED	1,357	185,401	14	1,350	4	335	0	0
FY 2015 ENACTED	1,476	197,879	15	2,184	4	371	0	0
FY 2016 REQUEST	1,591	214,429	15	2,200	4	380	0	0

STRATEGIC GOALS: BROADENING ACCESS AND MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		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	700	126,744	768	137,124	68	7,859
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	732	64,635	779	70,745	47	6,110
Provide a safe and healthy environment	40	6,040	40	6,100	0	60
Total	1,476	197,879	1,591	214,429	115	16,550

BACKGROUND AND CONTEXT

The mission of the Office of Facilities Engineering and Operations (OFEO) 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 30 million visits annually.

The Facilities Operations, Security, and Support (OSS) program within OFEO operates, secures, and supports the Smithsonian's physical infrastructure in partnership with Smithsonian program staff. OFEO 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 budget request includes an increase of 115 FTEs and \$16,550,000. The increase includes \$1,329,000 for necessary pay and other related salary costs for existing staff funded under this line item, and \$2,521,000 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 115 FTEs and \$12,700,000 to address high-priority operating, safety, and security requirements.

MEANS AND STRATEGY

OFEO 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, OFEO's base resources will focus on meeting the growing operational requirements of the Institution's facilities. OFEO will continue its efforts 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, OFEO will continue benchmarking the Institution's custodial staffing and service levels with other museums and professional organizations, including the Association of Higher Education Facilities Officers (APPA). As a past recipient of the prestigious APPA Award of Excellence, OFEO 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, OFEO achieves appearance Level 3, "Casual Inattention." This level of appearance will ensure a generally clean and odorless environment.

Just as OFEO is committed to providing the highest levels of facility care, it is equally committed to providing the highest levels of security. OFEO will continue to provide protection for the Smithsonian's facilities, collections, staff,

visitors, and volunteers, while also permitting an appropriate level of access to the national collections. The Institution will continue to focus on security measures required to address any identified risks.

OFEQ 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 environmental regulations and best practices.

EXPLANATION OF CHANGE

The budget request includes programmatic increases of 115 FTEs and \$12,700,000 to address high-priority operating, safety, and security requirements. The increase will fund high-priority needs, including funding 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 follows:

- **Facilities Operations (+\$3,700,000, +33 FTEs)** — The Smithsonian’s ultimate goal of achieving APPA’s Level 2 “Ordinary Tidiness” standard will require an increase over the current investment. The Institution requests \$3,700,000 and 33 FTEs to augment existing staffing and funding shortfalls in facilities operations. The requested funds will allow the Smithsonian to make significant progress towards the goal. The Smithsonian’s operations and physical footprint has grown in recent years, creating additional, unfunded requirements. The budget request will fund the pay and benefits of 24 building service workers, three service leaders, three service supervisors, two biological technicians, and a horticulturalist (+\$1,765,000). The request includes funding for contract support costs and the purchase of supplies, materials, and equipment (+\$1,935,000).
- **National Museum of African American History and Culture (+\$6,900,000, +80 FTEs)** — The 400,000-square-foot National Museum of African American History and Culture is slated to open in 2016. The Smithsonian requests \$6,900,000 and 80 FTEs to establish facility operations and security programs for the new Museum. The addition of a national museum creates a significant responsibility. The NMAAHC will be a major museum with high traffic and major security responsibilities. The budget request represents 1 funding to support the pay and benefits of seven building service workers and to annualize 73 positions appropriated in FY 2015 that are crucial to the museum’s operations (+\$5,700,000). Additionally, the request includes funding for contractual support, and the purchase of supplies and materials (+\$1,200,000).

- **Other Security Requirements (+\$2,100,000, +2 FTEs)** — As the footprint of the Smithsonian Institution has increased, and as facilities are revitalized, the security and law-enforcement needs have also increased. Generally, the new construction, revitalization, and leased acquisitions have not resulted in increased security resources, which have led to challenges in executing the security base budget. In addition, an internal control risk management assessment recently revealed that the Smithsonian’s disaster management program requires additional disaster management specialists. Therefore, the Institution requests \$2,100,000 and 2 FTEs to address this requirement. The budget request will fund the pay and benefits of a disaster management specialist and a management support specialist (+\$165,000), and provide funding to address the required security positions (+\$1,935,000).

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.

FACILITIES CAPITAL

FY 2014 Enacted	\$158,000,000
FY 2015 Enacted	\$144,198,000
FY 2016 Request	\$200,000,000

STRATEGIC GOAL: MISSION ENABLING

Federal Resource Summary by Performance Objective and Program Category

Performance Objective/ Program Category	FY 2015		FY 2016		Change	
	FTEs	\$000	FTEs	\$000	FTEs	\$000
Mission Enabling						
<i>Facilities</i>						
Execute an aggressive, long-range revitalization program and limited construction of new facilities	48	136,698	48	183,150	0	46,452
<i>Security and Safety</i>						
Provide world-class protection for Smithsonian facilities, collections, staff, visitors, and volunteers	0	3,850	0	5,250	0	1,400
Provide a safe and healthy environment	0	3,650	0	11,600	0	7,950
Total	48	144,198	48	200,000	0	55,802

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 provide modern facilities that satisfy public programming needs and facilitate world-renowned research efforts.

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 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 89.1 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 \$200 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 \$200,000,000 and 48 FTEs for the Facilities Capital Program in FY 2016. 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; to begin renovation of the Museum Support Center (MSC) labs; and to begin planning for construction of Pod 6 at MSC. Other priorities include funding to complete rebuilding Contees’ Wharf Road at the Smithsonian Environmental Research Center; renovation of the Freer Gallery humidification system; replacement of the cooling plant at the National Museum of American Indian — New York; and mitigation of safety and security issues throughout the Institution.

The chart that follows summarizes the Institution's full request for the highest priority FY 2016 projects.

SMITHSONIAN INSTITUTION							
Facilities Capital Program Summary							
FY 2014 – FY 2016							
CATEGORY	<i>\$Millions</i>	<i>Federal Received</i>	<i>Trust*</i>	<i>Federal Received</i>	<i>Trust* Estimate</i>	<i>Congress Request</i>	<i>Trust* Estimate</i>
		FY 2014		FY 2015		FY 2016	
REVITALIZATION							
Major Projects							
Anacostia Museum						4.6	
Cooper Hewitt, Smithsonian Design Museum						4.0	
Freer Gallery of Art				6.0		4.4	
Hirshhorn Museum and Sculpture Garden						10.8	
National Air and Space Museum				1.0		1.8	
NASM Steven F. Udvar-Hazy Center						15.0	
National Museum of American History	24.2	26.0		18.5		5.4	
National Museum of the American Indian		3.4	2.5			23.0	10.0
National Museum of Natural History	17.7	10.0	22.9	10.0			
National Postal Museum							
National Zoological Park	15.0	2.7	15.8	2.5	29.6	6.0	
Quadrangle: NMAA, Sackler Gallery, Ripley Center							
Renwick Gallery	8.0	7.0	7.5	7.5			
DWR Center for American Art and Portraiture							
Smithsonian Astrophysical Observatory							
Smithsonian Environmental Research Center			2.0		5.9		
Smithsonian Institution Building (Castle)							
Smithsonian Tropical Research Institute		1.6			1.7	0.8	
Collections Space & Support Program (Multiple Locations)	2.1	4.7	2.5	2.4	18.4		
Multiple Site Projects and General Capital Support	22.2		26.8		20.0		
Facilities Planning and Design		13.8		22.6		55.4	
SUBTOTAL		103.0	55.4	109.6	40.9	200.0	16.8
CONSTRUCTION							
National Museum of African American History & Culture		55.0	29.2	24.0			
Anacostia - Gallery/Office Expansion			0.3				3.0
Collections Space & Support Program (Multiple Locations)							
National Air and Space Museum							
National Zoological Park							4.5
SAO					0.5		29.0
SERC - Master Plan Facilities			5.5		2.0		
SUBTOTAL		55.0	35.0	24.0	2.5	0.0	36.5
EMERGENCY REPAIRS							
Museum Support Center & National Air and Space Museum				10.6			
TOTAL PROGRAM		158.0		144.2		200.0	

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, HVAC, electrical, and other utility systems at the 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	23,000
National Zoological Park	Upgrade Fire Suppression, Life-Safety, and Infrastructure Systems	20,590
	Renovate Police Station	7,000
	Renew Bird House	2,000
National Museum of American History	Roof Repair Projects	6,600
	Processing & Permanent Collections Space	4,500
	Replace Fifth-Floor Windows/Blast Mitigation	3,000
	Replace North/South Entrance Doors	900
National Air and Space Museum	Major Capital Renewal	10,850
	Construct Chiller Plant Upgrades (Udvar-Hazy)	1,800
National Museum of the American Indian	Replace Cooling Plant (NY)	2,500
	Mitigate Exterior Stone Algae and Mold	1,300
	Upgrade Emergency Generator/Switchgear	900
	Upgrade Storm Water Control Systems (NY)	650

Facility	Project	\$000
Cooper Hewitt, Smithsonian Design Museum	Replace Mansion Chillers	2,000
	Restore Entrance Canopy & Conservatory	1,850
	Replace Fire/Smoke Dampers	750
Freer-Sackler Gallery of Art	Replace Humidification System	3,000
	Restore Building Exterior	1,000
Hirshhorn Museum and Sculpture Garden	Correct Conservation Lab Code Deficiencies	1,300
	Improve Collection Storage Fire Suppression	1,200
	Improve Exterior Components	1,000
	Improve Vertical Transportation	950
Museum Support Center	Renovate Labs 1–4 & Collections Care Lab 1	10,700
	Earthquake Damage Repairs	6,000
SI Environmental Research Center	Rebuild/Realign Contees' Wharf Road	3,300
	Improve Java Farm Road	1,600
	Stabilize Mansion Ruins	1,000
Suitland Collections Facility	Collections Storage Swing Space	400
	Replace Sprinklers Valves/Heads	750
	Upgrade Smoke Detectors and Fire Alarms	600
Smithsonian Tropical Research Institute	Tupper Building Repairs	900
	Tupper Building and Site Improvements	750
Multiple Locations	Building Projects less than \$1,000,000	12,950
	Construction Supervision Administration	<u>7,000</u>
TOTAL, REVITALIZATION PROJECTS		\$144,590
FACILITIES PLANNING AND DESIGN		<u>\$55,410</u>
FY 2016 TOTAL REQUEST		\$200,000

REVITALIZATION PROJECTS

Major Projects:

PROJECT TITLE: Revitalize Public and Non-Public Spaces
INSTALLATION: National Museum of Natural History (NMNH)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars):

Continue HVAC/Utility System Replacement and Building Renovation	\$23,000
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<u>PRIOR-YEAR FUNDING:</u>	\$296,354
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FUTURE-YEAR FUNDING:

Ongoing HVAC Replacement and Code Improvements	<u>\$216,300*</u>
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Total	\$535,654
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* 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. NMNH is one of the most visited museums in the world and hosted more than seven million visitors in FY 2014.

PROJECT JUSTIFICATION:

The building's mechanical and electrical systems were installed in the early 1960s. At more than 50 years of age, they are in need of major replacement. Breakdowns of the mechanical systems are frequent, repair parts are often difficult to find, and the system does not provide the environmental 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. In addition, main stairwells and auditorium exit corridors are dark, violating building codes, and are insufficiently served by smoke-evacuation fans. Asbestos-laden pipes in the utility tunnels are a potential health hazard and hamper proper maintenance and response to utility failures. In addition, the windows in the original portion of the building have deteriorated and do not comply with current security standards.

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 \$23.0 million in FY 2016 to continue the renovation. Specific work will include the continuation of several construction projects: renovation of Halls 2–6 (\$18.0 million); replacement of the East and West Wing roofs (\$2.5 million); replacement of the main building windows (\$2.0 million); and attic structure improvements above Hall 2 (\$0.5 million).

PROGRESS TO DATE:

Recent projects completed include the East Wing ground floor HVAC system renovation (Phase 1), which is the staging area for deinstallation of the Paleontology exhibit in Halls 2–6. The HVAC system renovations of the southeast main building ground floor, a two-year project, which includes replacing 13 ground-floor monumental windows and utility components such as switchgears and transformers that serve the entire building, was started this year. Design work for the replacement of East and West Wing roofs will be complete in summer 2015. Design for the renovation of Halls 2–6 is nearing completion; the construction contract will be awarded in the summer of 2015. The master plan provides the basis for prioritizing future infrastructure renovations so that the NMNH building can continue to serve the public.

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, including the popular Dinosaur Halls.

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 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$20,590
<u>PRIOR-YEAR FUNDING:</u>	\$44,800
<u>FUTURE-YEAR FUNDING:</u>	<u>\$26,160</u>
Total	\$91,550

PROJECT JUSTIFICATION:

Much of NZP'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 critical fire-suppression systems in many of the unprotected areas of the Zoo, and to supply adequate water for the animals' welfare.

PROJECT DESCRIPTION:

The Smithsonian requests \$20.59 million in FY 2016 to upgrade critical 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. This includes upgrading utility, water, sewage, and storm-water management, as well as the power distribution system and security infrastructure; correcting structural deficiencies; and installing smoke-evacuation equipment in areas where animals are kept.

PROGRESS TO DATE:

The 2008 NZP comprehensive facilities and utility master plans are used to coordinate work by directing implementation in priority order of critical infrastructure and safety projects. Through FY 2014, many critical infrastructure and fire-protection projects have been completed with federal funding. Projects include: replacement of the medium-voltage electrical distribution system; replacement of the fire-protection water supply from the Adams Mill gate to the Great Ape House (phases 1 and 2 of the utility master plan); installation/replacement of fire hydrants; upgrades to fire-alarm, smoke-detection, and fire-suppression systems throughout animal facilities; and upgrades to central fire alarm-monitoring system and fire protection for several facilities at NZP-Front Royal. Design continues for smoke-evacuation systems in animal facilities, and phased implementation of fire protection is under way for remaining Front Royal facilities. Fire protection improvements will be completed at the Front Royal Vet Hospital and Auditorium in early 2015. Phase two of the Front Royal central post utilities is under contract, with a scheduled March 2016 completion date, and the Zoo will continue implementing utility master plans for both the Rock Creek and Front Royal facilities. Visitor safety improvements are complete at the Lions/Tigers exhibit. Design is complete for visitor safety improvements at the Ape House, with construction planned for FY 2015, to be followed by safety improvements for the Orangutans' enclosure at Think Tank, and Giant Panda House.

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

FY 2016 COST ESTIMATE (Thousands of Dollars): \$7,000

BUILDING BACKGROUND:

The Police Station, formerly called Police Building, opened to the public on March 15, 1956 to house the Zoo Police, gardener's storage, and public restrooms. It was designed by the Department of Buildings and Grounds of the District of Columbia (1956 *Annual Report*, 35). The building is approximately 8,800 square feet, split evenly between two levels. The lower level is currently occupied by the NZP police offices, locker rooms, and police support spaces, and the NZP Health Unit. The upper level contains a small, public-facing police officer work room and visitor information counter, with the remainder of the floor being public restrooms and mechanical rooms.

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 public restrooms, the only public restrooms in the lower half of the Zoo. The restrooms are outdated and insufficient for 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 Smithsonian requests \$7.0 million in FY 2016 to renovate and upgrade the building core, shell, and systems, and to provide revitalized space for police operations and the Health Unit, along with new public restroom facilities. Combined with a planned \$1.0 million (private donation) project to raze and rebuild the adjacent, dilapidated Great Cats gift shop, these projects will facilitate a more efficient layout to meet the demand caused by increased public visitation and the larger police force. 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 critical Zoo operations is also part of this project.

PROGRESS TO DATE:

An architect/engineer (A/E) team has completed the programming and concept design. Design development will continue in FY 2015 so that a construction contract can be awarded during FY 2016.

IMPACT OF DELAY:

If funding is delayed, building systems will continue to fail beyond the point of maintainability, and the building will ultimately become unfit for human occupancy. This would result in a significant negative impact on critical operations and services, severely compromising the Zoo's ability to provide basic restroom amenities, health and first-response services, safety, and security for visitors and staff.

PROJECT TITLE: Renew Bird House
INSTALLATION: National Zoological Park (NZIP)
LOCATION: Washington, DC

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$2,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$38,200</u>
Total	\$40,200

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 compromising 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 was outfitted with 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 expected lifespan and most of the equipment dates back to the 1970s. Animal containment systems are also outdated and in urgent need of new design and replacement. This project renews a 4.4-acre parcel, containing the Bird House and Great Flight Cage, with a new *Marvelous Migrations* exhibit that emphasizes the global importance of migration to species survival by using innovative conservation-based education. Using leveraged donor funds along with federal appropriations, facility improvements will include new site utilities, as well as total replacement of failed chillers, outdated HVAC equipment, obsolete storm and waste water management systems, and animal/human life-safety, electrical, plumbing, security and data systems. This project is consistent with the Zoo's comprehensive facilities master plan (2008) and implementation strategy.

PROJECT DESCRIPTION:

This phased project will renew and renovate the Bird House, Great Flight Cage, exterior bird yards, and surrounding landscape and paths. The Smithsonian requests \$2.0 million in FY 2016 to create swing space to hold the animals in the current collection as part of the renewed Bird House and grounds, and for quarantine of new animals prior to reopening the Bird House. The project will renew the congressionally established Smithsonian Migratory Bird Center to provide a transformational visitor experience with the goal of creating and sharing knowledge to save wildlife and habitats across the globe.

PROGRESS TO DATE:

The project is currently in design. A consolidated concept was completed in May 2014. Design will be completed in 2015 to enable construction of temporary holding and swing space for the living collections during FY 2016. Renovation of the Bird House and Great Flight Cage will begin in FY 2017 immediately after the living collection is relocated into the swing space.

IMPACT OF DELAY:

If funding is delayed and the swing-space holding facilities are not ready to receive the living collections, the Bird House renovation planned to begin in FY 2017 will have to be postponed. Such a delay in renovating the Bird House and environs would place the living collection at risk as the facilities continue to deteriorate and the worsening conditions threaten the environment for birds, staff, and visitors.

PROJECT TITLE: Roof Repair Projects
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$6,600
<u>FUTURE-YEAR FUNDING:</u>	<u>\$2,700</u>
Total	\$9,300

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. 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. This modern classical building (752,000 gross square feet) houses various 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, an exhibit on the gowns of the first ladies, and a new exhibition focused on the American presidency. Since its re-opening in 2008, the Museum's yearly attendance has increased by two million since before its closure for the renovation of its central core areas.

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 Smithsonian requests \$6.6 million in FY 2016 for Phase 1 repairs and improvements to the first floor roof and second floor terrace to address leaks, improve drainage, and eliminate tripping hazards from broken terrace pavers. This will include work to raise expansion joints and repair or replace areas of roofing and stone terrace pavers, parapet walls and coping, including incidental repairs of the electrical service infrastructure. Work on this level is a priority because of existing tripping hazards from terrace pavers and the risk of water damage from roof leaks onto objects in exhibit areas below. Additional funds will be requested in later years for similar repairs on and improvements to the rest of the roof and terrace levels, as well as to add security cameras, fall protection, and lightning protection systems.

PROGRESS TO DATE:

In 2014, a study was completed, documenting the condition of roof, terrace, and drainage materials and systems, itemizing repairs and improvements needed for these systems, recommending fall-protection, lightning protection, additional security camera coverage, electrical service infrastructure repairs, and estimating the associated costs. With the funds requested, design will begin in FY 2015.

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 exhibit areas to water damage. Delays in installing a fall-protection system and repairing roof terrace pavers will allow life-safety hazards to terrace occupants and maintenance contractors and staff to persist. Likewise, delays in improvements to the electrical infrastructure and additional security camera installation will leave the roof and terrace areas without adequate security coverage. In addition, delays to the lightning protection system upgrades will continue to put the building at risk for this type of damage.

PROJECT TITLE: Processing and Permanent Collections Space
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$4,500

PROJECT JUSTIFICATION:

The collections processing area on the lower level and a permanent collections storage space on the fifth floor are overcrowded, inefficient, and have inadequate and inconsistent storage equipment, making it difficult for the staff to store, manage and control collections to appropriate standards.

PROJECT DESCRIPTION:

The Smithsonian requests \$4.5 million in FY 2016 to create additional space for collections within the building by renovating and installing appropriate equipment to increase storage capacity, improve circulation, and allow more efficient work flow. Six contiguous collections processing rooms (with a total of 3,130 square feet) on the lower level of the building and seven contiguous permanent collections storage rooms (with a total of 5,545 square feet) on the fifth floor will be renovated and fitted with appropriate storage equipment.

PROGRESS TO DATE:

An Institution-wide Collections Space Framework Plan, completed in 2014, included conceptual plans for improvements to these rooms as prototype designs for processing and permanent collections storage spaces within existing Smithsonian museum buildings. With the funding requested, design work for these renovations will begin in FY 2015.

IMPACT OF DELAY:

A delay in improving these spaces will subject the collections, as well as collections management staff, to substandard conditions for the storage and control of collections as they are received in the building and placed into these permanent storage spaces. Since the permanent collections storage space is already full, it will not be possible to store additional objects in these areas.

PROJECT TITLE: Replace Fifth Floor Windows — Blast Mitigation
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$3,000

PROJECT DESCRIPTION:

The NMAH building fifth floor windows have been allowing rain water to penetrate into the interior of the building for more than a decade, resulting in water damage to interior finishes as well as mold growth. Furthermore, these windows do not comply with current Smithsonian security standards, which require that all buildings on the National Mall be equipped with blast-protection windows. This project will replace the aluminum-framed glass windows and doors, reinforce blast protection, and eliminate leaks into the building interior. This project will also include repointing and caulking of the stone surrounding each window.

PROJECT TITLE: Replace North and South Entrance Doors
INSTALLATION: National Museum of American History (NMAH)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION:

The heavily used public entrance doors on the North (Constitution Avenue) and South (National Mall) sides of the NMAH building have experienced increasingly frequent failures in recent years, coming out of alignment and sometimes falling off of the hinges and therefore posing a public safety hazard. In addition, the frameless glass-panel design allows rain, snow, humidity, and extreme temperatures to penetrate the interior environment of the Museum. This project will replace the existing frameless glass doors and pivot hinges with metal-framed glass doors and heavy-duty hardware, and will include a design trial phase to ensure the durability and weather-tightness of the new design.

PROJECT TITLE: Revitalize Building Envelope and Infrastructure
INSTALLATION: National Air and Space Museum (NASM)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$10,850*

FUTURE-YEAR FUNDING: TBD

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 hosted an average of more than 7 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, show signs of aging, and, in some cases, damage through visible cracks and warping, creating the possibility of structural failure. The current marble primary weather seal assembly does not provide a continuous vapor barrier across the entire façade and the R-value (measure of thermal resistance) is not consistent with current sustainable best practices and energy conservation. There is no secondary weather seal on the marble wall assembly, creating condensation and energy conservation problems.

The building's mechanical systems are original to the 1976 building and have exceeded their useful lifespans. The mechanical systems are further burdened by the condition of the exterior façade and condensation and moisture that the exterior envelope is allowing into the building. In addition, a program of improvements for restrooms, vertical transportation (elevators and escalators), and other interior infrastructure needs to continue.

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, and replace the mechanical systems. 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. In addition, interim revitalization of restrooms, vertical transportation, and other infrastructure improvements must continue to keep the Museum open to the public and staff. The Smithsonian requests \$10.85 million in FY 2016: \$850,000 to bring staff restrooms into code and accessibility compliance; and \$10.0 million to fund pre-construction activities; i.e., swing space and artifact collection

moves and protection, and to continue preparation work for the future building systems and envelope renovation project.

PROGRESS TO DATE:

A final feasibility study for the building systems and envelope renovation was received in mid-December 2013. The recommendations and conclusions confirmed the need to replace the exterior stone, make seismic structural upgrades, replace the heating, ventilation and air-conditioning systems, and replace the outdated sprinkler fire-protection system. Design work began in June 2014 with the award of the concept/schematic design contract. The estimated timeline for design is 30 months. The construction timeline will depend on whether the project is completed in a single phase or broken up into multiple phases. The budget, scope of work, and implementation schedule will be further refined as design work progresses. Design for the staff restroom project is 100 percent complete and ready for contracting.

Due to the extremely poor condition of the exterior stone panels, the Smithsonian constructed a temporary covered walkway under the most vulnerable portions of the building. The covered walkway will remain in place until the façade replacement is done.

IMPACT OF DELAY:

If funding is delayed, NASM's stone façade, exterior envelope, and building systems will continue to deteriorate, placing this iconic landmark on the National Mall, one of the world's most visited museums, at risk of complete closure. A delay in renewal of the building envelope and environmental conditions will severely impair the Institution's ability to maintain the safety and security of the Museum's collections and the visiting public.

PROJECT TITLE: Construct Chiller Plant Upgrades
INSTALLATION: National Air and Space Museum (NASM, Udvar-Hazy Center)
LOCATION: Chantilly, Virginia

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,800

PROJECT DESCRIPTION:

Starting in 2012, with the completion of Udvar-Hazy Phase 2 and the tie-in to the Udvar-Hazy central utility plant (CUP), the chiller plant has struggled in the summer months to maintain the refrigeration load and building temperatures. This is caused by the lack of capacity of the cooling tower cells to support the chillers, along with a problematic gravity flow to the condenser water pumps and lack of cooling capacity at several air handling units (AHUs). This project will raise the cooling tower, add more cells to the cooling tower to increase capacity, and replace or retrofit the inefficient AHUs. A design contract has been awarded and is scheduled to be completed in late FY 2015.

PROJECT TITLE: Replace Cooling Plant
INSTALLATION: National Museum of the American Indian,
George Gustav Heye Center (NMAI-GGHC)
LOCATION: New York, New York

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$2,500
<u>PRIOR-YEAR FUNDING:</u>	<u>\$2,500</u>
Total	\$5,000

BUILDING BACKGROUND:

The National Museum of the American Indian — New York, the George Gustav Heye Center, is located within the historic Alexander Hamilton U.S. Custom House, designed by Cass Gilbert (1859–1934) and completed in 1907. Rich in architectural and historic significance, the Custom House is a National Historic Landmark. The Museum occupies 80,000 square feet of dedicated leased space in the basement, first, and second floors.

PROJECT JUSTIFICATION:

The Museum’s cooling plant is approximately 20 years old and uses R22 refrigerant that must be phased out due to environmental concerns. Additionally, the cooling tower, chillers, and pumps routinely fail and outages of steam service from the municipal power company (such as during Super Storm Sandy in 2012) also threaten the reliable operation of the plant. The facility is in great need of a high-efficiency solution that provides for ease of maintenance, redundancy, environmental controls, and planned program expansion.

PROJECT DESCRIPTION:

Replacement of the cooling plant will be phased, based on priorities established as part of the design development of the project. Anticipated phasing, in priority order, includes replacing the cooling towers, chillers, and pumps, and evaluating whether to replace piping and support elements. Electrical redundancies will also be evaluated to ensure continual operation in the event of primary service failure.

PROGRESS TO DATE:

A Logistics and Sustainability Workshop held in 2013 established preliminary priorities and phasing for the project. Construction will begin in FY 2015, with additional funding required in FY 2016 to complete the project.

IMPACT OF DELAY:

If funding is delayed, building systems will continue to deteriorate and the environmental conditions required to protect the Museum’s collections and serve the visiting public cannot be maintained. Existing equipment and system components are at the end of their useful lives and will begin to fail at increasing rates, demand increasing maintenance staff time, and be more expensive to replace if this project is delayed. Additionally, leaking rooftop cooling plant units negatively affect Smithsonian agreements with GSA for proper maintenance of the dedicated systems.

PROJECT TITLE: Mitigate Stone Algae and Mold
INSTALLATION: National Museum of the American Indian (NMAI)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,300

PROJECT DESCRIPTION:

Due to construction methods and environmental conditions, blue-green algae has developed on areas of the Museum's masonry façade. This effect appears to visitors as black mold and has negatively affected the Museum. Maintenance procedures for proper care and cleaning of the stone have been developed and have partially reduced the recurring algae growth and stone staining. This project will abate the staining and implement processes for periodic non-destructive interventions.

PROJECT TITLE: Upgrade Emergency Generator/Switchgear
INSTALLATION: National Museum of the American Indian (NMAI-CRC)
LOCATION: Suitland, Maryland

FY 2016 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION:

Several critical areas, such as the collections storage room, and major systems equipment are currently without backup power, and the existing generator does not have enough capacity for expansion. The switchgear, with outmoded buckets and large fuse racks, poses a potential safety risk if not placed properly. This project would upgrade both the generator and switchgear to meet current service levels and standards of redundancy.

PROJECT TITLE: Upgrade Storm Water Control Systems (Disaster Preparedness)
INSTALLATION: National Museum of the American Indian (NMAI-GGHC)
LOCATION: New York, New York

FY 2016 COST ESTIMATE (Thousands of Dollars): \$650

PROJECT DESCRIPTION:

Flooding during Super Storm Sandy revealed water protection deficiencies at the facility. Proactive measures are needed to prevent water infiltration into Smithsonian spaces. Design solutions, not yet complete, will be implemented to divert water to benign locations around or in the building. Options may include, but are not limited to, sumps, flood barriers, or retention areas, some of which may require coordination with the local government of the City of New York.

PROJECT TITLE: Replace Mansion Chillers
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2016 COST ESTIMATE (Thousands of Dollars): \$2,000

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 two primary chillers are more than 18 years old and approaching the end of their useful service lives. Increased demands on these critical interior environmental system components, with the Museum's 2014 reopening and expanded visitation, will accelerate the frequency of service calls and rate of component deterioration. The chillers and associated equipment need to be replaced and modernized to increase the reliability and efficiency of the HVAC system.

PROJECT DESCRIPTION:

The Smithsonian requests \$2.0 million in FY 2016 to replace two primary chillers, two cooling towers, and associated pumps with new, energy-efficient equipment.

PROGRESS TO DATE:

Design has progressed to the 35 percent stage, and is scheduled to be completed in the summer of 2015.

IMPACT OF DELAY:

A delay in completing this project will result in continued degradation of HVAC system efficiency and reliability, thereby degrading the collections environment as well as increasing utility costs.

PROJECT TITLE: Restore Entrance Canopy and Conservatory
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$1,850
<u>FUTURE-YEAR FUNDING:</u>	<u>\$4,500</u>
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 protect against potential failure of the compromised ceiling laylight supports and attachments, the glass elements have been removed, salvaged, and stored.

PROJECT DESCRIPTION:

The Smithsonian requests \$1.85 million in FY 2016 to begin repairs on the canopy and Conservatory. 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.

PROGRESS TO DATE:

Canopy design is substantially complete. A lighting mock-up will be reviewed in March of 2015. The Conservatory schematic design was completed in August of 2014. The contractor will prepare design-assist package in early 2015.

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: Replace Fire/Smoke Dampers
INSTALLATION: Cooper Hewitt, Smithsonian Design Museum (CHSDM)
LOCATION: New York, New York

FY 2016 COST ESTIMATE (Thousands of Dollars): \$750

PROJECT DESCRIPTION:

Conversion of out-of-date pneumatic controls in the fire-protection system to digital controls requires upgrading the fire dampers as well as achieving life-safety code compliance. Some of the dampers were replaced during the recent Miller-Fox and Mansion renovation projects. The remainder of the fire/smoke dampers, in areas that were outside the scope of the recent renovations, will be replaced to integrate and comprehensively commission the entire system.

PROJECT TITLE: Upgrade Freer Humidification System
INSTALLATION: Freer Gallery of Art (FGA)
LOCATION: Washington, DC

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$3,000
<u>PRIOR-YEAR FUNDING:</u>	<u>\$6,000</u>
Total	\$9,000

BUILDING BACKGROUND:

The Freer Gallery of Art opened to the public in 1923 and was the Smithsonian's first art museum. In 1990, the ground floor was completely renovated and the basement expanded to consolidate the collections storage. Constructed in granite and marble, the Gallery and its central courtyard are among the most peaceful and serene spaces in Washington, DC.

PROJECT JUSTIFICATION:

The existing steam reheat and humidification systems for the Freer Gallery are more than 25 years old and are nearing the end of their useful life expectancy. The systems are deteriorating in performance and reliability, creating conditions that compromise the environmental conditions necessary for the proper preservation of the priceless art collection. Failures of duct-mounted, steam-heating coils and humidifiers have resulted in periodic leaks above ceilings and loss of temperature and humidity control. All of the steam-heating coils and humidifiers and the associated steam and condensate piping must be replaced to re-establish long-term system reliability.

PROJECT DESCRIPTION:

Installation of a new steam-to-steam generating system will produce "clean" steam for building humidification. A dedicated low-pressure steam system will extend from the steam generator to new humidifiers at air-handling units. Existing air-handling units will be replaced. The existing low-pressure steam piping and condensate-return piping will be replaced with a new hot water heating system, with electric reheat used in collections areas to reduce the risk of water damage, along with electrical upgrades to support the new equipment. The Smithsonian requests \$3.0 million in FY 2016 to complete construction of the project.

PROGRESS TO DATE:

The construction contract has been awarded and work is anticipated to start in February of 2015.

IMPACT OF DELAY:

Without the funds requested, temporary repairs would continue to be applied to a humidification system that is more than 25 years old and increasingly unreliable. Although past repairs have kept the system minimally operational, it is imperative that the humidification system be upgraded to provide a stable indoor environment, which is critical for the preservation of the priceless Museum collections, the building, and the comfort of visitors and staff.

PROJECT TITLE: Restore Building Exterior
INSTALLATION: Freer Gallery of Art (FGA)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,000

PROJECT DESCRIPTION:

The stone exterior of the Freer Gallery requires cleaning, repointing, and limited repair to arrest active leaks around openings (e.g., doors and windows) and extend its performance into the building's second century.

PROJECT TITLE: Improve Exterior Envelope Components
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$1,000
<u>FUTURE-YEAR FUNDING:</u>	<u>\$4,000</u>
Total	\$5,000

BUILDING BACKGROUND:

The Hirshhorn Museum and Sculpture Garden, the Smithsonian's Museum of contemporary art, opened to the public in 1974. The Museum building is a cylindrical shape raised 14 feet above the ground on massive concrete piers. 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 Museum building has four above-ground stories and a basement, which sits below the plaza that surrounds 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 will begin in FY 2015, but there is an immediate need to address active leaks and other vulnerabilities, including the roof and the shallow balcony on the Mall side of the building.

PROJECT DESCRIPTION:

The Smithsonian requests \$1.0 million in FY 2016 to replace the paving, flashing, and glazed assemblies at the North balcony and begin replacing the building roof membrane and inadequate fall-protection systems.

PROGRESS TO DATE:

Detailed studies of the balcony repairs and fall-protection system improvements have been completed and will form the basis of final decisions about scope and design.

IMPACT OF DELAY:

Continuing leakage at the balcony endangers the building fabric and the collections, and makes public access to the balcony impossible. Inadequate fall-protection infrastructure poses a danger to staff and contractors who require access to the roof, windows, and perimeter walls.

PROJECT TITLE: Correct Conservation Lab Code Deficiencies
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,300

PROJECT DESCRIPTION:

The Lab's lack of code-compliant exhaust of hazardous chemicals, used in limited quantities in the assessment, repair, and preservation of works of art in the Hirshhorn collection, limits the conservation staff's ability to care for the collection. Separating the "clean" and "dirty" lab activities and providing appropriate means of ventilation will protect both the staff and the collection.

PROJECT TITLE: Improve Fire Suppression in Collection Storage
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,200

PROJECT DESCRIPTION:

The collection storage areas within the Hirshhorn Museum do not have a fire-protection sprinkler system. This project will install fire protection in those critical areas for the first time.

PROJECT TITLE: Improve Vertical Transportation
INSTALLATION: Hirshhorn Museum and Sculpture Garden (HMSG)
LOCATION: Washington, DC

FY 2016 COST ESTIMATE (Thousands of Dollars): \$950

PROJECT DESCRIPTION:

The elevators and escalators at the Museum are integral elements of the architecturally significant building design but are no longer adequate to serve current demands. Funding is requested for upgrades that, within the context of the facility's master plan for development, will meet both code and aesthetic requirements.

PROJECT TITLE: Renovate Labs 1–4 and Collections Care Lab 1
INSTALLATION: Museum Support Center (MSC)
LOCATION: Suitland, Maryland

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$10,700
<u>FUTURE-YEAR FUNDING:</u>	<u>\$12,300</u>
Total	\$23,000

BUILDING BACKGROUND:

Designed and built in 1983, the modern, pre-cast concrete Center is a research, conservation, and collection storage facility providing optimum environments for the storage, preservation, and study of Smithsonian collections. The original 524,000-square-foot facility has four large collection storage bays, referred to as pods, and an office-laboratory complex. The recently constructed 120,000-square-foot fifth pod provides code-compliant housing and laboratory space for natural history specimens stored in alcohol.

PROJECT JUSTIFICATION:

Since the facility's initial construction in 1983, Labs 1–4 have been occupied by various departments and units of the Smithsonian, and in 2008 an additional lab and Pod 5 were adjoined to the original MSC building. Labs 1–4, consisting of 113,000 net square feet over two floors, have undergone a series of patchwork renovations over the last 25 years in response to a general shift from wet chemistry to dry instrumentation research. As a result, large portions of the facility have become disjointed, outdated and underused. Moreover, renovations to Pod 3 have brought new collections and associated staff from additional Smithsonian museums and National Museum of Natural History departments, putting further strain on MSC's existing resources. The lab renovations will support the Institution-wide Collections Space Framework Plan and serve multiple units.

PROJECT DESCRIPTION:

The MSC Laboratory Wing 1–4 Programming and Space Planning Study, completed in 2009, established a framework for renovating the lab space at MSC in a logical sequence that fits in with the Center's functional program and HVAC renewal strategy. The renovation of Collections Care Lab 1 is the first phase of what will eventually be the renovation of four labs over the next decade. The Smithsonian requests \$10.7 million in FY 2016 to begin the first phase of the project.

PROGRESS TO DATE:

The MSC Laboratory Wing 1–4 Programming and Space Planning Study was completed in 2009. Swing space for Lab 1 occupants was completed in 2010. The final construction documents for the Lab 1 renovation are complete and ready for the contracting process. Design for Lab 2 is scheduled to begin in FY 2017.

IMPACT OF DELAY:

Delaying this critical collections care initiative would prevent the Institution from responding effectively to a large backlog of collections space deficiencies, leaving valuable collections at risk. Former occupants of Lab 1 have already relocated to temporary swing space (which is inadequate for long-term use) in preparation for the renovation work.

PROJECT TITLE: Earthquake Damage Repairs
INSTALLATION: Museum Support Center (MSC)
LOCATION: Suitland, Maryland

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$6,000
<u>PRIOR-YEAR FUNDING (including funds for NASM):</u>	<u>\$10,600</u>
Total	\$16,600

BACKGROUND:

The earthquake of August 2011 damaged multiple Smithsonian buildings. Along with structural damage, various collections in each building 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, 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. NASM is the most visited Smithsonian museum and one of the most visited in the world. The damages to the building envelope have left it with many leaking skylights, wall connections, rain leaders, and façade joints.

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.

At NASM, the skylight system has sustained numerous leaking frames and connections which cannot be repaired without extensive construction support involving interior scaffolds, suspended work platforms, phasing, lighting and lifts. The multi-jointed stone façade and flat built-up roof of the building were jolted and twisted by the earthquake, resulting in cracks and openings for leakage of water and air. Maintenance

crews continue to repair leaks when found, but the multiple major leaks can only be temporarily patched and continue to reopen. As a result, public, administrative, and collection areas must constantly be surveyed for water and water damage.

PROJECT DESCRIPTION:

The MSC repairs entail 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 repair work.

The NASM scope of work consists of exterior façade restoration, repairs to damaged marble cladding, anchors, and clips, re-insulation and waterproofing of the cavity between the interior/exterior walls, roof repairs to corners, flashing, parapets, and coping, and repairs to the frames and associated connections in the skylight system. This effort will be coordinated with the Building Envelope and Revitalization project.

For FY 2015, the Institution received \$5.25 million for NASM and \$5.35 million for MSC to perform this work. The Institution requests \$6.0 million in FY 2016 to complete the MSC repairs and structural upgrades.

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 to prepare design specifications 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 of 2015.

IMPACT OF DELAY:

The MSC pods, although considered safe in their present state, have sustained structural damage 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 catastrophic loss of national collections.

PROJECT TITLE: Realign and Rebuild Contees' Wharf Road
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$3,300
<u>PRIOR-YEAR FUNDING:</u>	<u>\$2,000</u>
Total	\$5,300

BACKGROUND:

SERC conducts long-term research addressing such issues as global climate change, the effects of nutrients and chemicals passing through our landscapes, maintenance of productive fisheries, changes to our environment from invasive species, and protection of fragile wetlands and woodlands. SERC is situated on an approximately 2,650-acre site along Rhode River on the shore of the Chesapeake Bay.

PROJECT JUSTIFICATION:

Contees' Wharf Road is the primary entry to SERC's 2,600-acre campus in Edgewater, Maryland. This "road" is a one-mile-long, narrow, twisting, two-lane path made up of temporary asphalt bindings over dirt, which provides access to 300 vehicles per day, including those of SERC employees, visiting researchers, and delivery trucks ranging in size from pickups to 53-foot tractor-trailers. In addition, 12,000 school children visit SERC each year in large school buses, which must navigate this narrow road, competing with other traffic while traversing numerous blind turns and brows. Most significantly, Contees' Wharf Road includes many steep slopes up to 15 feet deep and lacks shoulders and guardrails. This safety concern is highlighted by the fact that there are no drainage systems or storm-water management practices in place, which makes the road especially slippery and treacherous during rain, snow, and ice events.

PROJECT DESCRIPTION:

This project involves widening and straightening the road, eliminating obstacles, creating sustainable storm-water management, eliminating dangerous adjacent slopes, creating "pull-off" passing zones, re-designing dangerous intersections, and using sustainable paving. The Smithsonian requests \$3.3 million in FY 2016 to complete construction.

PROGRESS TO DATE:

Design for the first phase of work is 100 percent complete and has full Maryland Department of the Environment (MDE) approval, with construction expected to begin in March 2015. Design documents for the next phase are 95 percent complete and have preliminary approval from MDE.

IMPACT OF DELAY:

Continued deterioration of Contees' Wharf Road would increase the risk to staff, visiting scientists, school children, and the public who must use the road to access SERC's facilities.

PROJECT TITLE: Improve Java Farm Road
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,600

PROJECT DESCRIPTION:

The Java Farm Road leads from the Contees' Wharf Road directly to the Mathias Lab and Administration Building, and is deteriorating rapidly due to heavy usage by staff, the public, contractors, and visitors. Rebuilding this road will increase safety and save considerable maintenance funds in the future. The three-eighths-mile section is to be rebuilt, including sub-base, shoulders, storm-water management, and paving.

PROJECT TITLE: Stabilize Mansion Ruins
INSTALLATION: Smithsonian Environmental Research Center (SERC)
LOCATION: Edgewater, Maryland

FY 2016 COST ESTIMATE (Thousands of Dollars): \$1,000

PROJECT DESCRIPTION:

An important cultural and historic landmark, the Contee Farm Mansion ruins are required to be stabilized as part of the purchase agreement for the Contee Farm in 2007. The temporary stabilization done in 2008, designed to last five years, has since failed, leaving the structures totally unsupported. The design to permanently stabilize these structures is 100 percent complete and ready for construction award.

PROJECT TITLE: Construct Collections Storage Swing Space
INSTALLATION: Suitland Collections Facility
LOCATION: Suitland, Maryland

<u>FY 2016 COST ESTIMATE (Thousands of Dollars):</u>	\$400
<u>PRIOR-YEAR FUNDING:</u>	\$7,630
<u>FUTURE-YEAR FUNDING:</u>	<u>\$6,000</u>
Total	\$14,030

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 10 years old, are beginning to fail, further contaminating the collections. The August 2011 earthquake and hurricane exacerbated this problem by causing the sheeting to split in many locations. Only a few highly trained and qualified Smithsonian staff, properly outfitted in full hazmat suits with respirators, 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 creates swing space to store cleaned collection items, by erecting a temporary, pre-manufactured 20,000-square-foot building on the adjacent concrete pad of recently removed Building 21. The next step will be to build a decontamination chamber within Building 15, and begin 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. The collections will then be shipped to the leased space for short-term storage. Once its contents are removed, Building 15 will be demolished. Phases two and three will repeat this process for Buildings 16 and 18. For FY 2016, the Smithsonian requests \$0.4 million to prepare the swing space for the next phase of temporary artifact processing and holding.

PROGRESS TO DATE:

The project to erect a temporary structure on the site of Building 21 is under way, with completion scheduled for April of 2015. This temporary swing space structure is now referred to as Building 37. A contract for decontamination work in Building 15 was awarded in early December of 2014, with a notice to proceed expected in February of 2015.

IMPACT OF DELAY:

Temporary fixes to Buildings 15, 16, and 18, which were originally constructed as 10–15 year temporary buildings in the 1950s, continue to be required at increasing frequencies. The temporary fixes are holding the facilities stable, but prudent stewardship of our national collections demands that action 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 collection facilities without continued and substantial progress in removing Buildings 15, 16, and 18.

PROJECT TITLE: Replace Sprinkler Valves/Heads
INSTALLATION: Suitland Collections Facility (SCF)
LOCATION: Suitland, Maryland

FY 2016 COST ESTIMATE (Thousands of Dollars): \$750

PROJECT DESCRIPTION:

The existing sprinkler pipe systems in several of the Garber buildings are more than 30 years old, in poor condition, and need replacement. This project will ensure the safety of staff and collections by replacing sprinklers and piping to meet current code requirements and restoring proper functioning of the system.

PROJECT TITLE: Replace Smoke Detectors and Fire Alarms
INSTALLATION: Suitland Collections Facility (SCF)
LOCATION: Suitland, Maryland

FY 2016 COST ESTIMATE (Thousands of Dollars): \$600

PROJECT DESCRIPTION:

The existing fire-alarm systems in several of the Garber buildings are more than 30 years old, in poor condition, and need replacement. This project will ensure the safety of staff and collections by replacing smoke detectors and fire alarms to meet current code requirements and restoring proper functioning of the system.

PROJECT TITLE: Tupper Building Repairs
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2016 COST ESTIMATE (Thousands of Dollars): \$900

PROJECT DESCRIPTION:

This project will replace the main mechanical equipment of the Tupper Building, including chillers, air-handling units, and the potable water pump system, as well as refurbish the existing elevator and repair the roof. The existing equipment is original from the Tupper Building construction (1990) and therefore requires replacement due to age, difficulty in finding replacement parts, and the need to reduce maintenance costs. Design and specification of replacement equipment will commence in FY 2015 so that the replacement program can begin in FY 2016.

PROJECT TITLE: Tupper Building and Site Improvements
INSTALLATION: Smithsonian Tropical Research Institute (STRI)
LOCATION: Panama

FY 2016 COST ESTIMATE (Thousands of Dollars): \$750

PROJECT DESCRIPTION:

The Tupper Complex in Ancon, Panama is the headquarters of the Smithsonian Tropical Research Institute (STRI), with the laboratory building serving as the Institute's core worksite. In addition to staff working at Tupper, numerous visitors come to the complex both during and after business hours, for research, conferences, and other activities. The Tupper Building and site improvements project will revitalize the Tupper Complex and enhance its functionality. New, more efficient entrances and internal walkways will be built, with improved landscaping and aesthetic elements that enhance the structure. In addition, an elevator will be added to the Tupper Building to improve accessibility for staff and visitors.

PROJECT TITLE: Building Projects Less than \$1,000,000
INSTALLATION: Multiple Locations

FY 2016 COST ESTIMATE (Thousands of Dollars): \$12,950

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. These projects include work at the Anacostia Community Museum; Freer Gallery of Art; National Museum of the American Indian; Quadrangle Building; Smithsonian Environmental Research Center; the Smithsonian Institution Building (The Castle); Suitland Collections Facility; National Air and Space Museum, Udvar-Hazy Center; and the Smithsonian Astrophysical Observatory. In addition, these projects support 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 2016 COST ESTIMATE (Thousands of Dollars): \$7,000

PRIOR-YEAR FUNDING: \$6,200

PROJECT DESCRIPTION:

This request includes staff 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 \$7.0 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 Smithsonian's 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 2016 will provide necessary planning and design to the 35 percent stage for most projects included in the planned FY 2018 program, and will complete design for projects planned for FY 2017. 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 \$55,410,000 for planning and design in FY 2016. These funds will be used to design several major revitalization projects at the National Air and Space Museum (\$22 million); Museum Support Center (\$6.3 million); National Zoological Park (\$3 million); National Museum of Natural History (\$2.5 million); Udvar-Hazy Center (\$2 million); Hirshhorn Museum and Sculpture Garden (\$1.4 million); National Museum of American History (\$1 million); and the Smithsonian Castle (\$2 million). The request also includes funding to prepare designs for numerous smaller revitalization projects, including security upgrades and master planning (\$15.21 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.

Additional justification for the National Air and Space Museum (NASM) and the Museum Support Center (MSC) Pod 6 planning and design projects follows:

- **NASM:** The Institution requests \$22.0 million to fund design of the envelope and building systems renovation project.

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, show signs of aging, and, in some cases, damage through visible cracks and warping, creating the possibility of failure. The current marble primary weather seal assembly does not provide a continuous vapor barrier across the entire façade and the insulation R-value is not consistent with current sustainable best practices and energy conservation guidelines. There is no secondary weather seal on the marble wall assembly, which creates condensation and energy conservation problems.

A final feasibility study for the building systems and envelope renovation was received in mid-December 2013. The recommendations and conclusions confirmed the need to replace the exterior stone, make seismic structural upgrades, replace the heating, ventilation and air-conditioning systems, and replace the outdated sprinkler fire-protection system. Design work began in June of 2014 with the award of the concept/schematic design contract. The estimated timeline for design is 30 months. The construction timeline will depend on whether the project is completed in a single phase or broken up into multiple phases. The budget, scope of work, and implementation schedule will be further refined as design work progresses.

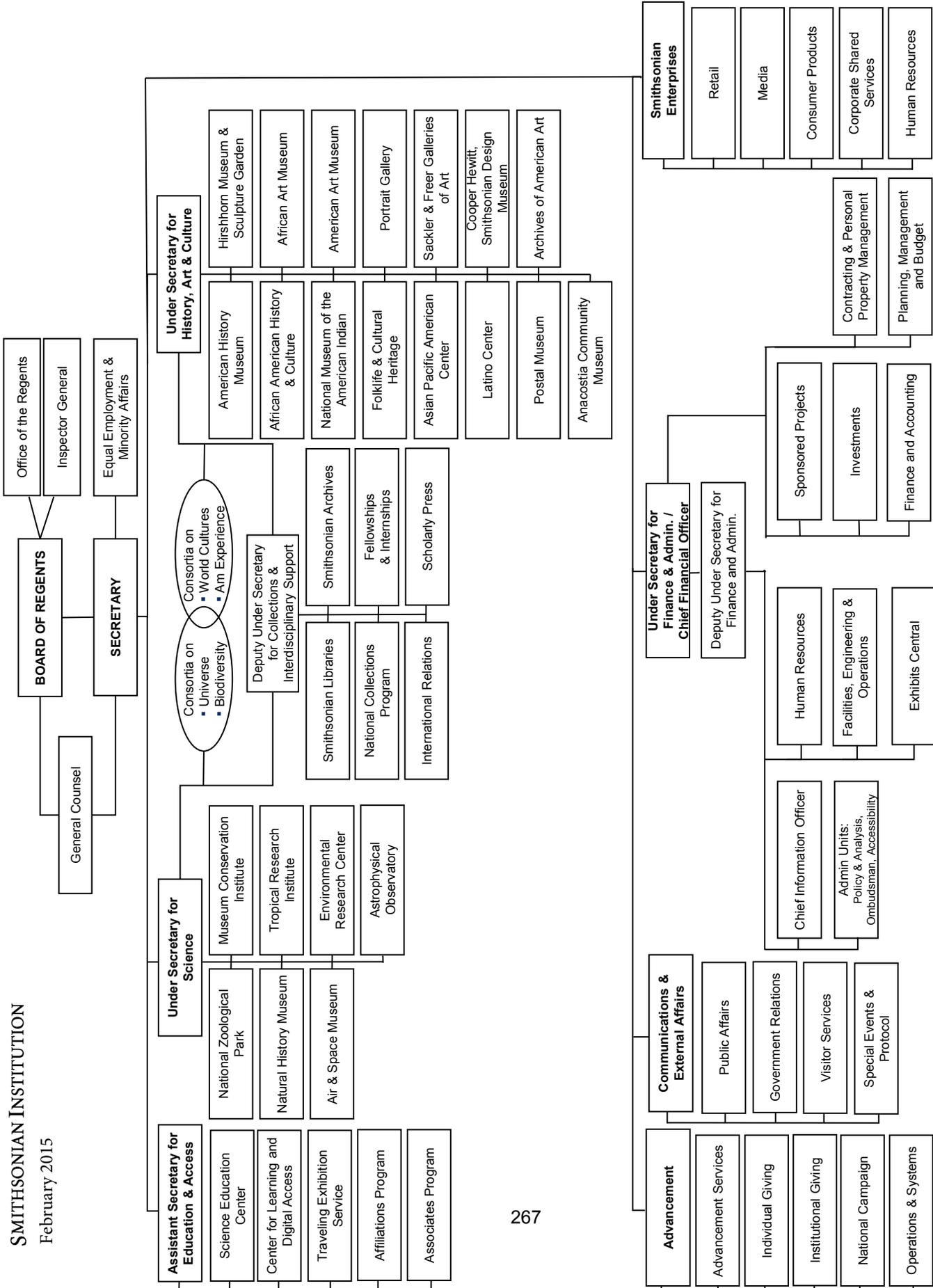
- **MSC:** The Smithsonian requests \$6.3 million in FY 2016 to prepare design documents for construction of a three-story, 104,000-square-foot addition to the MSC building.

A key part of the Institution's Collection Space Framework Plan is to replace inadequate space at the Suitland Collections Facility with facilities that meet best practice collections storage standards for environmental conditions, accessibility, and security. The 1994 master plan included a project to expand the MSC footprint to the west of the existing building. Construction of Pod 6 in this area will complete the intent of the master plan and will initiate the Institution-wide Collection 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 project (i.e., Public Space Renewal Package IV), which requires both temporary and permanent relocation of a significant volume of collections from the NMAH building to accomplish the renovation work within the Museum.

If these essential resources are not provided, the Institution will be unable to proceed with vital planning and design activities to ensure the successful execution of the Smithsonian's long-range Capital Program.

SMITHSONIAN INSTITUTION

February 2015



**VISITS TO THE SMITHSONIAN
FY 2010–FY 2014**

<u>MUSEUM</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>
MALL					
SI Castle	1,813,818	1,599,986	1,453,220	1,405,651	1,158,617
A&I Building ¹	0	0	0	0	0
Natural History	6,969,616	6,768,580	7,378,612	8,281,983	7,047,560
Air and Space/ Silver Hill	8,013,000	7,283,019	6,907,969	7,167,075	6,377,840
American Indian	1,365,915	1,326,457	1,605,547	1,444,279	1,260,756
Freer Gallery	516,164	542,792	567,183	401,101	357,282
Sackler Gallery	307,732	373,800	400,950	225,053	192,132
African Art	333,342	369,635	405,441	227,547	180,608
Ripley Center	365,580	447,224	519,878	226,052	140,701
American History	4,237,760	4,588,853	4,764,131	4,978,559	3,971,987
Hirshhorn	612,460	617,751	722,008	717,663	514,922
OFF MALL					
DW Reynolds Center (AA/PG)	1,010,876	1,080,177	1,078,774	1,063,299	1,075,866
Renwick	145,555	161,765	175,183	138,951	17,199
Anacostia	52,552	50,785	37,952	37,611	37,440
Cooper Hewitt ²	180,852	233,732	328	0	0
American Indian ³ (Heye Center/CRC)	295,862	352,463	422,665	602,056	554,063
National Zoo	2,217,060	1,825,329	2,237,922	2,092,824	2,304,129
Postal	330,453	334,039	325,571	284,971	363,802
Udvar-Hazy Center	<u>1,106,804</u>	<u>1,198,873</u>	<u>1,324,297</u>	<u>1,366,322</u>	<u>1,214,284</u>
TOTAL	29,875,401	29,155,260	30,327,631	30,660,997	26,769,188

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.

³ Includes the George Gustav Heye Center in New York City and the Cultural Resources Center in Suitland, Maryland.

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
General Trust	80.5	82.0
Donor/Sponsor-Designated	260.3	238.9
Government Grants and Contracts	151.3	156.0
Total Available for Operations	\$492.1	\$476.9

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 2015 general trust funds total \$82,000,000. 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 2015 are projected to total \$238,900,000. 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 2015, Government grants and contracts are projected to total \$156,000,000. Of this amount, \$99,400,000 would be available for astrophysical research and development of 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 169-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 2015 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]...”

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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, 2016, 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.”

6. and of which \$_____ shall be for construction of the National Museum of African American History and Culture.

20 U.S.C. § 80r-6(a)(2) provides that “The Board of Regents, in consultation with the [National Museum of African American History and Culture] Council, may plan, design, and construct a building for the Museum...”

Adjustments for FY 2015
(Dollars in Thousands)

Unit	FY 2015 Appropriation \$000s	Reorganizations and Reprogrammings \$000s	FY 2015 Adjusted Base \$000s
MUSEUMS AND RESEARCH CENTERS			
<i>Unlocking the Mysteries of the Universe</i>			
National Air and Space Museum	18,603	0	18,603
Smithsonian Astrophysical Observatory	23,957	0	23,957
Major Scientific Instrumentation	4,118	0	4,118
Universe Consortium	184	0	184
Subtotal, <i>Unlocking the Mysteries of the Universe</i>	46,862	0	46,862
<i>Understanding and Sustaining a Biodiverse Planet</i>			
National Museum of Natural History	47,992	0	47,992
National Zoological Park	25,420	0	25,420
Smithsonian Environmental Research Center	3,909	0	3,909
Smithsonian Tropical Research Institute	14,175	(150) V1, 2	14,025
Biodiversity Consortium	1,520	0	1,520
Subtotal, <i>Understanding and Sustaining a Biodiverse Planet</i>	93,016	(150)	92,866
<i>Valuing World Cultures</i>			
Arthur M. Sackler Gallery/Freer Gallery of Art	6,049	0	6,049
Center for Folklife and Cultural Heritage	2,503	0	2,503
Cooper Hewitt, Smithsonian Design Museum	4,755	0	4,755
Hirshhorn Museum & Sculpture Garden	4,301	0	4,301
National Museum of African Art	4,227	0	4,227
World Cultures Consortium	284	0	284
Subtotal, <i>Valuing World Cultures</i>	22,119	0	22,119
<i>Understanding the American Experience</i>			
Anacostia Community Museum	2,093	0	2,093
Archives of American Art	1,859	0	1,859
National Museum of African American History & Culture	40,648	0	40,648
National Museum of American History, Behring Center	21,767	0	21,767
National Postal Museum	1,073	0 V3	1,073
National Museum of the American Indian	31,444	0	31,444
National Portrait Gallery	5,997	0	5,997
Smithsonian American Art Museum	9,474	0	9,474
American Experience Consortium	593	0	593
Subtotal, <i>Understanding the American Experience</i>	113,875	0	114,948
TOTAL, MUSEUMS AND RESEARCH CENTERS	276,945	(150)	276,795

**Adjustments for FY 2015
(Dollars in Thousands)**

Unit	FY 2015 Appropriation \$000s	Reorganizations and Reprogrammings \$000s	FY 2015 Adjusted Base \$000s
MISSION ENABLING			
Program Support and Outreach			
Outreach	9,150	0	9,150
Communications	2,567	0	2,567
Institution-wide Programs	10,505	0	10,505
Office of Exhibits Central	2,974	0	2,974
Museum Support Center	1,848	0	1,848
Museum Conservation Institute	3,244	0	3,244
Smithsonian Institution Archives	2,167	0	2,167
Smithsonian Institution Libraries	10,399	0	10,399
Subtotal, Program Support and Outreach	42,854	0	42,854
Office of the Chief Information Officer	48,929	0	48,929
Administration	34,067	0	34,067
Office of the Inspector General	3,416	0	3,416
Facilities Services			
Facilities Maintenance	71,380	23 ^{V1}	71,403
Facilities Operations, Security, and Support	197,752	127 ^{V2}	197,879
Subtotal, Facilities Services	269,132	150	269,282
TOTAL MISSION ENABLING	398,398	150	398,548
GRAND TOTAL, SMITHSONIAN INSTITUTION	675,343	0	675,343

Footnotes for FY 2015 Appropriation:

- ^{V1} Transfer of \$23,000 from the Smithsonian Tropical Research Institute to Facilities Maintenance to support salary costs for facilities staff located in Panama.
- ^{V2} Transfer of \$127,000 from the Smithsonian Tropical Research Institute to Facilities Operations, Security, and Support to support salary costs for facilities staff located in Panama.
- ^{V3} The National Postal Museum (NPM) was originally a department within the National Museum of American History. However, for many years the NPM has operated and functioned as a separate and distinct Smithsonian museum with its own resources.