

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON RESEARCH AND TECHNOLOGY**

HEARING CHARTER

Scientific Research at the Smithsonian - More than a Museum

Tuesday, January 14, 2014

2:00 p.m. - 3:30 p.m.

2318 Rayburn House Office Building

Purpose

On January 14th, the Research and Technology Subcommittee will hold a hearing to examine the Smithsonian Institution's scientific research activities. In addition the management and scientific preservation techniques of museum collections will be discussed.

Witnesses

- **Dr. G. Wayne Clough**, Secretary, Smithsonian Institution
- **Dr. Eva J. Pell**, Under Secretary for Science, Smithsonian Institution
- **Dr. Kirk Johnson**, Director, National Museum of Natural History

Background

The Smithsonian is the largest museum and research complex in the world. The Smithsonian Institution (SI) was founded in 1846 by the United States Congress in response to a bequest of \$500,000 by British scientist James Smithson, donated "to the United States of America, to found at Washington, an establishment for the increase and diffusion of knowledge among men." The original Smithsonian 'Castle' contained a library, lecture halls, exhibits and demonstrations, laboratories, and scientific artifact collections. In the past 168 years, SI has expanded to include 19 museums and galleries and nine research facilities. Over 180 museums around the country are now affiliated with the Smithsonian. SI employs over 6,000 people and has as many volunteers, and publishes *Smithsonian* and *Air & Space* magazines in addition to scholarly works. The Smithsonian collections include over 137 million objects, and specimens, 1.8 million library volumes, and more than 164,000 cubic feet of archival material. In 2013, SI museums and the National Zoo welcomed nearly 31 million visitors, while the 270 Smithsonian websites had over 140 million unique visitors.

Governance and Oversight

Originally established by an Act of Congress, the Smithsonian is technically a 'trust instrumentality' of the federal government and is not part of the executive branch. The 17-member Board of Regents acts as the Smithsonian's governing body. Traditionally, the Chief Justice of the United States is elected Chancellor, with the Vice President and Chief Justice both serving as ex-officio members of the Board. The rest of the board is composed of three Members each from the House and Senate, and nine citizen members authorized by a joint

resolution of Congress. The Secretary is elected by the Board, as are the members of the Executive Committee. Dr. G. Wayne Clough has served as the secretary since July 2008.

Funding

Smithsonian has an annual operating budget of more than \$1 billion, of which approximately 70% comes from direct federal appropriations. Smithsonian's Fiscal Year (FY) 2014 request for Congressional appropriations totals \$890 million. Congressional Appropriations for FY 2013 was \$775 million. Of this, approximately \$93 million annually is devoted to research¹. The remainder is held in general trust funds, separate from federal appropriations in SI's own budget, including revenue from the museums, publication sales, licensing, private donations, and from both federal and non-federal grants and contracts. More than half of the total budget is allocated to salaries and benefits for Smithsonian employees, including researchers and scientists directly employed by the Institution. The Institution is a 501(c)(3) tax-exempt non-profit organization.

Research

In the early years of the Smithsonian Institution, its focus was largely on science itself. Its first Secretary, American scientist Joseph Henry, focused on research and the "increase of knowledge" rather than its "diffusion," and was relatively unenthusiastic about museums. Today, the SI is a recognized leader in many areas of scientific research, and houses some of the largest and most acclaimed research programs in their respective fields. The SI mission focuses on broadening access, revitalizing education, crossing boundaries, strengthening collections, organizational excellence and measuring performance. Although the Institution has evolved to have a strong focus on cultural and historic knowledge as well, the first two of its "Grand Challenges" are directly related to scientific discovery and understanding. These Challenges are: "*Unlocking the Mysteries of the Universe*" and "*Understanding and Sustaining a Biodiverse Planet*".

The science-based research centers, as well as several of the Smithsonian's museums and the National Zoo, are overseen by the Smithsonian's Under Secretary for Science, a post currently held by Dr. Eva Pell, while other museums and programs fall under the Under Secretary for History, Art, and Culture. The Smithsonian's science-based research centers include the following: Center for Earth and Planetary Studies (CEPS) at the National Air and Space Museum (NASM), Smithsonian Conservation Biology Institute (SCBI) an outpost of the National Zoological Park (NZIP), Smithsonian Environmental Research Center (SERC), Smithsonian Astrophysics Observatory (SAO) which together with Harvard makes up the Harvard-Smithsonian Center for Astrophysics (CfA), Museum Conservation Institute (MCI), National Museum of Natural History (NMNH), and the Tropical Research Institute (STRI)

In many cases, Smithsonian scientists also compete for research funding from other federal grant-making agencies, including NASA, NIH, NSF, and the Department of Defense, or private grant-making organizations.

¹ <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2014/assets/oia.pdf>

Scientific Collections

The Smithsonian also has the one of the largest federal object-based scientific collections, serving as a resource for Smithsonian's own research and museum display purposes and for other federal and academic scientists as well. The Institution's natural history collection is the largest in the world, approximately 137 million total specimens collected. The Smithsonian is working to digitize much of its collection. Thus far, more than 8.5 million records and nearly one million images are available to the public via the Smithsonian's website. The Smithsonian's websites receive eight times as many "visitors" as its museums, making digitization of Smithsonian collections an integral part of SI's greater education and outreach initiatives.

Other federal departments and agencies also have large scientific collections, such as United State Department of Agriculture (USDA)'s collections of plants, diseases, and other agriculture-related specimens, or National Institute of Standards and Technology (NIST)'s calibration collections, used to define and calculate accurate weights and measurements. Some of the Smithsonian's own collections are also shared or maintained with other agencies; USDA's parasite collection now housed at NMNH is one of the most recent examples. In addition to USDA, Department of Defense (DoD), National Oceanic and Atmospheric Administration (NOAA), and United States Geological Survey (USGS) have partnered with NMNH in jointly maintaining parts of the national collection. The Smithsonian is believed to have the most individual specimens and artifacts of any collection in the world.