Testimony in Support of FY 2021 Funding for the Department of the Interior and Smithsonian Institution

March 6, 2020

Submitted by:
John Bates, Ph.D.
President
Natural Science Collections Alliance
1201 New York Avenue, NW, Suite 420, Washington, DC 20005
Phone: 202-628-1500, E-mail: jpandey@aibs.org

Submitted to:
House Committee on Appropriations
Subcommittee on Interior, Environment, and Related Agencies

The Natural Science Collections Alliance appreciates the opportunity to provide testimony in support of fiscal year (FY) 2021 appropriations for the Smithsonian Institution and the Department of the Interior. We encourage Congress to make new investments that address agency backlogs in the preservation and curation of scientific and cultural collections within the Department of the Interior and the Smithsonian Institution. We request that Congress provide the National Museum of Natural History with at least $55 million in FY 2021, with new funding to correct for a lack of new investments the past three years. Please provide the United States Geological Survey (USGS) with at least $1.35 billion in FY 2021, with increased support for collections related activities.

The Natural Science Collections Alliance is a non-profit association that supports natural science collections, their human resources, the institutions that house them, and their research activities for the benefit of science and society. Our membership consists of institutions that are part of an international network of museums, botanical gardens, herbaria, universities, and other institutions that contain natural science collections and use them in research, exhibitions, academic and informal science education, and outreach activities.

Scientific collections, and the collections professionals and scientists who make, care for, and study these resources, are a vital component of our nation's research infrastructure. These collections contribute to the expansion of our bioeconomy. Whether held at a museum, government managed laboratory or archive, or in a university science department, these scientific resources form a coordinated network of data (for example, genetic, tissue, organism, and environmental) that are a unique and irreplaceable foundation from which scientists are studying and explaining past and present life on earth. Research results improve human and environmental health, enhance food security, and provide monitoring for responses to environmental change and species conservation.

According to the federal Interagency Working Group on Scientific Collections, "scientific collections are essential to supporting agency missions and are thus vital to supporting the global research enterprise." Preservation of specimens and the strategic growth of these collections are

in the best interest of science and the best interest of taxpayers. Existing scientific collections that are properly cared for and accessible are a critical component of the US science infrastructure and are readily integrated into new research on significant questions. Specimens that were collected decades or centuries ago are now routinely used in research in diverse fields related to genomics, human health, biodiversity sciences, informatics, environmental quality, and agriculture. The Office of Science and Technology Policy (OSTP) and the Office of Management and Budget specifically recognized the importance of scientific collections to our nation's bioeconomy in this year's S&T funding priorities memorandum to federal agencies.

Last year, the Biodiversity Collections Network issued a community informed call for the development of an Extended Specimen Network, or ESN. The report, Extending U.S. Biodiversity Collections to Promote Research and Education, outlined a national agenda that leverages digital data in biodiversity collections for new uses and called for building an Extended Specimen Network: "Science and industry rely on physical specimens housed in U.S. biodiversity collections. Rapid advances in data generation and analysis have transformed understanding of biodiversity collections from singular physical specimens, to dynamic suites of interconnected resources enriched through study over time. The concept of the 'extended specimen' conveys the current perspective of the biodiversity specimen as extending beyond the singular physical object, to potentially limitless additional physical preparations and digital resources." This endeavor requires robust investments in our nation's scientific collections, whether they are owned by a federal or state agency or are part of an educational institution or free-standing natural history museum or other research center.

The Smithsonian Institution's National Museum of Natural History (NMNH) is a valuable federal partner in the curation and research on scientific specimens. Scientists at the NMNH care for 146 million specimens and ensure that the institution remains a global leader in scientific research and public engagement. To increase the availability of these scientific resources to researchers, educators, other federal agencies, and the public, NMNH is working on a multi-year effort to digitize its collections. Funding is required to ensure this work is completed.

The National Museum of Natural History is also working to strengthen curatorial and research staffing and to backfill positions left open by retirements and budget constraints. The current staffing level is insufficient to provide optimal care for the collections. Future curatorial and collections management staffing levels may be further jeopardized given funding cuts at science agencies, such as the United States Geological Survey that have historically supported staff positions at the National Museum of Natural History. We feel this significantly jeopardizes our bioeconomy at a time when there are critical issues facing the country, where the network of collections and experts working with these collections are needed.

Interior is an important caretaker of museum collections as well; the Department has an estimated 206 million items, comparable in size only to the Smithsonian Institution. Although many of the department's collections are located in bureau facilities, numerous artifacts and specimens are cared for in non-governmental facilities, such as museums and universities.

In addition, the USGS furthers the preservation, inventory, and digitization of geological scientific collections, such as rock and ice cores, fossils, and samples of oil, gas, and water. The

National Geological and Geophysical Data Preservation program helps states with collections management, improves accessibility of collections data, and expands digitization of specimens to ensure their broader use. One example of the returns from this program is the potash mineral deposit discovered in Michigan that is valued at an estimated $65 billion. Rock samples from Michigan were entered into a national database, where private companies discovered the deposit's existence and are now assessing the potential for mining.

USGS supports the documentation and conservation of native pollinators through its Native Bee Inventory and Monitoring Lab (BIML). Pollinators, such as bees, are critical components of ecosystems and play an integral role in wildlife and habitat management and restoration. Three-fourths of the world's flowering plants and about 35 percent of the world's food crops rely on pollinators to reproduce. Given that pollinator populations are in decline globally, BIML's work in developing a nationwide method to inventory and monitor bee population trends on public lands is crucial.

The Biological Survey Unit (BSU) consisted of USGS scientists stationed at the National Museum of Natural History, where they conducted research on USGS-specimens of fish, reptiles, birds, and mammals that are curated at the NMNH. USGS has more than a million specimens of birds, mammals, amphibians, and reptiles that are housed at the Smithsonian. These specimens, data and the research they enable are required to inform Department of the Interior land and natural resource management decisions, and often also support decision-making by State and Tribal governments. This arrangement goes back to 1889. It is our understanding that the BSU has now been eliminated. The work it supported and conducted at the NMNH is important and in the national interest. There is a lack of clarity and understanding about how this work will be sustained given the USGS's elimination of the BSU at the NMNH.

The Bureau of Land Management has a large backlog of cultural resources to inventory on public lands. Currently, only 10 percent of public lands have been assessed for heritage resources. Such assessments need to be conducted before unique resources are lost to looting, vandalism, fire, or environmental change.

The National Park Service must continue its investments in scientific collections, including cataloging millions of museum objects and connecting those databases to national and global data portals. The National Park Service curates a wide range of specimens and artifacts, from historical and cultural items to preserved tissues from protected species and living microorganisms collected in our National Parks. Several parks have made progress on addressing planning, environmental, storage, security, and fire protection deficiencies in museum collections, but much work remains. The President's budget request would cut NPS's budget by 17 percent and undo past progress.

Conclusion

Scientific collections are critical infrastructure for our nation's research enterprise. They are a national treasure and help support the nation's bioeconomy. Research specimens connect us to the past and are used to document and solve current problems. They allow us to predict threats to human health, find successful methods for ensuring food security, and address the impact of

future environmental changes. Sustained investments in scientific collections are in our national interest.

The budget for NMNH has remained flat for three years. The President has proposed a $52 million budget, or a 4.6 percent increase, for NMNH in FY 2021. We urge Congress to provide NMNH with at least $55 million in FY 2021 to allow the museum to undertake critical collections care, make needed technology upgrades, and conduct cutting edge research. Please support adequate funding for the Department of the Interior's Working Capital Fund, as well as programs within Interior bureaus that support the preservation and use of scientific collections – a truly irreplaceable resource. We encourage Congress to provide the USGS with at least $1.35 billion in FY 2021, with increased support for collections related activities.

Thank you for your thoughtful consideration of this request.