



NATURAL SCIENCE COLLECTIONS ALLIANCE

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June 24, 2009

Dr. John Holdren, Director
Office of Science and Technology Policy
Executive Office of the President
725 17th Street Room 5228
Washington, DC 20502

Dear Dr. Holdren,

I am writing on behalf of the Natural Science Collections Alliance (NSCA) to ask that you initiate the interagency review process for issuance by President Obama of an executive order promoting preservation and use of science collections. A draft order is attached for your consideration (Attachment 1). The NSCA membership constitutes leading institutions in America (Attachment 2) that hold hundreds of millions of specimens and artifacts, including animal and plant specimens constituting much of the collected biodiversity heritage of the world. We have tens of thousands of employees and serve tens of millions of visitors throughout the United States in our museums and botanical gardens.

Background

The science collections gathered and held by many institutions over the past half-millennium are fundamental reference points for measuring and monitoring the health of our planet. They also underpin contemporary research and education in many fields, from anthropology to zoology. Their importance has been noted by the Federal government, but they have not yet received the attention and priority that is their due.

We are pleased that the Office of Science and Technology Policy (OSTP) has taken a leadership position on this matter, by initiating and overseeing activities of the Interagency Working Group on Scientific Collections (IWGSC), which in December 2008 issued the report: "Scientific Collections: Mission Critical Infrastructure for Federal Science Agencies." The IWGSC Report makes a powerful case for an enhanced, high-level Federal initiative to improve planning, care and use of science collections. As noted in the OSTP cover letter to the Report:

"Scientific collections are an important part of the cumulative evidence upon which science depends. . . [T]hey range from moon rocks and dinosaurs to insects and human tissues. They support regulatory, management, and policy

decisions and are used for research in biomedicine, global change, biodiversity, and evolutionary biology. . . Robust interagency collaboration will remain vital as we develop a systematic approach to safeguarding these scientific treasures for future generations of scientists.”

The IWGSC Report addresses needs of science collections that are held or supported by the federal government. However, the majority of items in science collections are held by non-federal institutions whose federal support, if any, is far less than the cost of collection management, even though the collections are widely used in service to the same federal interests as the collections addressed by the IWGSC.

For example, the NSCA member organizations assist federal agencies and others with diverse collection-based services, including assessing the magnitude and impacts of climate change. Collections provide access to biological specimens taken centuries ago in life whose composition of compounds, isotopes and pollutants reflects environmental change over time and place. They provide fossils and geologic samples whose make-up comments on the entire history of Earth and the Universe. The collections also give source material for food security and nature conservation, in the form of living organisms, frozen tissue, and DNA. Other key services that depend on such collections include:

- identification and characterization of invasive and endangered species.
- enforcement of fisheries and wildlife conservation laws.
- survey and monitoring of biota on public lands and marine protected areas.
- protection of public health through diverse avenues (including characterization of disease vectors such as certain mosquitoes and mollusks), and measurement of pollutants, such as mercury and PCBs.

These collections serve national educational needs as well as science. Furthermore, greater federal engagement of non-federal institutions holding science collections is likely to be more cost-effective in securing necessary collection-based information than use of dedicated federal facilities or commercial contractors.

Executive Order on Science Collections

Issuance of an executive order as framed in the attachment (Order) would raise the Executive Branch priority of this issue to the level warranted by its importance, and would also broaden the scope of planning to include all science collections.

The Order is similar in form to Executive Order 13112 on Invasive Species and Executive Order 13089 on Coral Reef Protection issued by President Clinton. Both of these orders remain in effect, and we recommend reference to the experience of each in consideration of the Order.

The Order would direct Federal agencies whose actions may affect collections to identify those actions and as feasible cooperate with stakeholders to enhance and

preserve the collections and to advance access to and use of them by stakeholders. The Order would also direct Federal agencies requiring the use of science collections to consider cost-effective uses of existing scientific collections and the facilities that hold them before establishing new collections and facilities (Section 2). This last sentence is intended to assure that Federal agencies do not at great cost develop new facilities and new collections if existing collections and facilities, such as those held by NSCA members, can address the needs of the agencies with excellence and at less cost.

The Order would establish a Federal Science Collections Council (Section 3) and a Science Collections Advisory Committee (Section 4). The Council, with advice from the Advisory Committee, would be charged with developing a National Science Collections Plan within 18 months after the Order is issued, updating the plan periodically, and generally overseeing the policy stated in Section 2.

The Council would be chaired by the Director of OSTP. We favor your role in this, both because it would fasten the initiative to a high and central level in the Executive Branch and because we see OSTP as an honest broker of the differing priorities of the various agencies with a stake in science collections. Executive Order 13112 on Invasive Species established the Invasive Species Council, chaired by the Secretaries of Interior, Agriculture and Commerce. These three departments might in concept take a lead role with this Order, however the Secretary of Health and Human Services also has a particularly significant and different interest in science collections in respect to human health. A single chair in OSTP would be simpler, and we believe likely to be more effective.

The Council members identified in the Order represent those agencies that we perceive to have significant interests in science collections. Please note that, although the Council members are agency heads, as is the case for the executive orders on invasive species and coral reef protection, we would expect as for those two orders that at most meetings the agencies would be represented by policy-level staff with support from career employees. Formally designating agency heads as members serves to give policy priority and legal clarity to the Order.

The Order includes a separate section on international cooperation. We include this because international agency leadership was an issue in negotiation of Executive Order 13089 on Coral Reef Protection, and a similar separate section was adopted in that order to recognize the leadership of the State Department and USAID on international matters.

The Order would task the National Science Foundation with providing staff and administrative support for the Science Collections Advisory Committee. The staff supporting the Invasive Species Council is a supplemental, or possibly alternative, source of staff and administrative support for the Order. The Invasive Species Council staff is provided by the Interior Department, with additional staff detailed by the Agriculture and Commerce Departments.

The Order would not establish any financial obligations of the United States, other than the limited expense of planning activities, and it would disclaim creation of any enforceable rights or benefits.

I would very much appreciate the opportunity to meet with you and others at OSTP about our proposal, and I will be in touch to see if this can be arranged. To facilitate discussion, I am taking the liberty of sending copies of this letter to the agency principals and staff members of the IWGSC, as well as to several members of Congress with particular responsibilities or interests in science collections. I can be reached at the Academy of Natural Sciences in Philadelphia, where I am President and CEO, by calling 215-299-1016 or by email at wbrown@ansp.org.

Sincerely yours,



William Y. Brown
President
Natural Science Collections Alliance

Attachment 1: Draft Executive Order on Science Collections
Attachment 2: NSCA Institutional Members

Attachment 1

(Draft 25 June 2009)

Executive Order _____ of _____, 2009 Science Collections

By the authority vested in me as President by the Constitution and the laws of the United States of America and in furtherance of the purposes of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*), Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), National Marine Sanctuaries Act, (16 U.S.C. 1431, *et seq.*), National Park Service Organic Act (16 U.S.C. 1, *et seq.*), National Science Foundation Act of 1950, as amended (42 U.S.C. 1861–1875), National Wildlife Refuge System Administration Act (16 U.S.C. 668dd-ee), Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431) (the "Antiquities Act"), and other pertinent statutes, to preserve, protect, develop, modernize, and utilize fully the nation's vital and irreplaceable science collections resources, and to advance scholarly and public access to and use of such collections, it is hereby ordered as follows:

Section 1. *Definitions.*

(a) "Federal agency" means an executive department or agency, but does not include independent establishments as defined by 5 U.S.C. 104.

(b) "Science collections" ("collections") means biological, geological and anthropological specimens that form part of the nation's scientific infrastructure and are held as long-term assets, as opposed to expendable research supplies, by federal agencies, museums, botanical gardens, herbariums, universities, institutes, centers, zoos, aquariums, or other organizations, and used in research, exhibitions, academic and informal science education, and outreach activities.

(c) "Stakeholders" means, but is not limited to, State, territorial, commonwealth, and local government agencies, museums, botanical gardens, herbariums, universities, institutes, centers, zoos, aquariums, nongovernmental organizations, scientists, educators, commercial interests, medical professionals, students, and the public at-large.

(c) "United States" means the 50 States, the District of Columbia, Puerto Rico, Guam, and all possessions, territories, and the territorial sea of the United States.

Sec. 2. *Policy.* All Federal agencies whose actions may affect collections shall identify such actions and as feasible utilize their programs and authorities in cooperation with stakeholders to enhance and preserve such collections and to advance access to and use of collections by stakeholders. In implementing this policy, all Federal agencies needing the use of scientific collections shall consider cost-effective uses of existing scientific collections and the facilities that hold them before establishing new collections and facilities.

Sec. 3. *Science Collections Council.* The Director of the Office of Science and Technology Policy shall chair a Science Collections Council (“Council”) that shall oversee implementation of the policy set forth in section 2 of this order. The Council members shall include, but not be limited to, the Secretary of State, the Secretary of the Treasury, the Secretary of Defense, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Health and Human Services, the Secretary of Transportation, the Secretary of Education, the Secretary of Homeland Security, the Administrator of the Environmental Protection Agency, the Administrator of the Agency for International Development, and the Director of the National Science Foundation. The Council may invite additional Federal agency representatives to be members, including representatives from subcabinet bureaus or offices with significant responsibilities concerning collections.

Sec. 4. *Science Collections Advisory Committee.* The Director of the Office of Science and Technology Policy shall establish an advisory committee under the Federal Advisory Committee Act, 5 U.S.C. App., to provide information and advice for consideration by the Council, and shall, after consultation with other members of the Council, appoint members of the advisory committee representing stakeholders. Among other things, the advisory committee shall recommend plans and actions at local, tribal, State, and regional levels to achieve the goals and objectives of the plan developed pursuant to section 5 of this order. The Director of the National Science Foundation shall provide the administrative and financial support for the advisory committee.

Sec. 5. *National Science Collections Plan.* Within 18 months after issuance of this order, the Council, with assistance from the Science Collections Advisory Committee, shall prepare and issue the first edition of a five-year national plan for the preservation, utilization, and continued development of the nation’s science collections (“Plan”), which shall detail and recommend performance-oriented goals and objectives and specific measures to advance the policy set forth in section 2 of this order. The Plan shall be developed through a public process and in consultation with Federal agencies and stakeholders, and shall be updated and reissued not less than once in any five-year period.

Sec. 6. *International Cooperation.* The Secretary of State and the Administrator of the Agency for International Development, in cooperation with other members of the Council and drawing upon their expertise, shall take appropriate actions to engage international cooperation in advancing the policy set forth in section 2 of this order.

Sec. 7. This order does not create any right or benefit, substantive or procedural, enforceable in law or equity by a party against the United States, its agencies, its officers, or any person.



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Attachment 2

Natural Science Collections Alliance Institutional Members

Academy of Natural Sciences
American Museum of Natural History
American Type Culture Collection
Arkansas State University
Beltsville Agricultural Research Service, USDA
Bishop Museum
Botanical Research Institute of Texas
Brigham Young University - Monte L. Bean Life Science Museum
Brooklyn Botanic Garden
California Academy of Sciences
Carnegie Museum of Natural History
Chicago Botanic Garden
Cleveland Museum of Natural History
College of William and Mary - Virginia Institute of Marine Science
Cornell University
Dallas Museum of Natural History
Delaware Museum of Natural History
Denver Museum of Nature & Science
Duke University, Department of Biology
Duke University, Sarah P. Duke Gardens
Florida Division of Plant Industry
Florida Marine Research Institute
Florida Museum of Natural History - University of Florida
Fort Hays State University - Sternberg Museum of Natural History
Gulf Coast Research Laboratory - University of Southern Mississippi Institute of Marine Sciences
Harvard University - Arnold Arboretum
Harvard University - Harvard Museum of Natural History
Harvard University - Herbaria
Harvard University - Museum of Comparative Zoology
Hunt Institute for Botanical Documentation- Carnegie Mellon University
Illinois Natural History Survey - Illinois Department of Natural Resources
Illinois State Museum
Instituto de Geología Museo de Paleontología
Louisiana State University, Baton Rouge - Arthropod Museum
LSU, Baton Rouge - Herbaria
LSU, Baton Rouge - Museum of Natural Science
Miami University - Hefner Zoology Museum
Miami University- Herbarium
Michigan State University Museum
Michigan State University, W.J. Beal Botanical Garden
Milwaukee Public Museum
Mississippi Museum of Natural Science
Missouri Botanical Garden
National Museum of Natural History-Smithsonian Institution
National Tropical Botanical Garden

Natural History Museum of Los Angeles County
 New Mexico Museum of Natural History and Science
 New Mexico State University
 New York State Museum
 North Carolina State Museum of Natural Sciences
 North Carolina State University
 Occidental College- Moore Laboratory of Zoology
 Ohio State University - College of Biological Sciences (Museum of Biological Diversity)
 Ohio University
 Oklahoma State University
 Oregon State University - Arthropod Collection
 Oregon State University - Herbarium
 Paleontological Research Institution
 Purdue University
 San Bernardino County Museum
 San Diego Natural History Museum
 Santa Barbara Museum of Natural History
 Science Museum of Minnesota
 Texas A&M University - Department of Entomology
 Texas A&M University - Department of Rangeland Ecology and Management
 Texas A&M University - Department of Wildlife and Fisheries Sciences
 The Bailey-Matthews Shell Museum
 The Field Museum of Natural History
 The Morton Arboretum
 The New York Botanical Garden
 Tulane University Museum of Natural History
 U.S. National Arboretum
 University of Alaska, Fairbanks - University of Alaska Museum of the North
 University of California, Berkeley - Berkeley Natural History Museums
 University of California, Davis
 University of California, San Diego - Scripps Institution of Oceanography
 University of California, Santa Barbara - Museum of Systematics and Ecology
 University of Georgia - Museum of Natural History
 University of Georgia - State Botanical Garden of Georgia
 University of Iowa - Museum of Natural History
 University of Kansas - Natural History Museum and Biodiversity Research Center
 University of Michigan - Herbarium
 University of Michigan - Museum of Paleontology
 University of Michigan - Museum of Zoology
 University of Minnesota - James Ford Bell Museum of Natural History
 University of Nebraska, Lincoln - University of Nebraska State Museum
 University of New Mexico - Museum of Southwestern Biology
 University of North Carolina, Chapel Hill - North Carolina Botanical Garden
 University of Oklahoma - Sam Noble Oklahoma Museum of Natural History
 University of Puget Sound - James R. Slater Museum of Natural History
 University of Texas, Austin - Texas Memorial Museum
 University of Texas, El Paso - The Centennial Museum
 University of Utah - Utah Museum of Natural History
 University of Washington - Burke Museum of Natural History and Culture
 University of Wisconsin, Madison - Herbaria
 University of Wisconsin, Madison - Zoological Museum
 Virginia Museum of Natural History
 Washington State University - Charles R. Conner Natural History Museum
 Washington State University - M.T. James Entomological Collection
 Washington State University - Marion Ownbey Herbarium
 Washington State University - Mycological Herbarium
 Yale University - Peabody Museum of Natural History