

NSC Alliance Washington Report, Volume 7, Issue 7, July 18, 2016

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Through the NSC Alliance partnership with the American Institute of Biological Sciences, we are pleased to provide NSC Alliance members with the following public policy update. With proper attribution to NSC Alliance, all material from these reports may be reproduced or forwarded. We encourage you to share this report with colleagues at your institution. Anyone interested in receiving copies of the NSC Alliance Washington Report may subscribe at www.NSCAlliance.org -- it's free!

If you have any questions or require additional information regarding any of the following items, please contact NSC Alliance director of public policy Dr. Robert Gropp at 202-628-1500 x 250 or at rgropp@aibs.org.

NSC Alliance Releases New Resources on Importance of Collections to Climate Research

The Natural Science Collections Alliance has prepared two short reports on how natural history collections contribute to climate change research. These materials are ideal for outreach efforts.

“How Thoreau, Walden, and Herbarium Specimens Informed Research” shows how plant collections at the Arnold Arboretum have been used to document changes in the timing of flowering. Since the late 1800's, plants are blooming eight days earlier in the Boston area. Over the same time period, temperatures warmed by 1.5 degrees Celsius. Download a free copy of the issue brief at http://nscalliance.org/wordpress/wp-content/uploads/2016/06/nsca_climate_thoreau.pdf.

“Museum Collections Document a Century of Change” showcases the lasting legacy of biological specimens, photographs, and field notes collected by the Museum of Vertebrate Zoology at the University of California, Berkeley during the early twentieth century. These resources have been used in present-day research to understand how warming temperatures are impacting species ranges. Download a copy of the issue brief at <http://nscalliance.org/wordpress/wp-content/uploads/2016/06/nsca-climate-grinnell.pdf>.

Access other reports in NSC Alliance's series "On the Importance of Scientific Collections" at http://nscalliance.org/?page_id=10.

NSC Alliance Welcomes New Members

Two new organizations have joined the NSC Alliance. The Berkeley Natural History Museums is a consortium of scientific collections and museums at the University of California, Berkeley. The Duke Lemur Center is the world's largest and most diverse collection of lemurs outside of Madagascar. NSC Alliance welcomes these institutions and looks forward to their participation.

Senate Panel Approves Innovation Legislation

A yearlong effort to craft legislation to reauthorize federal basic research programs resulted in the introduction and initial approval of bipartisan legislation in late June. Freshman Senators Cory Gardner (R-CO) and Gary Peters (D-MI) are the primary sponsors of S. 3084, the *American Innovation and Competitiveness Act*. The bill, which would boost investments in basic research, sailed through the Senate Commerce, Science, and Transportation Committee by voice vote, with only one dissenting vote.

The bill aims to set the direction of federal science policy and to update science education programs. Authorization levels for the National Science Foundation (NSF) and National Institute of Standards and Technology (NIST) would be set for two years. Although the fiscal year 2017 funding level for NSF matches the \$7.5 billion already approved by the Senate Appropriations Committee, funding could grow by 4 percent the following year if appropriators follow the bill's lead.

The Senate bill is a stark contrast from legislation passed by the House of Representatives last year and builds upon the America COMPETES Act that expired three years ago. Notably, S. 3084 reaffirms NSF's existing merit-based peer review process and would make it easier for federal employees to attend scientific workshops. The bill would also improve oversight of large research facility construction and establish an interagency working group to reduce regulatory burdens for academics.

"In order for America to remain competitive, it's essential that we efficiently and effectively invest in research so that our country's brightest minds can create and develop," said Senator Gardner. "It's also critical that we expand educational opportunities and recognize the importance of equipping the next generation of leaders with STEM skills so that America not only keeps pace with the rest of the world, but remains the leading innovator."

"Federal investments in research and development help spur innovation and drive the new industries that will discover the next big thing," said Senator Peters. "I'm proud to join my colleagues in introducing this bipartisan bill that promotes science and research, strengthens

innovation and advanced manufacturing, grows our skilled workforce and enhances American competitiveness around the world.”

The panel adopted 14 amendments during the committee markup. Several amendments that were adopted address broadening participation of underrepresented groups in science. An amendment by Senator Edward Markey (D-MA) encourages NSF to create a new grant program to support partnerships to advance informal science education.

The legislation and the amendments approved in committee have bipartisan support. “My hope is that this bill helps reset how Congress approaches science policy,” said Senator Gardner.

The sole opposing vote to the bill came from Senator Deb Fischer (R-NE). She stated that she is concerned about the bill’s “substantial increases” for authorizations for NSF and NIST. Although she supports the research done at universities in Nebraska, Senator Fischer said, “good things don’t mitigate the need to offset our spending, as we have done in the past.”

Past America COMPETES bills have not offset authorization levels. Neither has this been the practice for most other authorization bills in Congress. Authorizations simply establish baselines and caps for future funding; they do not provide funding. Future spending must go through the normal appropriations process each fiscal year, including approval by the House and Senate Appropriations Committees, passage by both chambers, and approval by the President.

Thirty-One Top Scientific Societies Speak with One Voice on Global Climate Change

In a consensus letter to U.S. policymakers, a partnership of 31 leading nonpartisan scientific societies—including the Natural Science Collections Alliance—reaffirmed the reality of human-caused climate change, noting that greenhouse gas emissions “must be substantially reduced” to minimize negative impacts on the global economy, natural resources, and human health.

“Observations throughout the world make it clear that climate change is occurring, and rigorous scientific research concludes that the greenhouse gases emitted by human activities are the primary driver,” the collaborative said in its 28 June letter to Members of Congress. “This conclusion is based on multiple independent lines of evidence and the vast body of peer-reviewed science.”

Climate-change impacts in the United States have already included increased threats of extreme weather events, sea-level rise, water scarcity, heat waves, wildfires, and disturbances to ecosystems and animals, the intersociety group reported. “The severity of climate change impacts is increasing and is expected to increase substantially in the coming decades,” the letter added. It cited the scientific consensus of the vast majority of individual climate scientists and virtually every leading scientific organization in the world.

“To reduce the risk of the most severe impacts of climate change, greenhouse gas emissions must be substantially reduced,” the group said, adding that adaptation is also necessary to “address

unavoidable consequences for human health and safety, food security, water availability, and national security, among others.”

The 28 June letter, representing a broad range of scientific disciplines, reaffirmed the key climate-change messages in a 2009 letter signed by 18 leading scientific organizations. The letter is being released again, by a larger consortium of 31 scientific organizations, to reassert the scientific consensus on climate change, and to provide objective, authoritative information to policymakers who must work toward solutions.

Read the letter at <http://nscalliance.org/wordpress/wp-content/uploads/2016/06/climate-letter-6282016.pdf>.

Upcoming Webinar on Biological Informatics Workforce Needs

The biological sciences are increasingly driven by the ability to collect, identify, integrate, analyze, and interpret complex data. Researchers and educators, current and future, must have the knowledge and skills required to use these data and data management and analysis tools appropriately. In December 2015, the American Institute of Biological Sciences convened a workshop in conjunction with its annual meeting of Member Societies and Organizations to explore the education and training issues that must be addressed to ensure we have the skilled biological informatics workforce required to advance biology for the benefit of science and society. The workshop generated a report with 12 recommendations for professional societies, journal editors, universities, faculty and students, government agencies, and funding organizations. This webinar will summarize this meeting and explore in greater detail the recommendations identified by workshop participants.

Join AIBS on 20 July 2016 at 1 pm EST for this free event. Register at <https://www.aibs.org/events/webinar/addressing-bio-informatics-workforce.html>.

Nominations Sought for NSB Awards

The National Science Board is accepting nominations for its public service awards. The Vannevar Bush Award recognizes lifetime achievement for pursuits to improve the welfare of mankind and the nation through public-service activities in science, technology and public policy. The Public Service Award honors individuals and groups for substantial contributions to increasing public understanding of science and engineering. Learn more about the awards and submit a nomination at <http://www.nsf.gov/nsb/awards/>.

Research Curator in Invertebrate Zoology

The Milwaukee Public Museum is seeking a mid-career research curator with a Ph.D. to oversee the Zoology Department. The person in this leadership role will plan, direct, implement and coordinate activities of the Zoology Department (Invertebrates and Vertebrates) to ensure the

effectiveness and balance of scholarly research, collections, public service/education, and exhibit development. The candidate will maintain an active invertebrate zoology research program, with preference for research in the areas of museum strength—Lepidoptera or Coleoptera. At least one of their research interests should incorporate aspects of citizen science. The curator will be responsible for providing content expertise for the development of museum exhibits and reviewing educational program aspects, serving as a representative of their research to the print, broadcast, and online media, and speaking on a range of topics to diverse audiences. An individual with a proven publication record and a history of successful funding is sought.

Key Responsibilities

- Oversee Invertebrate and Vertebrate Zoology collections – supervise Collection Manager, Puelicher Butterfly Wing Supervisor, and other personnel.
- Conduct research and oversee growth of the collections in invertebrate zoology and direction of growth for the vertebrate collections as related to the Museum’s mission.
- Work closely with other research curators to design, implement and deliver at least one citizen science research project.
- Oversee and provide the best standards of care for the zoology collections.
- Seek funding from a variety of sources to support research.
- Collaborate with local universities and other institutions with regard to research and other activities.
- Present research findings through publication and presentation, including peer-reviewed journals, books, and proceedings of professional meetings.
- Serve as content expert for the development of museum exhibits and review of educational materials.

Learn more at

<https://mpm.hyrell.com/ui/views/applicant/virtualstepositiondetails.aspx?templateid=141183&tz=Eastern%20Standard%20Time>.

Reminder: Survey on Building National Scientific Infrastructure

Help to inform the future of natural history collections and biodiversity research by taking a brief online survey about scientific collections. Each member organization of the NSC Alliance received an invitation to take the survey last week. In most cases, the ideal person to complete this survey is a chief curator, dean or similar administrative office, or a collective effort by several staff. To review a copy of the survey, go to https://bcon.aibs.org/wp-content/uploads/2016/06/collections_research_survey.pdf. Please respond by 30 July 2016.

The Natural Science Collections Alliance is a Washington, D.C.-based nonprofit association that serves as an advocate for natural science collections, the institutions that preserve them, and the research and education that extend from them for the benefit of science, society, and stewardship of the environment. NSC Alliance members are part of an international community of museums,

botanical gardens, herbariums, universities, and other institutions that house natural science collections and utilize them in research, exhibitions, academic and informal science education, and outreach activities. Website: www.NSCAlliance.org.

The NSC Alliance Washington Report is a publication of the NSC Alliance. For information about membership in the NSC Alliance, please contact spotter@aibs.org.