

Implementation Plan for the Network Integrated Biocollections Alliance

Executive Summary

The more than 1600 biological collections (biocollections) in the United States are the result of nearly 250 years of scientific investigation, discovery, and inventory of living and fossil species from the United States and around the world. Scientists have amassed, annotated, and curated in those collections more than one billion specimens. These specimens and their associated data are maintained for research and education and to inform wise decisions about the environment, public health, food security, and commerce.

This monumental investment of human and financial resources in species discovery, documentation, and analysis is active and ongoing. Moreover, the specimens and data in biocollections are also of value to non-biologists. Computer scientists, geologists, informaticists, environmental scientists, land managers, educators, and citizen scientists are among those who increasingly seek access to this vital resource.



Recognizing the value of biocollections for research, education, and society, the biocollections community coalesced in 2010 to develop *A Strategic Plan for Establishing a Network Integrated Biocollections Alliance* (NIBA). The plan outlines the elements required for an “inclusive, vibrant, partnership of US biological collections that collectively will document the nation’s biodiversity resources and create a dynamic electronic resource that will serve the country’s needs in answering critical questions about the environment, human health, biosecurity, commerce, and the biological sciences.” The plan issues a strong and urgent call for an aggressive, coordinated, large-scale, and sustained effort to digitize the nation’s biocollections in order to mobilize their data through the Internet.

Strategic Plan Key Objectives

- (1) Digitize data from all US biological collections, large and small, and integrate these in a Web-accessible interface using shared standards and formats.
- (2) Develop new Web interfaces, visualization and analysis tools, data mining, georeferencing processes and make all available for using and improving NIBA resources.
- (3) Create real-time upgrades of biological data and prevent the future occurrence of non-accessible collection data through the use of tools, training, and infrastructure.

Federal agencies and the scientific community have begun to respond to the *Strategic Plan*. In 2012, the biocollections community recognized a need for an implementation plan that explicitly identifies the corresponding actions, timelines, and milestones required to achieve the goals of the *Strategic Plan*. In September 2012, the American Institute of Biological Sciences (AIBS), with support from the National Science Foundation (NSF), convened a workshop of experts in biocollections, digitization, computer science, and other relevant fields to develop an *Implementation Plan* for NIBA.

This *Implementation Plan* has been informed by other international, national, and regional scientific and technical initiatives and activities; by participants in the September 2012 workshop; and by comments received from current and potential stakeholders.

This plan reflects a coordinated and collaborative effort to realize the grand goals proposed by the biocollections community in the NIBA strategic plan. All are welcome and encouraged to participate.

For additional information:

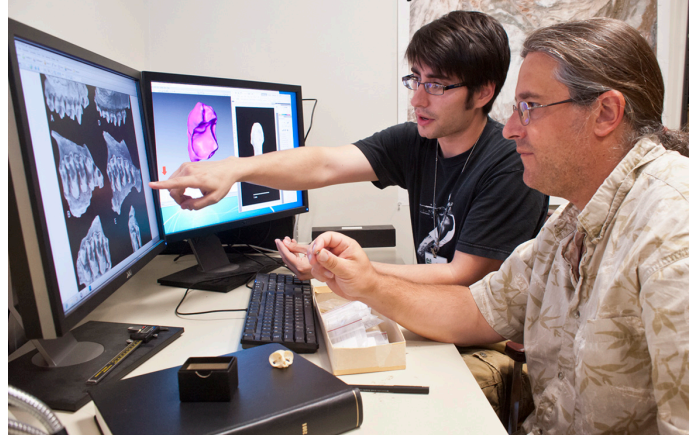
NIBA Strategic Plan: www.digbiocol.wordpress.com/brochure

NIBA Implementation Plan: www.aibs.org/public-policy/biocollections.html

Implementation Plan Recommendations

- (1) Establish an organizational and governance structure that will provide the national leadership and decision-making mechanism required to implement NIBA and to fully realize its *Strategic Plan*.
- (2) Advance engineering of the US biocollections cyberinfrastructure.
- (3) Enhance the training of existing collections staff and create the next generation of biodiversity information managers.
- (4) Increase support for and participation in NIBA by the research community and a broad spectrum of stakeholders.
- (5) Establish an enduring and sustainable knowledge base.
- (6) Infuse specimen-based learning and exploration into formal and informal education.

Florida Museum of Natural History



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