
Scientific Collections

Diverse global resources

Provide great opportunities

Face great challenges

Case study from United States

- **Interagency Working Group on Scientific Collections (IWGSC) started late 2005; 15 agencies and several sub-agencies**
 - **Survey of object-based scientific collections owned by Federal government**
 - **IWGSC Report issued 2009**
 - **Parallel National Science Foundation (NSF) Survey**
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Scientific Collections:
Mission-Critical Infrastructure for Federal Science Agencies



A Report of the
Interagency Working Group on Scientific Collections
(IWGSC)

www.ostp.gov/galleries/NSTC%20Reports/Revision_1-22_09_CL.pdf

Federally Supported Collections

General Findings

- **US government is involved with collections in several and separate ways:**
 - **ownership**
 - **stewardship/management**
 - **financial support**
 - **use and analysis**
 - **Collections can have important impacts unrelated to their original use; can be difficult to foresee**
 - **No single approach to managing collections fits all situations and budgets in Federal agencies**
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Findings Continued

- **US government has an interest in coordinating management of Federal collections across agencies**
- **Federal agencies own and maintain a diverse array of scientific collections serving a variety of agency missions**
- **Collections are important resources for Federal agencies in which science is a critical mission component**

Findings Continued

- **Apparent lack of documentation and inventory control of some Federally-owned scientific collections**
- **Most Federal collections continue to grow at regular, predictable rates, but support staff and funding resources are declining**

Unmet Needs

- **Requirements for retaining, managing, maintaining and deaccessioning collections need clarification**
- **Agencies have a variety of business models and management plans for their scientific collections. Need to share this information across agencies and identify effective strategies for different circumstances**

Unmet Needs

- **Relationships between Federal collections and non-Federal collections that receive Federal support need clarification**
- **Long-term budgetary needs for managing and maintaining scientific collections should be distinguished from ongoing research support**

Recommendations

■ ***Improve Financial Planning***

- *... develop realistic cost projections for collection maintenance and operation, and work to incorporate the needed support as stable budget elements*

■ ***Improve Access***

- *... improve both the documentation of the contents of their scientific collections and access to the documentation on the internet*

■ ***Improve Documentation and Policies***

- *... exchange documents that describe scientific collections policies, procedures, and best practices*
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Recommendations continued

- ***Clarify Ownership and Custody***

- *Review the legal and legislative basis for the Federal role in scientific collections, thereby clarifying agency responsibilities*

- ***Coordinate Information***

- *Create an online clearinghouse of information about Federal scientific collections*

- ***Update the Federal Science Community***

- *Periodic reports on the status and condition of the scientific collection infrastructure*

The NSF Scientific Collections Survey: A Brief Overview of Findings

March 17, 2009

National Science Foundation

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Ms. Jessica Cornan, Science Assistant, Division of Environmental Biology

Introduction

Scientific collections created and used in basic research are an integral part of the nation's scientific infrastructure. They hold specimens of plants, animals, microbes, fossils, minerals and other artifacts that together comprise a national legacy of biological diversity. Such collections are an essential resource to a broad range of scientists, including systematists, evolutionary biologists, ecologists, resource managers, educators, and environmental health researchers. Because the National Science Foundation (NSF) supports basic research projects in all fields of science and engineering, it has a stake in ensuring that collections created during the conduct of NSF-supported research are well-maintained and accessible to researchers through the use of modern technology and bioinformatics.

NSF supports collections through specific programs such as the Biological Research Collections Program and the Major Research Instrumentation Program, as well as indirectly through support for new collaborations and networks, imaging activities, improved access through the web, storage upgrades, and the incorporation of specimens from other collections. Furthermore, NSF expects that the projects it funds will provide direct access to the data obtained from scientific collections.

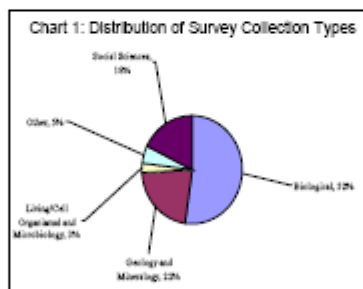
NSF is a member of the Interagency Working Group on Scientific Collections (IWGSC), which was tasked by the Committee on Science (COS) of the National Science and Technology Council (NSTC) with developing a comprehensive report on the current status of Federally owned and supported scientific collections in response to concerns over the condition of Federally owned and supported object-based scientific collections. To prepare

this report, the IWGSC conducted a survey of Federal agencies to collect information on, and report on, the scope, size, and condition of their scientific collections.*

Because NSF funds institutions to conduct research that involves collecting new specimens and supports improvements to collections but does not directly maintain scientific collections, NSF conducted a separate survey to assess the status of collections at a sample of institutions that currently receive or have received NSF support since 1985. The results of the NSF survey will complement the data in the IWGSC's report.

Using its awards database, NSF identified 339 collection managers and 137 institutional administrators at 147 institutions that received support for collections since 1985 and invited them to participate in the survey. Seventy percent of the collection managers and 51% of the institutional administrators responded to the survey.

The survey asked respondents to provide information on all of their scientific collections, not just those receiving NSF-funds. As a result, they provided information on 611 collections in five broad categories: biological, geological and mineralogical, social sciences, living/cell/organismal, microbotological, and other collection types (see Chart 1).



* The IWGSC survey is available at http://www.ostp.gov/galleries/NSTC%20Reports/Revision_1-22_09_CL.pdf.

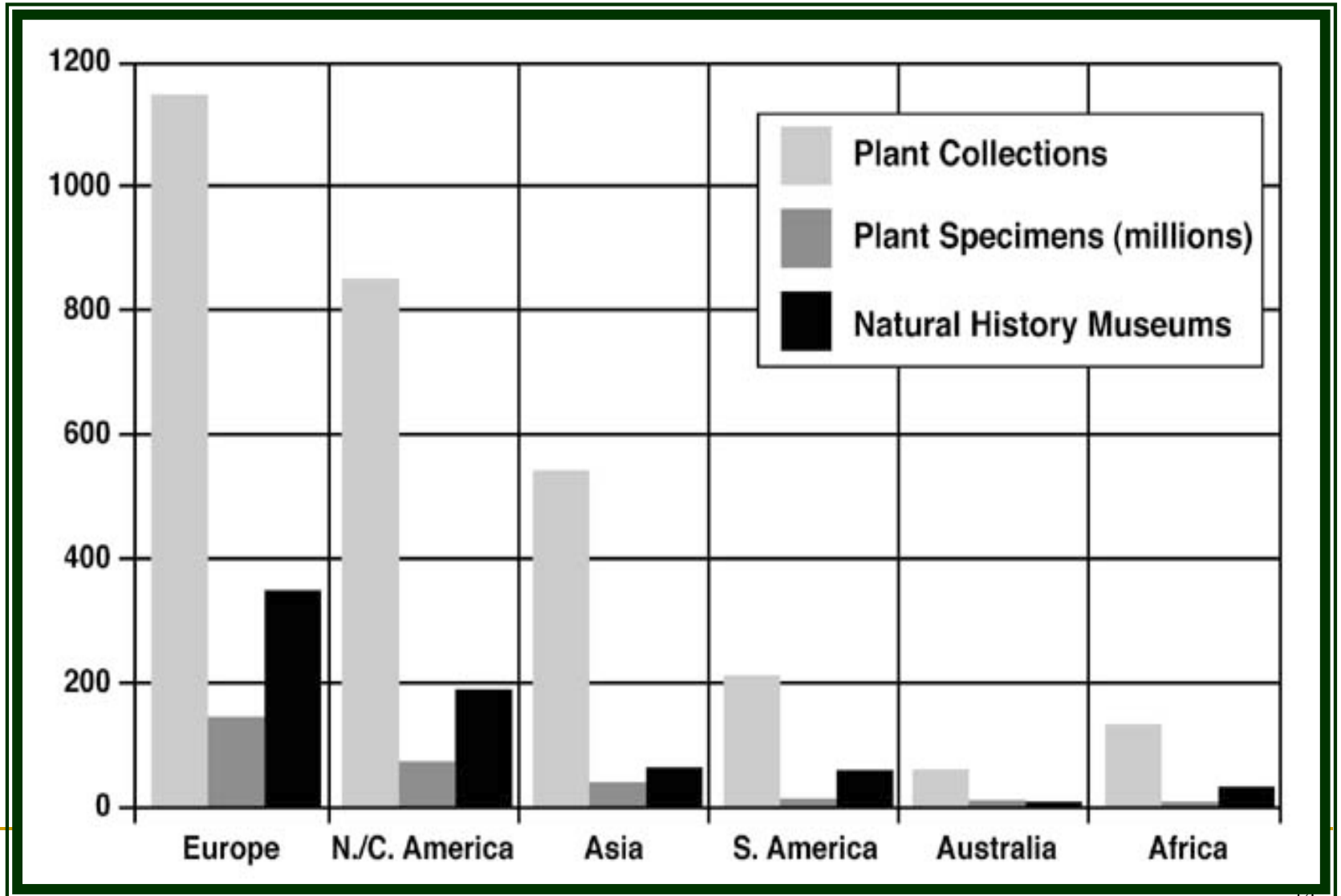
Present status

- **Office of Science and Technology Policy has defined scientific collections as critical scientific infrastructure for the Nation**
 - **IWGSC being re-chartered and expanded**
 - **Increased profile within government**
 - **Increasing interaction with non-federal collections**
 - **Increasing educational outreach regarding value of collections**
 - **Several agencies have increases in FY 2011 proposed budgets**
 - **Exploring multi-agency budget initiative in FY 2012**

Scaling up to the global context

- **Global issues similar to the USA situation**
- **Some disciplines have strong coordinating organizations, but little coordination across them:**
 - **Ice cores**
 - **Botanic gardens**
 - **Frozen tissue collections**
 - **Zoos**
 - **Natural history collections (SPHCH, GBIF)**

Collections unevenly distributed



International access and interaction increasingly complicated

■ Examples in biodiversity

- Challenges in shipping reagents and preservatives
- Challenges in personnel movement (visas)
- Challenges in biomaterials transfer
(*Nature* 4 February 2010)
- Concerns about intellectual property rights

■ But successes in other areas

- Ice cores

Scientific Collections – summary

- **Important global resources**
 - **Provide great opportunities**
 - **Face great challenges**
 - **Are distributed infrastructure**
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- **SciColl provides a means to coordinate and promote**
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