

# NATURAL SCIENCE COLLECTIONS

## Funding, Facilities, and Staffing

The nation's scientific collections are documentation of Earth's history and are essential to scientific discovery. The data they contain underpin inventions and innovations, scholarly publications, and educational materials for the public and future generations of scientists and engineers. Moreover, scientific collections inform myriad regulatory, economic, and resource management decisions. Unfortunately, many natural science collections need new investments to improve curatorial practices, hire professional staff, and improve access to specimens to stimulate and support important new research.

## The Value of Natural Science Collections



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Research utilizing collections produces tangible results and real products.

- **Economic value:** In 2005, Algeria threatened to embargo wheat from the United States after claiming that a shipment contained spores of the destructive Karnal bunt. The US Department of Agriculture (USDA) used its National Fungus Collection to determine that the fungus was an innocuous cousin of Karnal bunt. **This collection resource saved the \$70 million annual US wheat export market to Algeria.**



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- **Historical value:** In 2005 the Federal Accounting Standards Advisory Board issued a statement declaring that like parks, memorials, and national monuments, scientific collections are also **heritage assets of the United States.**

- **Replacement value:** A National Science Foundation (NSF) survey found that **three-quarters of the nation's collections contain up to 25% unique, unduplicated specimens.** Travel and personnel costs to replace such specimens would cost far more than proper curation.

## The Troubling Financial State

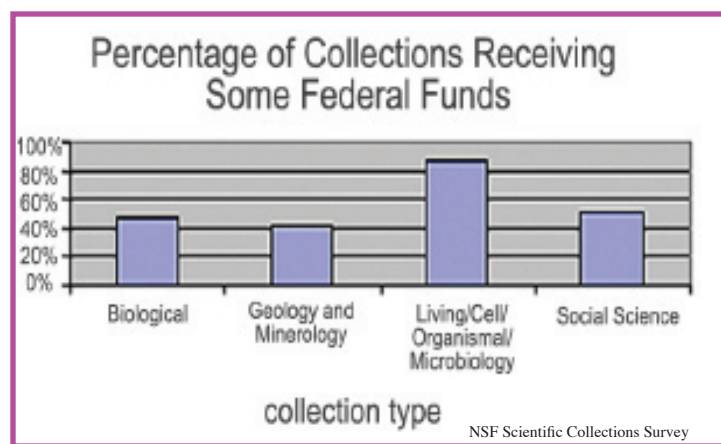
Science collections across the country are feeling the pinch of shrinking state budgets.

- In 2006, **federal support for collections amounted to only slightly more than \$149 million.**

- A 2006 survey found that **60% of natural history and science museums received government support.** Of these, nearly one-quarter of their funding comes from federal, state, or local governments, making them highly vulnerable to state and federal budget cuts. **Once lost, a collection cannot simply be rebuilt, and its associated data are gone.**

- A 2008 survey by the Natural Science Collections Alliance found that **59% of collections experienced a budget cut in the preceding 12 months, and 66% anticipated budget cuts during the next two years.** Yet science collections remain popular and important destinations: **97% of the collections reported stable or greater public attendance in the preceding 12 to 24 months.**

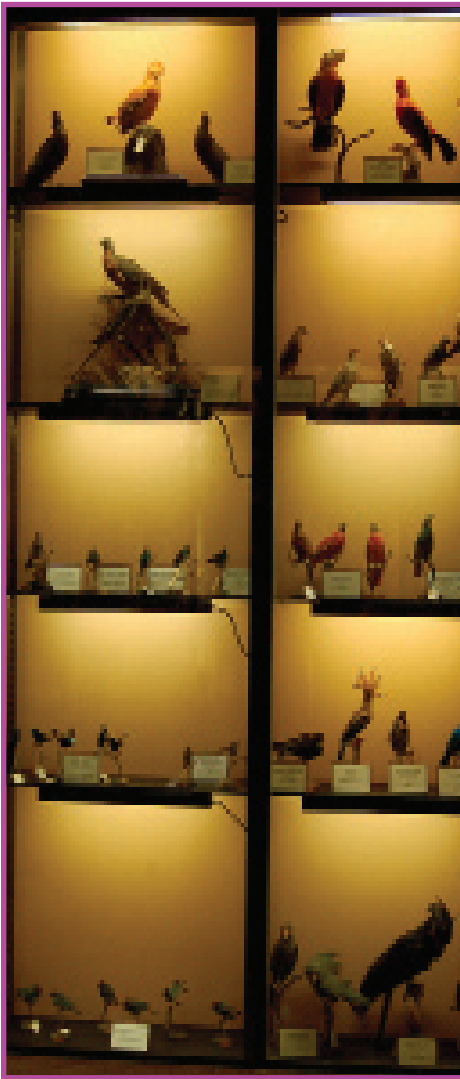
- Only **10%** of respondents to the NSF survey said they receive enough funds to support **50% or more** of their collections, and **38%** of respondents reported **declining numbers of museum staff.**



## Improvements Needed

Several surveys in recent years have found that many scientific collections held as a public trust are at risk because of insufficient environmental controls, storage, staffing, and budgets.

- **74% of collections have expanded, and 10% have doubled their holdings since 2000;** 40% have expanded in part by acquiring orphaned collections that had to close because of funding cuts.
- Respondents to one survey reported that **additional staff are required to improve accessibility to collections.**
- Online cataloging of collections eliminates travel expenses for collaborators around the world and helps support collaborative scientific discovery. Despite this, **98% of collections have less than half of their collections available on the Web, and the vast majority of those that do have online resources have less than 10% of their collection represented by digital images.** Increased staffing is required to unlock collection treasures and make them available for scholarship and instruction.
- In an NSF survey, only **20% of respondents reported that their collections are adequately housed,** leading to deteriorated or unusable specimens.
- 68% of science collections responding to the NSF survey reported that some portion of their holdings have never been updated or catalogued, and 72% of collections note that some portion of their catalogued holdings are unacceptably preserved. This means that in addition to the known value of national collections, **a vast treasure of unknown resources could be in danger of being lost forever.**



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## What Can Be Done

Several recent surveys have assessed the condition of U.S. science collections and found troubling results. These reports have noted that many science collections need greater funding to improve specimen and data curation, and to hire and maintain appropriate levels of staff. In such an environment, collections-based research and education are hindered. In some cases, science collections are being abandoned or permanently closed. When this happens, we risk losing specimens and data that are important to our ability to understand how the world around us functions.

Improved federal coordination and a national commitment to governmental and non-governmental science collections are required. To learn more about natural science collections and how you can support initiatives that will increase the utility of collections for society, please visit [www.NSCAlliance.org](http://www.NSCAlliance.org).

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