crisis: one to guide the deaccessioning of undocumented and redundant portions of the federal collections already under our control, and another for selecting documented representative samples from the mass of material to come. New resources will undoubtedly be needed to accomplish these two related goals. If we move expeditiously, we will be in a position to justify requests for such resources because we will have in place a rational and implementable method for prioritizing their expenditure.

The archeological community has gained great credibility within the preservation world by insisting, as did Hewett in 1904-1905, that we do not need to save physically all of the sites, but rather the critical information about the past that they contain. Now is the time to build on that credibility and demonstrate that we can discriminate between critical and non-critical information. Archeologists, museum curators, Indian tribes, and agency officials must join forces to work on this next phase of the nation's constantly evolving historic preservation policy. We must find ways of selecting from the great mass of archeological material that part of the evidence of the past that we should save for those present and future generations.

Raymond H. Thompson is Director Emeritus of the Arizona State Museum and Fred A. Riecker Distinguished Professor of Anthropology Emeritus, The University of Arizona, Tucson.

Ann Hanniball

Non-Federal Museums Managing Federal Collections

The Utah Museum of Natural History

[This] vast and austere landscape embraces a spectacular array of scientific and historic resources.... Even today, this unspoiled natural area remains a frontier; a quality that greatly enhances [its] value for scientific study. [Here there is] a long and dignified human history; it is a place where one can see how nature shapes human endeavors in the American West; where distance and aridity have been pitted against our dreams and courage. [This place] presents exemplary opportunities for geologists, paleontologists, archaeologists, historians and biologists.[1]

Thus begins the Proclamation establishing Utah's new Grand Staircase Escalante National Monument which, the Proclamation attests, was created principally for its value for scientific study. In truth, the Proclamation's language might apply to the majority of Utah's vast public lands. This is a region of North America that is a major center of diversity for all fields of natural history and, consequently, has witnessed a century of scientific research.

The Utah Museum of Natural History (UMNH, the Museum) is Utah's state museum of natural history. By legislative mandate it is located at the University of Utah in Salt Lake City, Utah's capital city. The Museum is charged with collecting and displaying for educational and cultural purposes, "tangible objects reflecting the past, present and continuing development of our [Utah's] natural history." We also are directed to provide traveling exhibits and outreach programs about archeology and paleontology to people throughout the state, and to oversee and assist in the proper care of archeological and paleontological collections recovered from state lands and housed in facilities in Utah.[2] With its partner institution, the Hansen Planetarium, the UMNH hosted 258,874 on-site visitors and delivered exhibits and educational programs to another 93,624 people throughout Utah in 1999.

The important regional collections housed at the Museum are of high scientific value. They are central to the Museum's mission, and its mandate as the state museum of natural history. And, overwhelmingly, because of the high federal ownership of Utah lands, the Museum's collections are federal collections.

Dogoszhi black-on-white vessel recovered from the Dead Juniper site (42Sa3205) during archeological mitigation prior to highway construction. Photo by Laurel Casjens, Utah Museum of Natural History.

If you are doing field research in the natural sciences in Utah, chances are high that you are doing it on federally managed public land. Utah ranks second among all states in percentage of federal lands. More than 75% of the Museum's million-plus objects and specimens were recovered from federal lands. Ninety percent of some biological collections, such as the vertebrate fossils and botanical holdings, are federally associated. We are a repository for collections from lands managed by the Bureau of Land Management (BLM), Bureau of Reclamation, U.S. Forest Service (USFS), National Park Service (NPS), Fish and Wildlife Service, Department of Defense (DoD), Bureau of Indian Affairs, and from various National Recreation Areas and National Monuments. Of the remaining 25% of the collections, some significant portions were collected on state lands under federally mandated permitting procedures.

The collections document a legacy of scientific investigation in Utah. For example, University of Utah archeologist and founding director of the Utah Museum of Natural History, Jesse Jennings, worked out his influential model of the enduring way of life known as the Desert Archaic here and, in one of the earliest uses of radiocarbon dating (at Danger Cave), first established the deep antiquity of humans in the Great Basin. In pioneering work, University of Utah biologist Jim Brown applied the model of island biogeography to the montane habitat islands in Utah's west desert, contributing significantly to the study of the origin and maintenance of biological diversity. As a result of the University of Utah Cooperative Dinosaur Project at Cleveland Lloyd Quarry, composite skeletons from this extraordinary Jurassic dinosaur site are studied and exhibited at nearly 40 institutions around the globe. Julian Steward, Edgar Lee Hewett, Edward Cope, O.C. Marsh, and many others have carried out seminal work on public lands in Utah.

Much of the history of federally mandated protection of cultural and natural resources also can be traced, in microcosm, in this state. The first antiquities permit issued under the authority of the Antiquities Act of 1906 was for work in Utah.[3] Several major River Basin Archeological Salvage Programs were carried out here.[4] The 1974 Moss Bennett bill, sponsored by and bearing the names of Utah's two senators, provided protection and mitigation funding for historical and archeological data threatened by dam construction or alterations of terrain and codified model practices for public archeology.[5] President William J. Clinton followed presidential precedent when he invoked provisions of the Antiquities Act of 1906 to create the Grand Staircase Escalante National Monument.

The dominant federal presence in Utah has important implications, for the Museum and the state. One is the state and private investment in federal collections. Federal laws and regulations govern the recovery and subsequent care of objects and data and set properly high standards for collections storage conditions, treatment, management, and access. The Museum, an AAM (American Association of Museums) accredited institution, uses primarily state and private funds to meet those standards and to support expenses for collections curation, care, and management. Between 1995 and 1999, the Museum expended $1,825,000 non-federal dollars, not including building renovations, administrative overhead, support staff, or operations and maintenance costs, on direct care of federal collections. This is an investment in collections to which the Museum does not hold title. Federal support for the collections has come in the form of grant awards for specific collections-related projects rather than ongoing care. There have been no federal investments in the infrastructure (storage facilities, research laboratories, etc.) that provides the critical foundation for good collections care.

Another issue is the shared management of collections. While there is general agreement between the Museum and federal land management agencies that the Museum does not "own" these public collections, all also recognize that the Museum and University have been centrally involved in their recovery, study, care, and inter-

pretation. In other words, the Museum, its donors, the University, and the state are heavily invested in the planning, infrastructure, trained personnel, and ongoing resources required to adequately care for and interpret publicly owned objects, but the federal agencies also are responsible for their care, management, and interpretation. Further, the degree of oversight exercised by various federal agencies toward the collections has been variable over time, as well as among and within agencies. In practice, if not in code and regulation, there is significant ambiguity in this arrangement.

The Museum strives to meet the legal and managerial needs of various federal agencies within the context of the whole of the institution, its mission, and its budget. These demands can be contradictory. Implementation of the Native American Graves Protection and Repatriation Act (NAGPRA) presents a case in point. Over the past year, federal land management agencies have made various decisions about archeological materials in museums that came from lands they manage, actions that are governed by provisions of NAGPRA. In Utah, this process is decentralized and is being implemented at the level of USFS Forest, the BLM District, and DoD Military Reservation. More than two dozen federal archeologists are attempting to implement NAGPRA in Utah, but many lack the time to rigorously attempt to determine cultural affiliation. Without meaning to, they are setting conflicting precedents. Utah tribes and museums thus find themselves consulting with a large number of individuals with diverse and sometimes contradictory views of NAGPRA and how it should be implemented.[6]

Utah Friends of Paleontology volunteer at work in the Utah Museum of Natural History's Discovery Hall paleontological laboratory. He is preparing Jurassic period material from the Morrison Formation recovered from federal land in Emery County, Utah, and talking with visitors. Photo by Laurel Casjens, Utah Museum of Natural History.

The provisions of 36 CFR pt. 79, *Curation of Federally Owned and Administered Archeological Collections,* also are susceptible to varying interpretations. The terms of a recent federal grant to inventory archeological collections at the Museum included the stipulation that materials from one agency's lands be segregated and stored and managed separately from other museum collections. Museum staff deemed this request to be problematic. The Museum's Long Range Conservation and Curation Plan does not anticipate segregating holdings by land management agency. The storage organization plan is museum-wide in scope and is based on considerations about security, the environmental needs of the objects, research access, logic of adjacencies, and other architectural, environmental, mission, use, and budgetary concerns. The ultimate controlling factor driving storage arrangement is the preservation of the collections. The Museum's computerized database links the objects to field, accession, catalog, and conservation records, including information about land status and ownership at the time of recovery and storage location within the Museum. Researchers and managers can "reassemble" some particular groups of objects and records using the database. (The agreement was later amended to remove the segregated storage clause.)

Investigators encounter a variety of procedures for collecting and managing resources from federal lands in the state; there are no uniform permitting practices. Consider for example the variable procedures for obtaining permits to collect botanical specimens. The USFS requires a written request for a plant-collecting permit. These are general collection permits that are good for a particular district. The NPS has standardized permitting processes, which consist of four steps: 1) a research proposal, outlining where and what is to be collected; 2) annual reports for the duration of the research project; 3) a final report upon completion of the research project; and 4) periodic inventory reports regarding the precise location and condition of any NPS collections. However, not all parks within Utah actually use this process. BLM permit requirements vary from district to district. There also are differing requirements regarding the deposit of duplicate specimens in other herbaria. In practice, these variations add complexity and cost to botanical research and specimen management.

Finally, despite many exemplary instances to the contrary, the results of much federally man-

dated scientific research are often effectively invisible to the public. Information and interpretations often lie buried in the "gray literature" of unpublished reports. Publication of research in journals or books makes data available to the scientific community, but still often fails to reach the general public. As a recent issue of *CRM*[7] attests, the scope and size of collections recovered from federally managed lands in the United States are truly staggering and in some instances cannot even be guessed. Staff and budget directed toward those resources are relatively small, meaning that even with the heroic efforts of dedicated federal staff, much that is intended by the various statutory schemes for the protection, preservation, and public availability of archeological, paleontological, and biological museum resources remain unrealized. However, UMNH and other non-federal museums have played, and can continue to play, a crucial role in bringing the results of publicly mandated research to the public. The Museum's ongoing exhibit and educational programs interpret all aspects of the federal collections housed here. In addition, we have been part of a number of highly successful cooperative interpretive projects.

Here are a few recent examples. The Utah Interagency Task Force on Cultural Resources, representing the Utah divisions of the BLM, USFS, NPS, and State of Utah, and the Museum, sponsored development and delivery of the educational program Intrigue of the Past: Investigating Archeology, a component of BLM's Project Archeology.[8] This is one of several innovative public education programs that have come from this partnership of state and federal agencies and non-federal museums.

The Great Salt Lake Story is an award winning curriculum development project that uses Utah's Great Salt Lake as a unifying theme to teach a science and social science core curriculum to grades 3 through 12. It includes an interdisciplinary activity guide, with museum, field and classroom-based activities, that has been reprinted several times. It was developed by the Museum and an Advisory Committee with representatives from the University of Utah Department of Geography and Educational Studies, the Utah Geological Survey, the State Division of Wildlife Resources and State History, the U.S. Army Corps of Engineers, and Bureau of Land Management and was fully funded by private and corporate donors and foundations.[9]

The UMNH, other non-federal museums, and several federal land management agencies are currently working on pilot programs in the areas of traveling and on-site exhibits, curriculum development, and outreach education projects. Such effective, ongoing partnerships between federal agencies, the Museum, and other non-federal repositories will ensure wise, non-duplicative uses of public resources that will meet the needs of the scientific community, the American public, and the residents of the region from which collections are recovered. In Utah, for the State Museum of Natural History, such partnerships are essential because the mission, mandate, purpose, and programs of the Museum are inextricably bound with federal land management agencies.

Notes

1 William J. Clinton, Establishment of the Grand Staircase Escalante National Monument by the President of the United States of America: A Proclamation (1996).

2 Utah Code 53B-17-603(2), (4) (a); 9-8-305(1)(c) and 63-73-12(1) (6).

3 Francis P. McManamon and Kathleen D. Browning, "Department of the Interior's Archeology Program," *CRM* 22:4 (1999): 19.

4 Among them is the Upper Colorado River Basin Archaeological Survey Project. See Jesse D. Jennings, "River Basin Surveys: Origins, Operations, and Results, 1945-1969," *American Antiquity* 50(2).

5 U.S. Code, tit. 16, sec. 469.

6 Three state agencies, the UMNH, the Utah Division of Indian Affairs, and the Utah Division of State History have submitted a grant proposal for a statewide NAGPRA Coordinator to the National Park Service. Representatives of the eight Utah tribes, which are the Northwestern Band of the Shoshone Tribe, Goshute Indian Tribe, Skull Valley Band of Goshute Indians, Navajo Nation, Paiute Indian Tribe of Utah, San Juan Southern Paiute Tribe, Ute Indian Tribe and White Mesa Ute Council; the Bureau of Land Management, the Bureau of Reclamation; National Park Service; the U.S. Forest Service; the Anthropology Museum at Utah State University; the Prehistoric Museum at the College of Eastern Utah; the Museum of Peoples and Cultures at Brigham Young University; and the Utah Division of State Parks and Recreation have written letters of commitment and support for the project.

7 Particularly Stephanie M. Damadio, "Linking the Past to the Future—Museum Collections and the Bureau of Land Management," *CRM* 22:4 (1999): (33) and Ed Friedman and Brit Allan Storey, "CRM at the Bureau of Reclamation," *CRM* 22:4, (46).

8 Shelley J. Smith, Jeanne M. Moe, Kelly A. Letts, Danielle M. Paterson, *Intrigue of the Past: A Teacher's Activity Guide for Fourth Through Seventh Grade,* (U.S. Government Printing Office, 1993).

9 Sandra Zicus, *The Great Salt Lake Story* (Salt Lake City: Utah Museum of Natural History, 1997).

Ann Hanniball is the Assistant Director for Community Relations at the Utah Museum of Natural History, University of Utah, Salt Lake City, Utah.