

**AN ARCHAEOLOGICAL CURATION-NEEDS ASSESSMENT FOR
FORT IRWIN,
NAVAL AIR STATION, NORTH ISLAND,
EDWARDS AIR FORCE BASE,
MARINE CORPS AIR-GROUND COMBAT CENTER,
TWENTYNINE PALMS**

PART 2 of 2

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Editors

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**U.S. Army Corps of Engineers
St. Louis District
Mandatory Center of Expertise for the
Curation and Management of Archaeological Collections
Archaeological Curation-Needs Assessments
Technical Report No. 5**

1997



10
**FAR WESTERN ANTHROPOLOGICAL
RESEARCH GROUP
DAVIS, CALIFORNIA**
REPOSITORY SUMMARY

(1) Volume of Archaeological Material: 947 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation. All artifacts should be placed in acid-free containers and all heavy fraction material should be rebagged in four-mil, zip-lock plastic bags labeled in india ink.

(2) Linear Feet of Records: 113 linear feet

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. All associated records should be duplicated on acid-free paper or microfilm and stored in acid-free folders, envelopes, and archival-quality photographic sleeves. A duplicate copy should be stored in a separate fire-safe location.

(3) Human Skeletal Remains: No known human skeletal remains recovered from Fort Irwin are at FWARG.

(4) Status of Curation Funding: Curation is financed through cultural resource management contracts.

INTRODUCTION

DATE OF VISIT: September 16, 17, and 20, 1993

PERSON CONTACTED: Debbie Jones

An estimated 947 ft³ of artifact collections and 113 linear feet of associated documentation from numerous projects conducted on Fort Irwin are stored at Far Western Anthropological Research Group (FWARG), in Davis, California. Archaeological collections are stored in four areas within two separate facilities: Ms. Jones' office, the FWARG laboratory, and two garages at the Central Davis Storage facility located approximately one-half mile from the FWARG office.

A 35% (328 ft³) sample of the entire Fort Irwin collections held at FWARG was examined. Material classes represented in the sample (Table 9) include prehistoric chipped stone, ceramics, faunal remains, and botanical, flotation, soil, and ¹⁴C samples.

Table 9.
Prehistoric Material Classes in a Sample of Fort Irwin Archaeological Materials

Material Class	Percentage
Ceramics	1
Chipped Stone	91
Faunal Remains	1
Soil Samples	5
¹⁴ C Samples	1
Botanical Samples	1
Total	100

REPOSITORY

Archaeological collections from Fort Irwin are stored in four separate archaeological material storage areas within two different repositories. Both archaeological materials and documentation are stored in the FWARG office facility in two rooms; Ms. Jones' office and the FWARG laboratory. Additionally, archaeological materials and documentation are located in two self-storage garages at the Central Davis Storage facility.

Repository 1—Far Western Anthropological Research Group Office

Repository 1 is a 3,600 ft² office facility. The building is the main office for FWARG (Figure 11). The building contains laboratories, artifact washing and processing areas, artifact holding areas, offices, and restrooms. Collections from Fort Irwin are stored in two archaeological material storage areas; Debbie Jones' office and an anthropology laboratory.



Figure 11. Exterior view of FWARG repository 1.

Repository 2—Central Davis Storage

Central Davis Storage is a public self-storage rental facility, located approximately one-half mile from FWARG (Figure 12). Collections are stored in two rented garages, units B-4 and D-17.



Figure 12. Exterior view of FWARG repository 2.

Structural Adequacy

Repository 1—Far Western Anthropological Research Group Office

Built around 1974, the two-story office building has a concrete foundation, stucco exterior walls, sheet rock interior walls, and a tar paper roof. No internal or external renovations have occurred since its construction.

Archaeological Material Storage Area 1—Debbie Jones' Office

Archaeological material storage area 1 is a 100 ft² office located between a hallway and an anthropology laboratory. Interior sheetrock walls, a plaster ceiling, and a carpeted, concrete floor are present. No windows exist. A single, wood panel door on the north wall and a single, wood panel door on the south wall of the room lead to the laboratory and hallway, respectively.

Archaeological Material Storage Area 2—Anthropology Laboratory

Archaeological material storage area 2 is a 400 ft² laboratory constructed of sheetrock, concrete floors, and a plastic covered insulated ceiling. Two windows, both located on the ceiling, are present. Two single doors provide access to the room; one interior, wood panel door and one exterior, wood and metal panel door. A large metal, overhead loading door leads to an alley outside. The laboratory is cluttered with empty boxes, curation supplies, janitorial supplies, full artifact boxes, office furniture, books, food, luggage, and personal items.

Repository 2—Central Davis Storage

These public rental storage units are constructed of a concrete foundation, concrete block and corrugated metal exterior walls, and a corrugated metal roof. All units are of similar construction, but vary in size. Storage units B-4 and D-17 are used to house the Fort Irwin collections and are approximately 200 ft² each.

Environment

Repository 1—Far Western Anthropological Research Group Office

Temperature in the building, including the collection storage areas, is controlled by a central air conditioning system and an electric, forced air heating system. However, no environmental monitoring or humidity control is attempted. Lighting is provided by fluorescent bulbs. The entire building is regularly maintained twice a week by janitorial staff.

Repository 2—Central Davis Storage

Temperature and humidity are not controlled in the storage units. Environmental monitoring does not take place. Wide temperature fluctuations occur in the storage areas. No artificial lighting is present in the storage units. Storage areas are maintained monthly by the curatorial staff.

Pest Management

Repository 1—Far Western Anthropological Research Group Office

The janitorial staff have a pest control program. However, no monitoring of pests takes place. Live insects were present in archaeological material storage area 1 during our visit.

Repository 2—Central Davis Storage

No precautions against insects or rodents are taken. No monitoring for pests takes place. Live insects were noted at the time of our visit.

Security

Repository 1—Far Western Anthropological Research Group Office

An intrusion alarm system is in place and consists of coded access and police link-ups. Security devices to prevent unauthorized access are installed on all exterior doors. No unauthorized entry has occurred in the past. All office windows are built into the walls and cannot be opened.

Archaeological Material Storage Area 1—Debbie Jones' Office

Dead-bolt and key locks are present on the doors to the office.

Archaeological Material Storage Area 2—Anthropology Laboratory

The exterior door has an intrusion detector wired into the main intrusion detection system.

Repository 2—Central Davis Storage

A metal gate and metal hurricane fencing are located at the entrance to the storage facility. Entry is only possible by coded access. Two codes must be entered at the front gate: one to open the metal gate and one for access to the individual storage units. Additionally, a padlock is present on all storage unit doors that are used.

Fire Detection and Suppression Systems

Repository 1—Far Western Anthropological Research Group Office

Fire extinguishers and smoke detectors are located throughout the building. Yearly inspections of the fire extinguishers are performed by qualified personnel.

Archaeological Material Storage Area 1—Debbie Jones's Office

No fire detection or suppression devices are located in Archaeological Material Storage Area 1. However, a fire extinguisher is present in an adjacent room.

Archaeological Material Storage Area 2—Anthropology Laboratory

One fire extinguisher is located in Archaeological Material Storage Area 2. It is installed next to the interior door. Additionally, smoke detectors are present in the room.

Repository 2—Central Davis Storage

No fire detection or suppression devices are present in storage units B-4 or D-17. However, one fire extinguisher, whose inspection is current, is located in the storage compound.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1—Debbie Jones' Office

One box of a chipped stone type collection was found by the assessment team on top of a filing cabinet along the wall of the office.

Archaeological Material Storage Area 2—Anthropology Laboratory

Artifact material currently being processed is temporarily stored in Archaeological Material Storage Area 2. Artifact boxes are located on metal shelving units with particle board shelves and are stacked on the floor.

Repository 2—Central Davis Storage

Artifact boxes are stacked on the floor up to six high down the center and along the walls of the storage units.

Primary Containers

The majority of the primary containers consist of folded, acidic cardboard boxes with telescoping lids (74% of sample). Additionally, most large groundstone is placed in wooden grape crates. Those that are not, have cardboard sheets separating each piece. Containers are labeled either directly in marker or are labeled in marker on an acidic paper label taped or glued to the outside. Most boxes are dusty and dirty. Some are compressed, overpacked, and/or contain live insects.

Secondary Containers

Secondary containers consist of two- and four-mil, plastic zip-lock bags, plastic garbage bags, and paper envelopes. Artifacts are also stored loose in boxes. Containers are labeled directly and/or with an adhesive paper label attached to the inside of the container. Labels are written in marker or pen.

Laboratory Processing and Labeling

The majority of the artifacts are cleaned (80%), labeled (78%), and sorted by material class (99%). Artifacts are labeled directly with ink, with ink on correction fluid, or with ink on nail polish.

HUMAN SKELETAL REMAINS

No known human skeletal remains from Fort Irwin are at FWARG.

RECORDS STORAGE

Most of the 113 linear feet of associated documentation from Fort Irwin is stored in acidic cardboard boxes at Repository 2. However, several locations within Repository 1 also contain administrative records, computer records, and reports (Table 10).

Table 10.
Types of Associated Documentation in the Fort Irwin Collections

Record Type	l.f.
Administrative	3.7
Background	4.3
Survey/Excavation	27.0
Analysis	26.0
Reports	17.0
Photographic	5.2
Computer	1.3
Cartographic	28.5
Total	113

Note: l.f. refers to linear feet

Paper Records

Paper records from Fort Irwin measure approximately 61 linear feet. The majority of the paper records, including background records, survey and excavation records, analysis records, and administrative records, are stored at Repository 2 in folded, acidic, cardboard boxes with telescoping lids. Boxes are labeled directly, or occasionally on an adhesive label, in marker with box contents, box number, and/or site information. Records are stored in various secondary containers including acidic three-ring binders, acidic three-hole folders, hanging folders, acidic manila folders, and loose in boxes. The majority of secondary containers are labeled in marker and had information on the box contents. However, some of the containers are unlabeled. Approximately eight linear feet of cardboard boxes with telescoping lids, and a four-drawer metal filing cabinet in Ms. Jones' office. Cardboard boxes are labeled in marker on a paper label containing the project name. The label has an adhesive backing. File drawers are labeled in marker with the project name on a paper tag held in place by a metal holder. Records in boxes are stored in acidic manila folders labeled either directly or on an adhesive label in pencil, pen, or marker. Records stored in a filing cabinet are contained in acidic manila folders, held by hanging file folders, and labeled either directly or on an adhesive label in pen, marker, or type. All label information includes the project name and/or contents.

Many of the paper records are torn, dusty, dirty, stained, and discolored. Some exhibit insect damage. Additionally, contaminants, such as rubber bands, staples, and paper clips, are present with many of the records.

Photographic Records

Approximately 5.2 linear feet of photographic records are stored in Repository 1 and Repository 2. These include color prints, black and white prints, contact prints, negatives, slides, and aerial photographs. Photographic records are, for the most part, not segregated from the associated paper records. They are stored together with paper records in the four-drawer metal filing cabinet in archaeological material storage area 2 at Repository No. 1, and in acidic, cardboard boxes at Repository 2. Most of the prints and contact sheets are stored in unlabeled, plastic three-ring binders in non-archival sleeves. Some, however, are stored in acidic manila folders, paper envelopes, or are loose in the container. Slides are stored in cardboard slide boxes. Photo sleeves are labeled in marker or type either directly or on an adhesive label with the roll number. Additionally, the three-ring binders include paper photo logs.



Figure 13.
View of container for cartographic records.

Maps and/or Oversized Documents

Cartographic records from Fort Irwin consist of approximately 28.5 linear feet in size of the total associated documentation and are located in both repositories. The cartographic records include large and small-scale site and topographic maps, drawings, report graphics, camera-ready figures and maps, and blueprints. The majority are stored in storage unit B-4 at Repository 2. Primary containers for the cartographic records stored at Repository 2 consist of 19, three-inch cardboard map tubes contained in a large, acidic cardboard box (Figure 13). Tubes are labeled with marker with the map roll number, and site number on an adhesive label. Maps are rolled and bound together with rubber bands.

A limited number of cartographic records are stored in Ms. Jones' office and the anthropology laboratory (Archaeological Material Storage Area 2) in Repository 1. Records in Ms. Jones' office are stored in one Federal Express triangular tube. Archaeological Material Storage Area 2 contains cartographic records in two separate places: the four-drawer filing cabinet along the north wall of the room and in one drawer of a metal map case under a work table in the middle of the room. Records stored in the filing cabinet are stored in manila folders, whereas those in the map case are loose in the drawer. Drawers and manila folders are labeled either directly or on an adhesive paper label with the contents in marker or type.

Reports

Final project reports, draft project reports, monthly reports, and site reports total approximately 17 linear feet of associated report documentation. The majority of the reports are stored in acidic, cardboard boxes with telescoping lids in storage unit D-17 at Repository 2. These are either bound, stored in manila folders, or are stored loose in the boxes.

A small amount of report records is stored in Repository 1. Miscellaneous draft reports are stored in various locations throughout Ms. Jones' office. Additionally, site reports from the Nelson Basin project are stored in manila folders in one drawer of the four-drawer filing cabinet located in the anthropology laboratory (archaeological material storage area 2). Folders are labeled either directly or on an adhesive paper label in marker or type with the contents.

Machine Readable Records

Approximately 1.3 linear feet of 5 1/2 inch and 3 1/4 inch floppy diskettes containing Fort Irwin report data, are stored on open, particle board shelves in the anthropology laboratory (archaeological material storage area 2) of Repository 1.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All materials are accessioned upon receipt.

Location Identification

The location of the collections within the repository is identified in the accession files.

Cross-Indexed Files

All collection information is kept in a computer database file that can be cross-indexed.

Published Guide to the Collections

No published guide to the collections exists.

Site-Record Administration

The Smithsonian Institution's trinomial site numbering system is used.

Computerized Database Management

Far Western Anthropological Research Group uses DBASE to manage its accession and inventory records.

Written Policies and Procedures***Minimum Standards for Acceptance***

At the time of our visit, there is no written policy for the acceptance of archaeological collections.

Curation Policy

There is no written policy for the curation of archaeological collections.

Records-Management Policy

There is no written policy for the management of associated documentation.

Field-Curation Guidelines

No written field-curation guidelines exist.

Loan Procedures

No loans occur.

Deaccessioning Policy

Archaeological materials are tracked and, when deaccessioned, are noted as such within the repository catalog records.

Inventory Policy

No standard written inventory policy exists. However, inventories are completed on a case-by-case basis as stipulated in contracts.

Latest Collection Inventory

Archaeological collections were last inventoried in January 1993.

Curation Personnel

A staff of six, composed of managers and technicians, is assigned to the care for federal collections. Although there is no full-time curator for the collections, Ms. Jones devotes her time to curation related work.

Curation Financing

Curation is financed through archaeological contracts.

Access to Collections

The staff members all have access to archaeological collections. In addition, researchers wishing to inspect collections may do so, but only with curatorial personnel.

COMMENTS

1. Far Western Anthropological Research Group has recataloged, reorganized, coalesced, and inventoried the Fort Irwin collections generated from several contractors (Cornerstone, RECON, Wirth, and Far Western Anthropological Group) as part of a project with Fort Irwin.
2. Although suitable room exists for the storage of Fort Irwin collections at Repository 2, the lack of shelving is contributing to the compression and destruction of primary containers and their contents.
3. No environmental controls exist for Repository 2. No environmental monitoring occurred at either repository.
4. No integrated pest management system exists for either repository. Live and dead insects were noted in and around the collections.
5. Although security measures exist at Repository 2, its isolation puts the collections at risk from unauthorized entry. There is no direct alarm wired into a security company or local police station.
6. Although fire extinguishers and smoke detectors are located in Repository 1, there is no centralized fire alarm system wired to the local fire department. There are no centralized fire suppression devices. The isolated nature of Repository 2 puts the collections at risk from undetected fires. No fire detection or suppression devices are located inside the storage units where the collections are stored.
7. Archaeological materials are not stored in archivally stable containers. Archival containers for the oversized groundstone do not exist.
8. Almost all artifacts are sorted by material class. However, some are not labeled.
9. No central storage place for the associated documentation exists. Records are stored in acidic containers. Record types are stored mixed together. No duplicate copies of any documentation exists.
10. There is currently no comprehensive set of written policies and procedures for the management of archaeological collections.

11. There is no full-time curator for the archaeological collections.
12. Improving the structural adequacy (i.e., environmental controls, fire suppression devices, etc.) of Repository 2 is not possible because the facility is rented. Thus, the safety of the collections is compromised.

RECOMMENDATIONS

1. All Fort Irwin collections should be removed from FWARG and placed in a curation facility that has a full time curatorial staff and proper environmental controls, fire detection and suppression devices, security, and pest management systems.
2. If Recommendation 1 cannot be implemented, the following procedures are recommended in order to upgrade the existing facility to meet federal standards:
 - a. If space is available, collections in Repository 2 should be moved to Repository 1.
 - b. Humidity control devices should be installed in Repository 1. Temperature and humidity monitoring should take place in all archaeological material storage areas.
 - c. An integrated pest management system, stressing monitoring, should be implemented.
 - d. Fire suppression devices should be upgraded in Repository 1 to include a sprinkler system. A centralized fire detection system should be installed.
 - e. For security reasons, collections should be moved to an area of the building that can be easily monitored for unauthorized personnel or to which access is restricted.
3. All artifacts should be labeled and cleaned, re-boxed in acid-free containers, and stored in four-mil plastic zip-lock bags. Labels should be applied in indelible ink.
4. Associated documentation should be coalesced and stored by record type. All paper records should be housed in acid-free folders and boxes. All contaminants should be removed. All photographic records should be inserted into inert plastic sleeves and stored in acid-free binders or boxes. All maps should be removed from the cardboard tubes and placed flat in a sealed map drawer. All documentation should be copied onto acid-free paper or microfilm, with the copies stored in a separate fire-safe, secure location.
5. Written policies for the management of archaeological collections should be implemented.

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JOSHUA TREE NATIONAL MONUMENT
JOSHUA TREE, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 0.3 ft³

Compliance Status: Archaeological material requires partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 1.5 linear feet

Compliance Status: The majority of the associated records have been properly curated. However, photographic documentation needs to be inventoried and archivally curated.

(3) Human Skeletal Remains: All human skeletal remains recovered from the Marine Corps Air-Ground Combat Center, Twentynine Palms have been repatriated. The remains were analyzed at the University of California, Riverside, prior to repatriation. The record of this analysis and other documentation is kept in a sealed, restricted file at Joshua Tree National Monument.

(4) Status of Curation Funding: Curation is also financed by funds from special projects and by excess funds from elsewhere in the National Park Service.

INTRODUCTION

DATE OF VISIT: August 21, 1992

PERSON CONTACTED: Rosie Pepito

The Campbell collection, gathered by William and Elizabeth Campbell during the 1920s to 1940s, is the only collection from the MCAGCC Twentynine Palms, currently at Joshua Tree National Monument. It consists of approximately 0.3 ft³ of artifacts and 1.5 linear feet of associated records. The majority of the collections consists of chipped stone material, although ceramic and shell artifacts are also present.

Any human skeletal remains recovered from MCAGCC Twentynine Palms and stored at Joshua Tree National Monument have since been repatriated. However, prior to repatriation, the remains were analyzed at the University of California, Riverside. A record of these burials is kept in a sealed, restricted file at Joshua Tree National Monument.

REPOSITORY

Archaeological collections at Joshua Tree National Monument are stored in a 800 ft² refurbished garage building within the park (Figure 14).



Figure 14. Exterior view of the Joshua Tree National Monument curation repository.

Structural Adequacy

The building originally functioned as a garage, but was renovated for use as a collection storage area. The interior and exterior walls are constructed of brick and wood. The ceiling is constructed from 2 inch by 8 inch pine. There is a poured concrete floor. There is one exterior metal overhead loading door and one interior single panel door. No windows are present. The collection storage

area is filled to capacity. Because of space restrictions, some larger historic artifacts (not associated with the Campbell collection) are suspended from the ceiling (Figure 15). Lack of usable storage space is also reflected by boxes and large historic artifacts being stored on the floor.

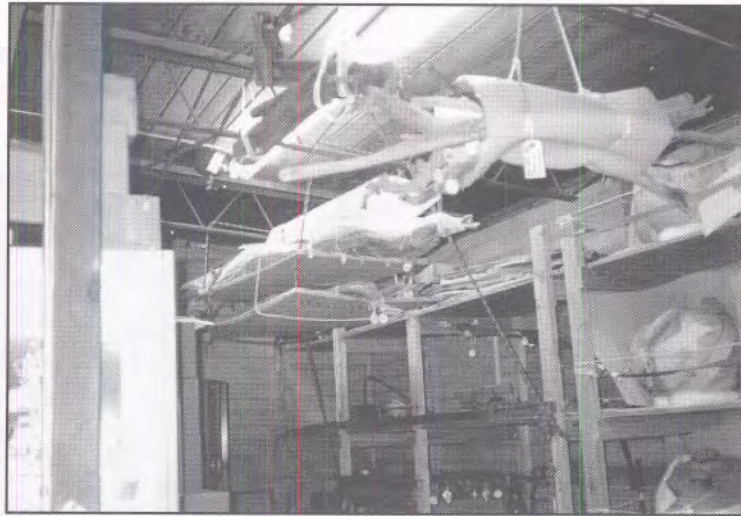


Figure 15. Storage of some types of artifacts at Joshua Tree National Monument.

Environment

Temperature is controlled by an air conditioning and heating system. Although humidity is monitored by a hygromograph, it is not regulated. Lighting is provided by uncovered fluorescent tubes.

Pest Management

No integrated pest management program is in place. However, pest strips are used to monitor for pests and the archaeological material storage area is thoroughly cleaned and checked by staff every other week. No evidence of pest infestation was noticed during the inspection by the assessment team.

Security

The facility is protected by a motion detector/security alarm system. The door to the collection storage area is secured by a key lock at all times. All visitors to the collection storage area must be accompanied by a curatorial staff member and all research must be done under the supervision of a museum staff member. Extended research (over 1/2 hour) is by appointment, whereas research extending beyond one day requires a research tracking sheet.

Fire Detection and Suppression Systems

The fire detection system consists of several smoke alarms. Two fire extinguishers and an automatic sprinkler system comprise the fire suppression system in the facility. A manually operated fire alarm exists on the exterior of the facility.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Storage units with archaeological materials recovered from MCAGCC Twentynine Palms consist of enameled metal, fireproof lane cases containing metal drawers (Figure 16). Cabinets are labeled with storage unit reference numbers on adhesive labels.



Figure 16. Storage units for collections at Joshua Tree National Monument.

Primary Containers

Archaeological materials recovered from MCAGCC Twentynine Palms are stored in enameled metal, archival quality foam-lined drawers measuring three feet long, two feet wide, and 0.16 feet high. Acidic paper tags are contained within metal label holders on the fronts of the drawers. The labels contain site name and storage unit reference number information.

Secondary Containers

Several types of secondary containers contain MCAGCC Twentynine Palms artifacts. These secondary containers include Riker mounts padded with cotton and small acidic and acid-free lidless boxes lined with ethyfoam. Most artifacts stored in the lidless boxes are loose, although some are actually embedded in the ethyfoam. At the time of our visit, the repository staff was in the process of transferring artifacts to archival quality containers. The Riker mounts are directly labeled in pen and/or contain a typed adhesive label listing site name and catalog number. Lidless boxes are not labeled, but contain acidic paper tags written in marker with the site name and catalog number.

Laboratory Processing and Labeling

All artifacts are cleaned and most are directly labeled in india ink with a Southwest Museum number and a Joshua Tree catalog number.

HUMAN SKELETAL REMAINS

All human skeletal remains were repatriated. The remains were analyzed at the University of California-Riverside, prior to repatriation and a record of these burials is kept in a sealed, restricted file at Joshua Tree National Monument.

RECORDS STORAGE

Documentation associated with the Campbell collection consists of approximately 1.5 linear feet of paper records and three boxes of unidentified photographs and negatives some of which may be associated with the Campbell collection.

Paper Records

Paper records include original field notes, original descriptions of dry lake-bed sites, and an original catalog of artifacts. Original field notes are written in ink on pages contained inside black leather binders. Field notes documenting the dry lake-bed sites are typed and enclosed in an acidic cardboard three-ring binder. The individual pages, however, have been inserted into glassine sleeves for protection. These are all stored flat on ethyfoam lined trays in locked, fireproof metal cabinets (Figure 17). Duplicates of all paper records are on archival paper. One copy is stored at the Southwest Museum. All working, duplicate copies are stored in acid-free folders in boxes on the floor of the repository.



Figure 17. Storage units for paper records housed at Joshua Tree National Monument.

Staff members are in the process of entering catalog card information into a computer database. Information included on these cards consists of item classification, counts, location, dimensions, weight, donor name, acquisition date, catalog number, cataloger, and condition of artifact. Paper copies of these cards are printed in triplicate. One copy is kept in a binder for use at the repository, one is stored at the visitor center museum, and one copy is sent to the National Park Service in Washington, D.C. Copies of the computer disks are stored in a vault at the visitor center.

Photographic Records

There are three boxes of unidentified photographs and negatives, some of which may be associated with the Campbell collection. Unfortunately, there is no photo log or detailed descriptions of photographs included in the field notes. None of the photographs are labeled. Thus, it is difficult to identify which photos belong to the Campbell collection. The photographs and negatives are stored in acid-free envelopes within acid-free folders in archival quality boxes. Folders are labeled with Joshua Tree catalog numbers. Many of the artifacts have been photographed on slides. These slides are stored in archival sleeves in plastic three-ring binders on bookshelves.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files are present.

Location Identification

The location of the collections within the repository is identified in the computer catalog system.

Cross-indexed files

The files are cross-indexed by site name, catalog number, and storage unit reference number.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

Joshua Tree National Monument uses a DBASE to catalog the collections.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards for acceptance exist.

Curation Policy

Special Directive 80-1 (revised), "Guidance for Meeting National Park Service Preservation and

Protection Standards for Museum Collections” serves as the repository’s curation guide. The directive addresses museum collections storage, museum environment, security, fire protection, and housekeeping, and also provides a checklist for each of these areas.

Records Management Policy

Archival material is accessioned and cataloged in accordance with the National Park Service standards of the *Museum Handbook*, Part II.

Field Curation Guidelines

Prehistoric and historic archaeological materials are curated in accordance with National Park Service standards.

Loan Procedures

Objects can be loaned to qualified institutions for approved purposes. Institutions must meet minimal standards for security, handling, and exhibition of museum objects. Outside researchers must submit a research proposal to the superintendent for review before access to a collection is granted. No loans are made to individuals.

Deaccessioning Policy

No information was available on the deaccessioning policy.

Inventory Policy

Inventories are conducted annually.

Latest Collection Inventory

The collections were last inventoried in 1992.

Curation Personnel

The curation staff consists of three full-time employees and one part-time employee, all of whom have passed training courses in curation. Rosie Pepito serves as curator, one full-time staff member serves as the museum registrar, and two other staff members serve as museum technicians.

Curation Financing

Curation activities are financed by special project funds and through excess funds. A portion of Ms. Pepito’s salary is the only funding allocated to curation.

Access to Collections

Access to collections is controlled by curation personnel. All visitors are supervised by museum staff members. Anyone wanting to conduct research using the collections must submit a research proposal that must be approved by the park superintendent before the research starts.

Future Plans

Plans have been made for the construction of a new park building more suited to archaeological curation. The new facility will have 4,600 ft² of space for collections.

COMMENTS

1. The repository is well organized, has well-written research, security and loan policies, and is transferring the collections to archival quality containers.
2. The facility is filled to capacity, as evidenced by boxes stacked on top of cabinets and on the floor and by artifacts suspended from the ceiling.

RECOMMENDATIONS

1. An attempt should be made to identify and archivally curate the photographic records.
2. Because of overcrowding, all collections should be removed from the current repository as soon as possible.
3. The disposition and cultural affiliation of all funerary objects (both associated and unassociated), objects of cultural patrimony, and sacred objects should be determined as part of NAGPRA compliance.
4. All artifacts currently stored loose in lidless boxes should be archivally curated in four-mil, polyethylene zip-lock bags to prevent them from damaging each other.

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**NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY
LOS ANGELES, CALIFORNIA**

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 60 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation. All archaeological materials should be reboxed and rebagged into archival quality containers.

(2) Linear Feet of Records: 1 linear foot

Compliance Status: All documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. Original documentation should be located and returned so that all the documentation is in one place. Original photographs from Big Dog Cave are still curated on acidic cardboard mounts and need to be removed and stored in acid-free envelopes.

(3) Human Skeletal Remains: Five human burials representing an unknown number of individuals are reported to have been recovered from Big Dog Cave by A. Woodward. At the time of our visit, the museum staff were unaware of the existence of any of these remains. We did locate and identify one cremation, but the location of the other four burials is unknown.

(4) Status of Curation Funding: Funding for the maintenance of archaeological collections consists of the salary of the collections manager plus funds for curation supplies. The appropriated sum is inadequate for the needs of the department.

INTRODUCTION

DATE OF VISIT: 19 October 1992

PERSON CONTACTED: Chris Coleman and Karen Wise

An estimated 60 ft³ of archaeological materials recovered from San Clemente Island and NAS North Island, and one linear foot of associated documentation are stored at the Natural History Museum. Most of these materials (59 ft³) resulted from excavations at Big Dog Cave conducted by A. Woodward during his Channel Island Survey in the 1930s. The remaining collection (1 ft³) was donated by Prud Home. Museum personnel believe that some San Clemente Island artifacts from the Woodward collection are now at the University of Arizona and the Arizona State Historical Society. Most associated documentation is at the Arizona State Historical Society and the Santa Barbara Museum of Natural History.

REPOSITORY

The archaeological material storage area occupies approximately 3250 ft² of space within the main museum (Figure 18), and is located on a mezzanine level between the second and third floors of the museum.



Figure 18. View of archaeological material storage area.

Structural Adequacy

The Museum building was constructed in 1914 and the archaeological material storage area was added in 1928. As part of the museum proper, the storage area is structurally adequate. The concrete floor is tiled and the ceiling and walls are plastered. However, the age of the building and its poor design make the available space less than desirable for collections storage. Space is inadequate and the archaeological material storage area is not equipped for the proper curation of archaeological materials. The area is crowded with curation materials and supplies. Running water is not available for laboratory purposes.

Environment

There are no environmental controls in the archaeological material storage area. Temperature and humidity levels cannot be regulated. Temperatures range from 50–80°F, whereas relative humidity fluctuates between 10% and 50%. Overhead pipes present a continuous threat to the collections.

Pest Management

Traps are used to monitor for insect pests. The archaeological material storage area is chemically sprayed on an as-needed basis. The museum has never had a problem with rodents.

Security

Armed security guards patrol the museum 24 hours a day. The archaeological material storage area is always locked and key access is limited. Collections can only be used under the supervision of a museum staff member. Maintenance of the area is done only when staff members are present.

Fire Detection and Suppression Systems

The museum is inspected annually and meets Los Angeles County requirements for fire prevention. Fire alarms are the only fire detection devices. Security must be called to request the fire department. Although a sprinkler system exists in the exhibit areas, a similar system has not been installed in the archaeological materials storage area. Fire extinguishers are the only fire suppression devices in that area.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological materials are stored in double-door, metal cabinets that have a baked enamel finish. Each unit measures 25 inches by 56 inches by 50 inches (length, width, height) and contains approximately 54 ft³ of space.

Primary Containers

Primary containers consist of 19 wooden drawers that have been treated with an unknown finish. Each drawer is 24 inches by 25 inches by 2 inches (length, width, height). Acidic paper labels are attached to each drawer. Label information is recorded in pencil.

Secondary Containers

A variety of secondary containers are used to protect the archaeological materials in the drawers. Small wooden boxes, cardboard boxes, with and without lids, Riker mounts, plastic trays, coffee cans, plastic bags, cloth bags, and glass and plastic vials are all present. Historic mission cloth is wrapped in acidic tissue paper and separated by acidic cardboard. Cordage is stored in cotton. Two English game hens are stored in large plastic zip-lock bags along with mission cloth, fur, cordage, and trade beads. Some chipped stone items and large abalone shells are stored loose in the drawers on foam padding, but there is no protection from abrasion when the objects touch one another.

Laboratory Processing and Labeling

Artifact labeling is inconsistent. Most chipped stone and shell artifacts are individually labeled with the catalog number in either black or white india ink. Adhesive labels, paper cards, and paper tag labels tied with string are also used. In addition to the catalog numbers, these labels also contain the site number, the artifact classification, and the date the items were curated.

HUMAN SKELETAL REMAINS

Five human burials, along with associated grave goods are reported from Big Dog Cave on San Clemente Island by A. Woodward and stored at museum. At the time of our visit, museum curators were unaware of the existence of any of these remains. The museum's catalog (No.: A.4616-c, 1-71 and 1-72) notes that remains from two burials were received by the museum in April 1939. Burial No. 1-71 was described as being in good condition and consisting of a skull, a jaw, and was reported as being fairly complete except for long bones. Burial No. 1-72 was also in good condition and contained a jaw, ribs, scapulae, vertebrae, sternum, and some foot bones. A thesis proposal by Richard Maclas (1980) makes the following statement:

Burials: Five human and three animal burials were found. The field map, scattered field notes and the catalogue supply details not mentioned by Woodward in his two articles. The burials are given names, numbers, and letters in the notes and it is difficult to correlate them. The human skeletons and the dog skeleton could not be located among the specimens.

Woodward may have taken the burials with him when he left the museum. One cremation is present, but the location of the other four burials is unknown.

RECORDS STORAGE

All associated documents are prepared archivally for storage and are kept in metal file cabinets in a climate-controlled room. The original documentation associated with the Woodward collection is no longer at the museum. These records have been identified as being at the Arizona State Historical Society and at the Santa Barbara Museum of Natural History.

One linear foot of copies of some of these documents is maintained in the collection manager's office, with a duplicate copy in the collections storage room. Documentation includes photocopies of the catalog cards with the catalog number, specimen, origin, collector, date received, description, and museum location, site locations for the Channel Island Survey, 1939–41, site survey records; various analysis notes and articles, transcriptions of Woodward's notes, an incomplete accession record, progress reports; field notes for Big Dog Cave, November–December, 1940, a thesis proposal, loan records, and photographs.

Paper Records

All paper documents are kept in acid-free folders and filed in metal file cabinets.

Photographic Records

General photographic materials, including negatives and prints, are protected by acid-free paper sleeves and filed in acid-free cardboard boxes. The Big Dog Cave photographs are still attached to acidic cardboard mounts. These items are labeled with the museum catalog number, subject, and date.

Maps and/or Oversized Documents

Oversized maps and related documents are stored flat in standard metal map cases. These documents are separated by acid-free map board.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

The museum has accession files.

Location Identification

The location of collections is not identified.

Cross-indexed Files

The files are cross-indexed by site name and accession number.

Published Guide to Collections

No guide to the collections exists.

Site Record Administration

None exists.

Computerized Database Management

Approximately 5,000 catalog cards (50%) of the entries for the systematic collections have been entered into Macintosh database program.

Written Policies and Procedures***Minimum Standards for Acceptance***

The museum no longer accepts collections.

Curation Policy

A draft plan that was part of an Institute for Museum Services (IMS) grant submission is used to guide curation policy. The plan does not address the receipt of materials, but provides suggestions for the processing and use of collections. A curation policy developed for the ethnographic collections is also used for the archaeological materials.

Records-Management Policy

Records management is also addressed in draft plan. Procedures for storing paper documents, photographic materials, and maps are presented, but the long-term preservation of these records is not addressed.

Field-Curation Guidelines

As the museum no longer accepts collections, it does not have field curation guidelines.

Loan Procedures

Collections access request forms and specimen invoice and receipt forms are required for use or loan of archaeological materials.

Deaccessioning Policy

The deaccessioning policy is included in the museum's general operating policy.

Inventory Policy

None exists.

Latest Collection Inventory

The collections have never been completely inventoried.

Curation Personnel

The archaeological collections are managed by professional and knowledgeable personnel consisting of two full time curators, one full-time assistant, and four part-time volunteers who assist with the collections one day per week.

Curation Financing

Funding of the archaeological collections consists of the salary of the collections manager plus funds for curation supplies. Additional funds are occasionally available from IMS grants. These funds are inadequate, especially when the total rehabilitation costs of the collections are considered.

Access to Collections

Researchers and students from recognized institutions are permitted access to the collections, but all requests must first be submitted in writing. Collections can also be loaned after the loan applications are completed.

Future Plans

Plans for the archaeological collections room include reducing clutter, setting up a collections work area with running water, and installing compact shelving. The staff hope that collections can also be repackaged in appropriate containers and information on the artifacts entered into an on-line database management system. Digitizing the photo images is also a project that staff would like to undertake.

COMMENTS

1. All of the secondary containers consist of various types of acidic materials.
2. The original documentation associated with the Woodward collection is stored at the Arizona State Historical Society and the Santa Barbara Museum of Natural History.
3. The photographs from Big Dog Cave are still curated in the original acidic cardboard mounts. If not removed, they will deteriorate.
4. There are no environmental controls in the museum. Temperature and humidity variations are outside the acceptable range suggested by the American Association of Museums.
5. Although the facility is inspected annually, fire alarms and extinguishers are the only means of fire detection/suppression in the archaeological collections area.
6. Five human burials are reported from Big Dog Cave on San Clemente Island by A. Woodward. We discovered one cremation, but the other four burials could not be located.

RECOMMENDATIONS

1. All artifacts should be rebagged into archival-quality four-mil, zip-lock polyethylene bags.
2. The original documentation associated with the Woodward collection that is currently thought to be stored at the Arizona State Historical Society and the Santa Barbara Museum of Natural History should be returned to the Natural History Museum of Los Angeles so that the entire collection can be curated in one place.
3. The original photographs from Big Dog Cave that are still curated on the original acidic cardboard mounts should be removed from these mounts and stored in acid-free envelopes.
4. A climate control system should be installed to regulate temperature and humidity. If this is not possible, commercial dehumidifiers and air conditioners should be used temporarily to stabilize the storage environment.
5. A sprinkler system should be installed in the archaeological material storage area. If this is not possible, additional fire extinguishers should be purchased and fire alarms should be wired directly into the local fire department, rather than having to call on security to request the fire department to respond.
6. The four burials from Big Dog Cave on San Clemente Island that were recovered by A. Woodward should be located and reintegrated with the collections as a first step in complying with NAGPRA.

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SAN BERNARDINO COUNTY MUSEUM SAN BERNARDINO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Material: 1 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation. All are cleaned and sorted, but should be rebagged and reboxed into archival quality containers.

(2) Linear Feet of Records: 0.3 linear feet

Compliance Status: Partial rehabilitation is required to comply with existing federal guidelines and standards for archival preservation. Documents are duplicated and copies are stored elsewhere, but the copies are not on acid-free paper and are not stored in acid-free folders.

(3) Human Skeletal Remains: No known human skeletal remains recovered from Edwards Air Force Base are at the San Bernadino County Museum.

(4) Status of Curation Funding: Curation is financed through cultural resource management contracts.

INTRODUCTION

DATE OF VISIT: August 26, 1992

PERSON CONTACTED: Robin Laska

Approximately 1 ft³ of prehistoric archaeological materials was recovered from two sites on Edwards Air Force Base (San Bernardino County Museum numbers 3043,3044). Approximately as 0.25 linear feet of records are stored at the San Bernardino County Museum (Table 11).

Approximately 95% of the archaeological material consist of chipped stone material, whereas the remaining 5% include faunal remains, shell, and ceramics. Collections are well organized and are arranged according to San Bernardino County Museum (SCBM) number. We did not locate any human skeletal remains from sites on Edwards Air Force Base at SCBM.

Table 11.
**Summary of Edwards Air Force Base Collections at
the San Bernardino County Museum**

Donor	SBCM Number	Site Number/Name	Presence or Absence		Year
			Artifacts	Documents	
Lisle Babcock	3043	Rogers Lake	Y	Y	1975
Lisle Babcock	3044	Rogers Lake	Y	Y	1975
	3356	SBr1563/Muroc Air Base ^a	N	Y	1977
	3366	Muroc Base Historical District	N	Y	1977
	4403	SBr4052/Edwards AFB	N	Y	1977
	4409	SBr4056/Edwards AFB	N	Y	1980
	4410	SBr4057/Edwards AFB	N	Y	

^a Muroc Air Base changed its name to Edwards Air Force Base in 1949.

REPOSITORY

Next to the museum is the California Archaeological Inventory (CAI) and an archaeological material storage and laboratory area, offices, and a restroom. The archaeological material storage area occupies approximately 6500 ft² (Figure 19).

Structural Adequacy

The museum is a single story building with a concrete slab foundation and a reinforced steel frame. The floor in the archaeological material storage area is unsealed concrete, The CAI has an unsealed concrete floor covered by carpeting. The roof is covered with asphalt shingles and sheet asphalt. A drop Celotex ceiling exists in the CAI, whereas the ceiling in the archaeological material storage area consists of insulation covered by plastic sheeting. The exterior walls are corrugated metal and

wooden siding, whereas the interior walls are covered with sheetrock. Although there are several windows in the CAI, none exist in the archaeological material storage area. Exterior doors include a single panel entrance door to the CAI and a single metal overhead loading door to the archaeological materials storage area. There is a single panel interior door leading to the archaeological material storage area from the CAI. The plumbing system was updated in 1973. The electrical system is new. Although the San Bernardino County Museum is the only facility in southern California still accepting archaeological collections, it has reached capacity.



Figure 19. View of archaeological material storage area at the California Archaeological Inventory.

Environment

There are no temperature or humidity controls in the archaeological material storage area. Box fans are used to increase ventilation. However, a central air conditioning and heating system does create a stable environment in the CAI. Fluorescent lighting is present throughout the complex. Several electrical conduits hang from the ceiling in the archaeological material storage area and provide electricity for additional lights or fans.

Pest Management

There is no integrated pest management program. Although we did not observe any rodent or insect damage, the museum staff acknowledge that there is a problem with black widow spiders. Mouse traps are used to control rodents. Chemical spraying and chemical bombs are administered on an as-needed basis to control insects.

Security

The archaeological material storage area and the CAI complex are contained within a fenced compound. The area is protected by a security alarm and motion detector. Only a limited number of

keys to the building exist and these are signed out by individuals. Individuals without keys must ring a buzzer to gain entrance. A guard is on duty when the museum is open and is responsible for checking on the archaeological material storage area.

Fire Detection and Suppression Systems

The fire suppression system in the archaeological material storage area includes three fire extinguishers and a garden hose located just outside the overhead loading door. It is not known what type(s) of fire detection/suppression system are in the CAI.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

The archaeological collections recovered from sites on Edwards Air Force Base are stored in wooden drawers inside multiple units located in a metal framework. Each unit measures 5 feet by 1.5 feet by 8 feet (Figure 20). Collections curated at the museum are stored on enameled metal warehouse shelving units that are 3 feet by 3 feet by 8 feet (length, width, height). Aluminum poles, approximately five feet long, have been attached to the tops of all shelving units and secured to the walls or ceiling. The poles provide support in case of earthquakes (Figure 20).



**Figure 20. Types of storage unit used for archaeological materials.
Note poles used for earthquake protection.**

Primary Containers

Wooden drawers 2 feet by 1.5 feet by 0.25 feet (length, width, height) are used as the primary containers for the Edwards Air Force Base collections. The exteriors of the drawers are painted red and the interiors are unsealed and unlined. Drawer number and San Bernardino County Museum

number information are directly labeled on the front of each drawer in black marker.

Secondary Containers

Secondary containers for the Edwards Air Force Base materials include small lidless, acidic cardboard boxes, two-mil, zip-lock plastic bags, and artifacts stored loose in a drawer. Most artifacts are stored loose in the wooden drawers. Both the zip-lock bags and small acidic cardboard boxes are labeled directly in black marker with a museum number (e.g., SBCM 4033).

Laboratory Processing and Labeling

All artifacts are cleaned, sorted by artifact class and size, and labeled with a museum number in India ink.

HUMAN SKELETAL REMAINS

No human skeletal remains recovered from Edwards Air Force Base are curated at the museum.

RECORDS STORAGE

Approximately 0.3 linear feet of associated documentation from archaeological projects conducted at Edwards Air Force Base are present. Most are paper records. Unless otherwise noted, all are photocopies.

Paper Records

Paper records from Edwards Air Force Base are from SBCM site numbers 3043, 3044, 3356, 3366, 4403, 4409, and 4410. The paper records are centralized in a climatically controlled room in the CAI, and are stored in enameled metal file cabinets. All records are arranged by SBCM number, and are contained in acidic file folders with typed adhesive labels stating the SBCM number, the state trinomial number, and occasionally, the site name.

Information from Roger's Lake (SBCM 3043, 3044) consists of original site survey records from 1975 and 1984, a duplicate copy from 1977, copies of artifact catalog cards, cultural resource inventory records, and correspondence. Folders SBCM 3356 and 3366 contain information on Muroc Air Base. The information includes copies of site survey records dating to 1977, artifact catalog cards, and correspondence. Folders SBCM 4403, 4409, and 4410 are all from 1980 and contain cultural resource inventory records.

Although the records have not been copied on acid-free paper, duplicate copies of these records exist and are stored in the CAI, the SHPO's office in Sacramento, and in the museum. Robin Laska and Carol Rector are responsible for the maintenance of these records, but personnel in the CAI also have access to them.

Maps and/or Oversized Documents

In the folder for SBCM 3366 is an original topographic map, now folded and inserted in a "pocket" constructed of an acidic manila envelope.

Reports

The only report is in folder SCBM 4056. The report summarizes the mitigation of the space shuttle transport road at Edwards Air Force Base.

COLLECTIONS MANAGEMENT STANDARDS**Registration Procedures****Accession Files**

Only items received by private donors are accessioned. Collections acquired as a result of cultural resource management projects are documented and a receipt is prepared and then returned to the contractor.

Location Identification

The location of collections within the repository is stored with the catalog cards and on a computer database.

Cross-indexed files

Files are cross-indexed by SBCM collection and catalog numbers. Catalog cards, as well as site files, contain this information.

Published Guide to Collections

No guide to the collections exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

A computer based database management system is being used.

Written Policies and Procedures**Minimum Standards for Acceptance**

The museum is formulating a new set of standards. However, staff are waiting for the state curation guidelines to be adopted before completing their own standards.

Curation Policy

Much of what is included in the SBCM policy is linked to the adoption of the state curation guidelines.

Records Management Policy

Major emphasis is placed on storing the records in a climatically controlled environment.

Field-Curation Guidelines

The museum does have field curation guidelines.

Loan Procedures

Collections are only allowed to be loaned to individuals that the museum determines are qualified researchers. A letter is required from the director of the borrowing institution requesting the loan.

Deaccessioning Policy

Unless the item(s) is completely destroyed, a request to deaccession must be submitted to the director of the museum. After the request is granted, 25 years must pass before the item(s) are actually deaccessioned.

Inventory Policy

AN inventory policy exists.

Latest Collection Inventory

A collections inventory was completed in 1992. Prior to this, the last inventory occurred in 1987.

Curation Personnel

There is no full-time curator for the archaeological collections. The full-time curator for Anthropology is given this additional responsibility. The curator has a part-time assistant.

Curation Financing

All curation work is financed through cultural resource management projects.

Access to Collections

Access to collections is controlled by curatorial personnel. The collections are available to researchers through loans or in the museum. All use is supervised by curatorial staff. No original records are allowed to be removed from the SBCM, but duplicates may be made.

Future Plans

The curatorial staff responsible for maintaining the archaeological collections feel that the primary responsibilities associated with each collection are curation, preservation, storage, and availability of collections to researchers. If funds are available, the curation program will be upgraded.

COMMENTS

1. The SBCM is the only facility in southern California still accepting archaeological collections for curation. Their storage space is full. In some cases, boxes are stacked on top of each other on the upper shelving units. This leads to compression of boxes and possible damage to the collections. Ms. Laska estimated that at least six times as much space as is now available would be needed in the next twenty years to accommodate all the archaeological collections that would be generated.
2. Although collections are easily accessible, they need to be rehabilitated according to federal standards. The wooden trays with the archaeological materials are not lined with acid-free tissue

paper and most of the artifacts are stored loose in the drawers. Artifacts thus rattle around and abrade each other.

3. There are no environmental controls. Box fans are used to increase ventilation in the archaeological collections area. Humidity is not monitored or controlled.
4. There is an acknowledged problem with black widow spiders, yet there is no consistent program of pest control.
5. No associated records could be located for SCBM 3356, 3366, 4403, 4409, or 4410.
6. Records have been duplicated, but not on archival quality acid-free paper.

RECOMMENDATIONS

1. All archaeological materials should be rehabilitated and curated according to federal standards. The artifacts now stored loose in the drawers should be curated in four-mil, zip-lock, polyethylene bags.
2. Utilities such as heat, air conditioning, and running water to process collections should be installed in the repository.
3. A temperature and humidity control system should be installed. If an climate control system is not possible, an alternative would be to purchase air conditioners, dehumidifiers and humidifier to provide a more stable environment for the collections.
4. A pest control system should be developed and used consistently to combat the problem of black widow spiders.
5. Records for SCBM 3356, 3366, 4403, 4409, and 4410 should be located, returned to the San Bernardino County Museum, and archivally preserved.
6. All records should be stored in acid-free folders and duplicated on acid-free paper.

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SAN DIEGO MUSEUM OF MAN SAN DIEGO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 27 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: less than one (0.5) linear foot

Compliance Status: All records require significant rehabilitation and must be duplicated and copies stored at a separate location for safety and security purposes.

(3) Human Skeletal Remains: Skeletal remains from 13 individuals recovered from NAS North Island are currently stored in the physical anthropology laboratory (Laboratory No. 6).

(4) Status of Curation Funding: Financing for archaeological curation is included as a line item in the museum's operating budget.

INTRODUCTION

DATE OF VISIT: 30 July 1992

PERSON CONTACTED: Ken Hedges

Approximately 27 ft³ of artifacts recovered from NAS North Island and 0.5 linear feet of associated documentation are curated at the San Diego Museum of Man (SDMOM)(Table 12). Types of archaeological material present in these collections consists of chipped stone, faunal remains, worked shell, human skeletal remains, and botanical remains.

Table 12.
Summary of NAS North Island Collections Housed at the San Diego Museum of Man

Collector	Year	Storage Area	Ft³
Sayler	1954-55	Laboratory No. 2	4.0
		Laboratory No. 5	5.0
		Laboratory No. 6	5.5
Rogers and Tyson	1970s	Laboratory No. 6	8.0
Mesa College	1975	Laboratory No. 6	2.5
Unidentified/ Uncataloged	?	Laboratory No. 6	2
Total			27

REPOSITORY

Archaeological collections under the jurisdiction of the NAS North Island are stored in three separate laboratories within the Museum of Man: curation laboratory (Lab 2), archaeological material storage area (Lab 5), and the physical anthropology laboratory (Lab 6).

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Curation laboratory 2, located in the basement of the museum, functions both as a archaeological material storage area for diagnostic artifacts and as a curatorial work area. The room measures approximately 1,190 ft².

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Laboratory 5 is located in the museum's sub-basement and measures approximately 865 ft². A portion of the museum's boxed collections is stored here.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Laboratory 6, the physical anthropology laboratory, is located on an upper level of the museum building. The room measures approximately 800 ft² and contains all the museum's human skeletal remains.

Structural Adequacy

The SDMOM opened in 1915 as part of the World's Fair Exposition. It is a steel framed, multi-level building with a poured concrete foundation, hollow ceramic brick and tile walls, a ceramic tile and asphalt roof. The plumbing and heating systems, along with the roof, have been renovated or replaced over the years. Laboratories 2, 5, and 6 are all located within the Museum complex. The building is still structurally sound, but no longer functions well as a collection storage area. While the museum's exhibit areas meet the accreditation requirements of the American Museum Association, the storage rooms for archaeological collections do not meet the mandated environmental requirements for curation of federally-owned collections.

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The interior walls of the curatorial work area are insulated and covered with sheetrock. The floor is of poured concrete, and there are acoustical tiles on the ceiling. The area is located in the basement. There are no windows. One solid-core, single panel wooden door is the only means to enter or exit from the room. Water pipes that are part of the air conditioning system are approximately 3 to 4 feet overhead. The repository has reached 100% capacity as a collections storage space. It functions well as a curation laboratory, but is too overcrowded for collections storage.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

The interior walls, ceiling, and floor of the sub-basement storage area are of poured concrete. No windows exist. Access is possible through two single panel wooden doors on each side of the room. Water pipes are present overhead. Water stains are present on the walls indicating that these pipes have leaked in the past. The storage room is filled to capacity.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

The physical anthropology laboratory is located on an upper level of the museum complex. The walls and ceiling are of poured concrete. The floor is covered with tile. A single panel door provides the only entrance/exit. Four windows covered with bars are present on one wall.

Environment

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Temperature and humidity levels are monitored and maintained in the museum's exhibit areas and in Laboratory 2. Temperature is maintained at 68-70⁰ F. The targeted humidity level is 55%. Dust

filters are part of the heating/cooling system. Light is provided by fluorescent tubes covered with ultraviolet sleeves. The storage area has no windows.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Temperature and humidity controls for this collection storage area do not exist. Light is provided by uncovered fluorescent tubes.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

There are no temperature or humidity controls. Unfiltered fluorescent tubes provide light.

Pest Management

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

An integrated pest management program is in place in the exhibit halls, and archaeological material storage areas. The program consists of monitoring, monthly and/or as-needed spraying, and fumigation of organic materials prior to entering the storage areas.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

The lab is covered by the museum-wide program. A baited rat trap in this sub-basement archaeological material storage area suggests that rats may be a problem.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

The lab is covered by the museum-wide program.

Security

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Intrusion alarms have been installed on all exterior doors. The door to Laboratory 2 remains locked at all times. Only curatorial and security staff have keys. Security guards patrol the area when the museum is open.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Intrusion alarms have been installed on exterior doors of the building. The doors to each sub-basement storage level are secured with padlocks. Only curatorial staff and security guards have keys. Security guards patrol the area during museum business hours.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

This laboratory is secured by means of an electronic coded door lock and bars on the windows.

Fire Detection and Suppression Systems

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The fire detection system consists of heat sensors wired directly to the local fire department. Fire extinguishers are the only means of fire suppression. Fire inspections are conducted annually. There is no sprinkler system.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Fire extinguishers and heat sensors are the fire detection/suppression system.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Heat sensors wired directly to the local fire department and fire extinguishers in the lab and outer hallway serve as the fire detection/suppression system.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The diagnostic artifacts stored in Laboratory 2 are stored in four unlined wooden-drawer units of varying sizes that were donated to the museum by Marsten's Department Store (Figure 21). A stamped adhesive label listing drawer number is attached to the outside of each drawer. Metal tag holders with acidic paper tags are also used. Label information includes site number(s).



Figure 21. Storage units used in Archaeological Material Storage Area 1 at the San Diego Museum of Man.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Enameled metal uprights with sealed particle board shelves are used as storage units in Laboratory 5 (Figure 22). A single unit measures 6 feet by 4 feet by 10 feet (length, width, height). A portion of a metal upright extends between each row of shelving units to provide stability during an earthquake.



Figure 22.

Storage units and primary containers used in Archaeological Material Storage Area 2 at the San Diego Museum of Man. Note compression damage on some of the primary containers.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Human skeletal remains are stored on adjustable, enameled, metal shelving units measuring approximately 4 feet by 2.5 feet by 12 feet (length, width, height). Each unit has eleven shelves. Each shelf holds approximately five boxes.

Primary Containers

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Unlined wooden drawers, 1 ft³ in capacity, are the primary containers for the diagnostic materials recovered from NAS North Island. These drawers have an exterior adhesive label that lists the drawer number and a metal tag holder inside of which is an acidic paper tag on which the site number is written. The exteriors of the drawers have been varnished at some time in the past possibly while they were still at Marsten's Department Store.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Primary containers consist of small (0.23 ft³), acidic cardboard boxes with folded flap lids. The boxes are directly labeled in marker. Label information includes the site name, catalog number, and/or content information. Boxes are usually stacked two high on the shelves, and some show signs of compression (Figure 22).

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Acidic cardboard boxes with telescoping or flap top lids are the primary containers for the human skeletal remains recovered from NAS North Island. Boxes are directly labeled with marker and include catalog number information.

Secondary Containers

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Small various size acidic cardboard boxes are the secondary containers for the type collection. Most boxes are labeled directly in marking ink with site number(s), contents, and/or provenience information. Boxes with groundstone and large shell artifacts do not have lids. For these boxes label information is written on acidic paper tags and inserted into the boxes. Beside the organic material in plastic zip-lock bags, artifacts are stored loose within these small boxes.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Secondary containers with NAS North Island archaeological materials consist of paper bags, paper bags within plastic bags secured with twine, and loose artifacts. The majority of the chipped stone artifacts are stored loose in the boxes, whereas bone and shell material are curated in paper or plastic bags. The containers are directly labeled with marker and contained site number and provenience. Occasionally, original paper bag labels are placed into plastic bags when material is rebagged.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Secondary containers with human skeletal remains consist of open paper bags, plastic zip-lock sandwich bags, plastic bags secured with twist ties, small acidic cardboard boxes, film vials, and cloth bags. Some skeletal elements are wrapped in paper towels or gauze, whereas others are packed in cotton, plastic foam, or packing peanuts. Approximately half of the secondary containers are directly labeled with pen, pencil, or marker. Label information includes site number, catalog number, burial number, and date.

Laboratory Processing and Labeling

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

All artifacts curated in Laboratory 2 are completely processed. All are washed, directly labeled with catalog number in black or white india ink, and sorted by site number and artifact type.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Not all of the NAS North Island artifacts stored in Lab 5 are completely processed. All have been cleaned, but not all have been labeled. Those that have been labeled have been directly labeled with

site or catalog number in india ink. Most have been sorted by material class within the primary container.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Twelve of the thirteen individual skeletons are cleaned, whereas 10 are labeled with catalog numbers in india ink. All are sorted by catalog number.

HUMAN SKELETAL REMAINS

The remains of 13 individuals recovered from NAS North Island are curated in Laboratory No. 6 (Table 13). Most of the burials are relatively complete, in fair to good condition, and partially sorted by element. Museum records indicate that associated grave goods were recovered from burials assigned by catalog numbers 2087 (1957-78), 1971-78-1, 1972-60-1, and 1975-14-1.

Table 13.
Summary of Human Skeletal Remains from NAS North Island
by Collection and Catalog Number

Collection Name	Catalog Number	Number of Individuals
Saylor	2084	2
	2085	1
	2086	1
	2087	1
Rogers and Tyson	1971-78-1	1
	1972-60-1	1
	1975-14-1	1
	1975-14-2	1
Mesa College	1976-50-1	1
	SCLI-64	1
	Uncataloged	1
	C-124	1
Total		13

RECORDS STORAGE

Associated documentation consists of approximately 0.5 linear feet of records from the 1954–55 Saylor project. These records are stored in Laboratory 2.

Paper Records

Two original field journals and five manila folders containing typed field notes, burial record sheets, and archaeological site survey forms are included in the associated documentation. The field journals are stored unprotected on open shelves. The folders are filed in a metal cabinet. Only the field journals have been photocopied and are stored in a separate location.

Photographic Records

Negatives are stored in acidic glassine sleeves. Slides are stored loose and unprotected in acidic manila envelopes. A paper envelope containing photographs is taped inside one of the field journals.

Copies of the photographic documentation have not been made.

Maps and/or Oversized Documents

The original field maps are missing from the collection, and no duplicate copies were available.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All artifacts and records are accessioned upon receipt and the files are maintained by the registrar.

Location Identification

The location of archaeological materials and records within the museum is identified in the accession file.

Cross-indexed files

Files are cross-indexed by catalog number, site number, and cultural affiliation.

Published Guide to Collections

A guide to the museum's archaeological collections has never been published.

Site Record Administration

The Museum of Man maintains its own system of site record administration and has not converted to the state trinomial system. Site and catalog numbers specific to the museum's system are assigned to each collection.

Computerized Database Management

Information on the museum's archaeological collections has not been entered into an electronic data base.

Written Policies and Procedures

The SDMOM revised and published its *Collections Policy* in 1991. The document addresses acceptance, evaluation, accessioning and deaccessioning of collections, access to collections, and loans.

Minimum Standards for Acceptance

The conditions for acceptance of collections are stated in the written collections policy. The SDMOM does not accept specimens on which restrictions are placed that would prevent research, normal exhibition use, loan, or disposal. The museum does not accept specimens under conditions that would require that these specimens be placed on long-term exhibition or that they be kept together permanently and/or displayed only as a discrete collection. At this time, the museum is not accepting new archaeological collections.

Curation Policy

The collections policy addresses the acquisition of collections, evaluation of materials, policies for deaccessioning, specimen transfer, loan policy, and accessibility of archaeological materials and records.

Records Management Policy

The preservation of associated documentation is not specifically addressed in the collections management plan.

Field Curation Guidelines

Field curation guidelines do not exist.

Loan Procedures

The procedures for loans are in the Collections Policy. All loans must be approved by the Director. Materials can only be loaned to institutions engaged in educational or scientific pursuits. Loans to individuals are not made. A record of all loans is maintained by the Registrar.

Deaccessioning Policy

The deaccession procedure requires the recommendations of the chief curator or registrar and the approval of the director and the Board of Trustees. Various types of deaccessioning are discussed in the museum's *Collections Policy*, such as gifts of specimens to an appropriate scientific, educational or cultural institution, exchanges of specimens between two or more institutions to increase the probability of preserving materials, and sales of material if certain specimens or collections are no longer needed for research and exhibition programs. A complete record of all deaccessioned material is maintained.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

The last collections-wide inventory for the museum was completed in the 1970s. Inventories are conducted when collections are accessed for research.

Curation Personnel

Ken Hedges and Grace Johnson have part-time curatorial responsibilities for archaeological collections. Most of their time is devoted to the curation of ethnographic collections.

Curation Financing

Financing for archaeological curation is included as a line item in the museum's operating budget. The funding level for curation is considered adequate by curation personnel, but the present needs assessment suggests that the present funding cannot meet the curation requirements for federally-owned collections.

Access to Collections

Collection use is controlled by curatorial personnel. Collections are available to researchers by appointment only. All qualified individuals accessing collections must demonstrate legitimate research needs and their request for access must be project specific.

Future Plans

Metal storage cabinets may be purchased and a computerized database system may be developed.

COMMENTS

1. Although the archaeological collections at the SDMOM are reasonably secure from fire and theft, the museum does not provide the environmental requirements necessary for the long-term preservation of these materials.
2. Without the original artifact catalogs, we could not determine what is missing from the NAS North Island collections.
3. The registration procedures at the museum are adequate for maintaining control over the collections. Converting the records to a computerized database would greatly increase the retrieval and manipulation of collection information. Conversion of the system of archaeological site record administration to the state's trinomial system would also eliminate the existing complicated procedures for site identification.

RECOMMENDATIONS

1. The NAS North Island collections should be removed from their present storage areas to an area with adequate environmental protection. If the museum cannot do this, the collections should be transferred to NAS North Island until a suitable curation facility can be located.
2. Fire detection/suppression system should be installed in archaeological material storage Lab 5.
3. All collections should be inventoried and any archaeological materials and associated records identified as missing should be recovered and reintegrated into the existing collections.
4. All artifacts should be rehabilitated and prepared for long-term storage according to federal guidelines and standards and modern curation procedures. Specifically, all artifacts should be (a) cleaned; (b) labeled legibly in indelible ink; (c) repackaged in appropriate secondary containers, preferably four-mil, polyethylene, zip-lock bags; and (d) stored in acid-free boxes.
5. All human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony should be identified and their final disposition should be determined in accordance with the requirements of the Native American Graves Protection and Repatriation Act. The human skeletal remains from the Mesa College project should be reunited with the rest of this

collection, which is housed at NAS North Island.

6. All documentation associated with the NAS North Island archaeological materials should be prepared for long-term storage according to federal guidelines and standards and modern archival procedures. Minimally, the following should be performed to protect and preserve these records: (a) all paper records should be filed in acid-free folders and stored in acid-free boxes or metal file cabinets; (b) all photographic records should be filed in inert plastic sleeves or other archival storage containers; (c) all oversize maps should be stored flat in metal map cabinets; and (d) a duplicate copy of all documentation should be produced and stored in a separate and secure location.

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SAN DIEGO STATE UNIVERSITY
SAN DIEGO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 13 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 1 linear foot

Compliance Status: All associated records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

(3) Human Skeletal Remains: Approximately 7 ft³ of human skeletal remains from an unknown number of individuals are stored in the physical anthropology laboratory in Nassiter Hall.

(4) Status of Curation Funding: Funding to inventory and rehabilitate the archaeological collections has been secured from the university administration. No resources were allocated to archaeological curation in prior years.

INTRODUCTION

DATE OF VISIT: July 28, 1992

PERSON CONTACTED: Lynne Christenson and Dan Whitney

Approximately 13 ft³ of prehistoric and historic artifacts recovered from NAS North Island by Spencer Rogers in 1950 are at San Diego State University (SDSU). An additional 1 linear foot of associated documentation is also part of this collection. Materials include prehistoric chipped stone, faunal remains, human remains, and historic metal artifacts. A 1987 inspection revealed that the present collection is incomplete. Comparison of the original field notes with the existing collection showed that beads, fishhooks, projectile points, a dog burial, human skeletal remains, and part of the associated records were missing.

REPOSITORY

Archaeological collections are stored in two locations—shipping containers at the vacant Montezuma Elementary School and the physical anthropology laboratory in Nassiter Hall.

Repository 1—Shipping Container, Montezuma School

The currently vacant Montezuma Elementary School is located approximately one mile off campus. The property is surrounded by a chain link fence. The repository consists of four metal shipping containers, each approximately 25 feet by 6 feet by 8 feet (length, width, height). The NAS North Island archaeological materials, with the exception of the human skeletal remains, are stored in one of these containers (Figure 23).



Figure 23. View of the Montezuma School Repository 1.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The physical anthropology laboratory, located on campus in Nassiter Hall, contains the human skeletal remains recovered from NAS North Island. Nassiter Hall is a modern multi-level steel and concrete classroom building.

Structural Adequacy

Repository 1—Shipping Container, Montezuma School

The metal shipping container that contains the NAS North Island archaeological materials is constructed of corrugated metal with a plywood floor. Rust has formed along the walls where paint has chipped off and water has leaked through cracks and vents in the ceiling. The storage container is filled to capacity. Boxes filled with artifacts clutter the floor, making access to them difficult. Plans are being made to have all collections rehabilitated and moved to a better storage facility.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

This multistory building was constructed in the 1970s and contains classrooms and offices. The exterior walls are of concrete block and interior walls are covered with sheetrock. The floor is poured concrete covered with tile. There is a suspended acoustical tile ceiling. Several windows, all covered with blinds, are located along the exterior wall of the laboratory. One single wood panel door leads to the adjacent hallway. The building is adequate as a laboratory, classroom, and office space, but requires further work if it is to function as a long-term collections storage facility for human skeletal remains.

Environment

Repository 1—Shipping Container, Montezuma School

Temperature and humidity levels are not monitored or controlled in the shipping container. The metal exterior of the container and the warm, local climate cause interior temperatures to reach extremely high levels. The only means of light in the shipping container is from natural lighting when the door is opened.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Temperature is controlled by a central heating and air conditioning system. Humidity is not monitored or controlled. Fluorescent light with nonultraviolet plastic shields covering the tubes are present.

Pest Management

Repository 1—Shipping Container, Montezuma School

There is no integrated pest management program for the storage facility. Evidence of rodent infestation was noted in the shipping containers, but no action has been taken for protection from future infestations.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

A partial pest management program that controls rather than monitors exists. The university provides pest management on an as needed basis. No infestation was noted during our visit.

Security

Repository 1—Shipping Container, Montezuma School

A padlock on the shipping container and a chain-link fence surrounding the property are provide security for the archaeological collections. The isolated location of the container compromises security.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The door to the physical anthropology laboratory is has a key lock, and remains locked during non-class hours. Windows are present, but because the lab is located on the upper floor of Nassiter Hall, entry through these windows is unlikely. Native American skeletal remains are no longer used for student research and teaching purposes because of ethical concerns. However, because the cabinets with the remains are not locked, the potential exists for unauthorized access by students during regularly scheduled classes.

Fire Detection and Suppression Systems

Repository 1—Shipping Container, Montezuma School

There is no fire detection and suppression system.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The fire detection/suppression system consists of manual fire alarms and fire extinguishers in the hallway adjacent to the physical anthropology laboratory.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Repository 1—Shipping Container, Montezuma School

NAS North Island archaeological materials are stored in two boxes stacked on the floor.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Human skeletal remains are stored in nine wooden drawer units each measuring approximately 4 feet by 3 feet by 6 feet (width, depth, height). Label information consists of contents written in black marker on acidic notecards taped to the front of the cabinets.

Primary Containers

Repository 1—Shipping Container, Montezuma School

Primary containers consist of acidic cardboard filing boxes. Label information includes contents and project number written directly in marker on the box.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The human skeletal remains are curated in unlined wooden drawers measuring 3 feet by 1 foot by 1 foot (length, width, height). Label information includes skeletal element written in red marker on acidic paper labels. These labels are affixed to the fronts of the drawers with cellophane tape.

Secondary Containers

Repository 1—Shipping Container, Montezuma School

The majority of the secondary containers consist of open brown paper bags. Plastic zip-lock sandwich bags inside the paper bags are also present. Paper bags are labeled directly with site number and material class in marker and/or ball point pen. Several bag labels are incorrect because the bag contains more material than is indicated on the labels. Security is compromised by the unsealed paper bags and bags with punctures and tears.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Skeletal remains NAS North Island are either stored loose in drawers (Figure 24) or in small acidic cardboard boxes, shoeboxes, or foam boxes within the drawers. However, these remains are commingled with skeletal remains from other collections and cannot be easily separated. The miscellaneous secondary containers are usually directly labeled in marker.



Figure 24. Secondary containers used for NAS North Island human remains.

Laboratory Processing and Labeling

Repository 1—Shipping Container, Montezuma School

All artifacts are cleaned and are labeled with correction fluid in india ink with the site number and/or catalog number.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

All human skeletal remains have been washed, and some are labeled directly in ink and/or marker with project and site number. However, since the skeletal elements from NAS North Island are not labeled and other non-NAS North Island skeletal remains are also stored in the same drawers, it is impossible to determine how many of the elements are a part of the Spencer Rogers Collection.

HUMAN SKELETAL REMAINS

Approximately 7 ft³ of human skeletal remains recovered from NAS North Island are curated in the physical anthropology laboratory at SDSU. These remains were well preserved when they excavated, but have deteriorated because of the existing storage conditions.

RECORDS STORAGE

Approximately 1 linear foot of associated documentation from the Spencer Rogers Collection has been turned over to SDSU. It is stored in the gymnasium of former the Montezuma Elementary School and is being inventoried. None of the documentation has been archivally prepared for long-term storage and copies of the records do not exist. These records are in danger of being lost because of high humidity and temperature levels, water damage, and rodent/insect infestations.

Paper Records

Eleven bound field journals are stored in an acidic cardboard box and are the only surviving paper records for the Spencer Rogers collection. Site forms, a catalog list, and a summary report prepared by Spencer Rogers are missing.

Photographic Records

All photographic documentation for this collection is missing.

Maps and/or Oversized Documents

Three large field maps are curated with the field journals. The maps were stored rolled-up for many years and are not protected in any way.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All collections are accessioned upon receipt.

Location Identification

The location of the collection within the repository is not identified in the accession file because no permanent storage location for the material exists.

Cross-indexed files

The files are cross indexed electronically with Quattro-Pro. Files are cross indexed by site number and box/container number.

Published Guide to Collections

None exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

Quattro-Pro and Lab Assistant IV are used for database management. Both are DBASE compatible.

Written Policies and Procedures

Minimum Standards for Acceptance

SDSU is no longer accepting new collections.

Curation Policy

The repository has a comprehensive plan for curation that follows the National Park Service standards.

Records Management Policy

The guidelines primarily address the paper records. The repository has not identified any photographic records. Curation of large scale maps remains to be addressed.

Field Curation Guidelines

None exists.

Loan Procedures

Loans are granted to recognized institutions and archaeological contractors.

Deaccessioning Policy

The repository does not have a written deaccessioning policy, but deaccession of certain materials occasionally occurs for soil samples that are stored in punctured or torn bags.

Inventory Policy

An inventory policy exists.

Latest Collection Inventory

No information is available on when the last inventory occurred.

Curation Personnel

Lynne Christenson is currently in charge of rehabilitating the archaeological collections curated at SDSU. She is assisted by several part-time student workers.

Curation Financing

Funding to inventory and rehabilitate the collections has recently been received from the university. In the past, no resources were available for curation.

Access to Collections

Access to the shipping containers is controlled by the university's property department. Access to the locked physical anthropology laboratory is controlled by Anthropology Department personnel.

Future Plans

SDSU plans to transfer the collections to a repository that can provide long-term curation for the collections as soon as such a facility becomes available.

COMMENTS

1. Inadequate storage facilities have contributed to the loss of archaeological materials and associated documentation from the NAS North Island collection.
2. Shipping containers for the storage of archaeological collections is an inadequate for long-term curation.
3. Contextual information associated with individual human burials has been lost because of commingling.

RECOMMENDATIONS

1. The NAS North Island collections should be removed from the existing storage containers and transferred to a facility that can provide long-term curation, security, pest management, and has a working fire prevention/detection system.
2. All collections should be inventoried and all missing archaeological materials and associated records should be recovered and reintegrated into the existing collection.
3. All artifacts should be rehabilitated and prepared for long-term storage according to federal guidelines and standards and modern curation procedures. Specifically, all artifacts should be: (a) labeled legibly in indelible ink, (b) repackaged in appropriate secondary containers, preferably four-mil, polyethylene, zip-lock bags, and (c) stored in acid-free boxes.
4. All human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony should be identified, and their final disposition should be determined in accordance the Native American Graves Protection and Repatriation Act. The remains stored in the physical anthropology laboratory should be secured and skeletal elements that are from a single burial should be curated together.
5. All documentation and reports associated with the NAS North Island archaeological materials should be prepared for long-term storage according to federal guidelines and standards and modern archival procedures. Minimally, the following should be implemented to protect and preserve these records: (a) all paper records should be filed in acid-free folders and stored in acid-free boxes or metal file cabinets, (b) all oversize maps should be stored flat in metal map cabinets, (c) all photographic records should be filed in inert plastic sleeves or other approved archival storage containers, and (d) a duplicate copy of the documentation should be produced and stored in a separate and secure location.

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SOUTHWEST MUSEUM
LOS ANGELES, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 6 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: No associated records for the collections are in the Southwest Museum.

Compliance Status: Associated records need to be located and transferred to the Southwest Museum to be reintegrated with collections.

(3) Human Skeletal Remains: Skeletal remains from at least three individuals recovered from NAS North Island are at the Southwest Museum.

(4) Status of Curation Funding: Curation is privately financed.

INTRODUCTION

DATE OF VISIT: 6 August 1992

PERSON CONTACTED: George Kritzman

Approximately 6 ft³ of artifacts recovered from San Clemente Island, representing nine separate private donations, are curated at the Southwest Museum (Table 14). An estimated 90% of the San Clemente Island collections consist of prehistoric artifacts, including chipped stones, worked shell, faunal material, botanical remains, and human skeletal remains. The remaining 10% were recovered from historic sites. The historic collections are represented by trade beads, coins and medals, fragments of Spanish cloth, and a human skull with a beaded skull cap. No supporting documentation is available for any of the collections.

Table 14.
Summary of NAS North Island Collections at the Southwest Museum

Donor Name	Catalog No.	Material Type	Recovered
Bolser	1293.G.1-G.7	Prehistoric	1908
C. Rife	714.G.1-G.8	Prehistoric	
H.L. Pogue	733.G.1-G.47	Prehistoric/Historic	
Gerald Nelson	1668.G.1-G.21	Prehistoric	
Palmer	mixed sites, not all from NAS	Prehistoric	
Kenneth Seaman		Historic	1961
Unknown		Historic	1900-1918
Unknown	Ledge Site	Prehistoric	1963
Unknown		Prehistoric	

REPOSITORY

The tower portion of the Southwest Museum is the storage area for archaeological collections. The lower and mezzanine levels of the tower are approximately 1050 ft² of space in one room. The room contains the boxed archaeological materials (Figure 25).

Structural Adequacy

The museum was constructed in 1915 and is a multilevel steel and concrete structure with a stucco exterior. A new roof was installed recently. The lower and mezzanine levels of the collections storage room have concrete floors, walls, and ceilings. There are six windows, each measuring three feet by twelve feet (width, length) along the three exterior walls of the storage area. A single wood panel door is on the interior wall. Overhead water pipes for the exhibit area air conditioning system are present. They are situated near the ceiling on the interior wall above storage units in the mezzanine level. The storage area is currently filled to approximately 95% capacity.



Figure 25. View of repository at the Southwest Museum.

Environment

Environmental controls are absent. The rooms are not heated or air conditioned. Temperatures range from approximately 55° F in the winter to 95° F in the summer. Humidity levels are monitored, but are not controlled. The collections are affected by ultraviolet radiation from direct sunlight entering through the large, unshaded tower windows. Lighting is provided by 60 watt, unfiltered incandescent bulbs. The fixtures are original to the building.

Pest Management

An integrated pest management program is absent. The storage areas are sprayed on an as-needed basis, most recently for an infestation of silverfish. No rodent or insect activity was noted during our visit.

Security

The collections are protected by a security alarm system wired into Wells Fargo. The door to the storage area is kept locked at all times with a dead bolt lock. Access to the area is regulated by the archaeological curator. The tower windows are too high to present a serious security problem.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files are present.

Location Identification

All artifacts have been photographed and their location within the museum (e.g., room number and shelf number) is entered into a computer database.

Cross-indexed files

The files are cross indexed.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

An in-house system using the Southwest Museum catalog numbers exists.

Computerized Database Management

A computerized database is in use.

Written Policies and Procedures

Minimum Standards for Acceptance

Minimum standards of acceptance exist.

Curation Policy

No curation policy exists.

Records Management Policy

No records management policy exists.

Field Curation Guidelines

The Southwest Museum no longer performs fieldwork. The collections are acquired by donation and purchase.

Loan Procedures

Loan procedures exist.

Deaccessioning Policy

A deaccessioning policy is being written.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

The collections were last inventoried and photographed in 1985–1986. Information was then entered into a computerized database.

Curation Personnel

A part-time curator is responsible for the archaeological collections.

Curation Financing

Private funds are used to finance curation.

Access to Collections

Although collections are not properly curated, they are readily accessible and made available to researchers. Access has never been denied to anyone, but researchers must present a written letter of intent. As an added security measure, a staff member is always present when research collections are being used

Future Plans

The Board of Trustees would like to move the museum to a new facility with proper environmental controls. A new facility, however, has not been identified.

COMMENTS

1. A Halon fire extinguisher is the only means of fire protection in the archaeological material storage area. Halon is a toxic chemical that can have adverse effects on users.
2. The more fragile material such as basket fragments, wooden, and shell artifacts would be better preserved in an environment with stable temperature and humidity.
3. Insufficient storage space for collections is reflected by the overcrowded and cluttered storage conditions.
4. Essential utilities are absent in the archaeological material storage area, including heat, air conditioning, and running water to process collections.
5. Water pipes are located directly over collections.
6. Limited access in the tower creates problems in moving the collections because of the spiral staircase entrance.

7. Box labels are fading due to exposure to ultraviolet light from the unshaded windows.
8. Associated documentation does not exist.

RECOMMENDATIONS

1. The NAS North Island archaeological materials at the Southwest Museum need to be inventoried, reboxed and rebagged into archival-quality containers (e.g., acid-free boxes and four-mil, zip-lock polyethylene bags).
2. The fire detection and suppression systems should be upgraded to include smoke alarms and sprinkler systems. The Halon fire extinguisher is inadequate and the chemicals used in it are dangerous to the staff if used.
3. All associated records should be located, returned to the Southwest Museum, and rehabilitated to comply with existing federal guidelines and standards.
4. The disposition of all identified human skeletal remains should be determined in accordance with the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA).
5. All recovered funerary objects (associated and unassociated), sacred objects, and objects of cultural patrimony as defined by NAGPRA should be identified and their disposition determined.
6. Additional storage space needs to be found because the existing archaeological material storage area is overpacked and cluttered, reflected by boxes of collections stacked on the floor of the mezzanine.
7. If the collections are to remain in the tower storage area, devices to control temperature and humidity must be installed.
8. Window shades should be installed to prevent ultraviolet light from fading box labels.

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STATISTICAL RESEARCH, INC.
TUCSON, ARIZONA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 2.5 ft³

Compliance Status: All materials require complete rehabilitation to comply with existing federal guidelines and standards for the curation of archaeological collections. The materials should be inventoried, reboxed, and rebagged in archival quality containers.

(2) Linear Feet of Records: 0.3 linear feet

Compliance Status: All associated documentation requires complete rehabilitation to comply with existing federal guidelines for archival preservation. A duplicate copy of associated records needs to be created on acid-free paper and stored in a separate, safe and secure location. Any photographic documentation from Marine Corps Air-Ground Combat Center, Twentynine Palms needs to be located and integrated with its collection.

(3) Human Skeletal Remains: There are no human skeletal remains from MCAGCC Twentynine Palms at Statistical Research.

(4) Status of Curation Funding: There is no funding for the curation of archaeological materials.

INTRODUCTION

DATE OF VISIT: 9 September, 1992

PERSONS CONTACTED: Jeffrey Altschul and Carol Ellick

The Surprise Spring collection from MCAGCC Twentynine Palms is the only MCAGCC Twentynine Palms collection at SRI. The collection consists of approximately 2.5 ft³ of archaeological materials and 0.25 linear feet of documentation. Artifacts from the collection include chipped stone, debitage, groundstone, fire-cracked rock, ceramics, faunal remains, botanical materials, the light fraction from flotation samples, ¹⁴C samples, pollen samples, and phytolith samples. Some pollen, phytolith, and flotation samples were removed for analysis. The heavy fraction from the flotation samples has been discarded. The assessment team did not locate any burials recovered from Twentynine Palms.

REPOSITORY

Statistical Research is located on the second floor in an office/business complex in Tucson, Arizona. The offices include administrative and research offices, a library, laboratories, an equipment storage room, a report production room, and an archaeological materials storage room. The storage room is approximately 15 feet by 25 feet and functions as a temporary storage area for collections for which final reports have not been completed or for which a permanent storage facility has not been designated.

Structural Adequacy

The facility is a multistory concrete and steel office building. The archaeological material storage area has a suspended, acoustical tile ceiling, interior walls are covered with plasterboard, and the concrete floor is covered with tile. There are no windows and only a single panel wooden door exists in the archaeological material storage area.

Environment

Temperature is controlled by a central air conditioning and heating system. Humidity levels are neither monitored nor controlled.

Pest Management

An integrated pest management program does not exist. No pests were observed during our visit.

Security

The doors to the office and archaeological material storage area are secured at all times by a key lock. However, any staff member with a master key to the office has access to the collections.

Fire Detection and Suppression Systems

The Statistical Research office meets the fire codes for the Arizona and Tucson. The fire detection and suppression systems consist of a standard sprinkler system and fire extinguishers.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Collections are stored on homemade shelving units constructed from unsealed two-by-four-inch uprights, unsealed half-inch plywood shelves, and metal brackets. Each unit is approximately eight feet high and the plywood shelves are three feet wide, with six shelves per unit.

Primary Containers

Artifacts are stored in 1 ft³ acidic cardboard boxes with telescoping lids. The boxes are overpacked and in poor condition. Typed acidic paper labels are attached to the boxes with cellophane tape and contain information on the project name, site number, collection type, material class, and catalog specimen number.

Secondary Containers

Most artifacts in the Surprise Spring collection are stored in acidic paper bags, secured with rubber bands. The bags are labeled with black marker with the project name, site number, provenience, date collected, specimen number, and artifact classification. If more than one type of artifact is included in a bag, the items are placed into plastic sandwich bags within the paper bags. These plastic bags are only labeled with the specimen number. Most of the plastic sandwich bags are either open or tied shut with a metal twist tie. Small artifacts are stored in film vials. Plastic bags with the flotation samples and light fraction material are secured with string. An attached paper label identifies the project, site number, provenience, catalog number, date collected, and artifact classification. This information is recorded in pencil and is fading.

Laboratory Processing and Labeling

All artifacts are cleaned and sorted by material class, but no artifacts are labeled.

HUMAN SKELETAL REMAINS

There are no human skeletal remains from MCAGCC Twentynine Palms.

RECORDS STORAGE

Approximately three inches of documentation are in the Surprise Spring collection.

Paper Records

Paper records consist of a specimen log for small projects, original plan and profile maps, background information, and a copy of the contract proposal. The specimen log is stored in a three-ring binder in the laboratory. It contains the field specimen record and a list of all samples removed for analysis. The remaining paper records are maintained in an acidic hanging file folder in the administrative office.

Maps and/or Oversized Documents

Large-scale field maps, quadrangle maps, and drafting maps are stored in a metal map case.

Reports

Two final project reports are in the office library. Although documentation from the Surprise Spring collection is readily available, the records are not prepared for archival storage or are stored in a long-term storage environment.

COLLECTIONS MANAGEMENT STANDARDS

The Statistical Research facility is not a long-term repository for the storage of archaeological collections.

Curation Personnel

There is no full-time curator for archaeological collections.

Curation Financing

There is no funding for the curation.

Access to Collections

Only staff members can access the collection.

Future Plans

Plans are being made to transfer the MCAGCC Twentynine Palms collection to Joshua Tree National Monument.

COMMENTS

1. Statistical Research does not meet the current federal requirements for archaeological curation.
2. Statistical Research staff are concerned about the long-term survival of archaeological collections under their control and are currently maintaining these materials in an environment that will lessen immediate damage.

RECOMMENDATIONS

1. All collections recovered or generated through contracts with MCAGCC Twentynine Palms and stored at Statistical Research, should be inventoried, rehabilitated and curated according to federal guidelines and standards. All artifacts need to be reboxed and rebagged into acid-free boxes and four-mil, plastic zip-lock bags.
2. All associated documentation and reports should be arranged, described, and preserved according to federal guidelines and standards and modern archival procedures.
3. A duplicate copy of all associated documentation and reports should be created and stored in a separate and secure location.
4. The original photographic documentation for the Surprise Spring collection should be recovered and integrated with this collection.
5. All archaeological materials, associated documentation, and reports should be transferred to a curation facility that can provide the staff, institutional commitment, and financial support necessary for the level of professional archaeological curation mandated by current federal regulations. The repository at Joshua Tree National Monument is a satisfactory storage facility for these materials.

18
UNIVERSITY OF CALIFORNIA,
LOS ANGELES
REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 15 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 0.5 linear feet

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. Only one third of the negatives are currently stored in acid-free envelopes. Duplicate contact prints need to be produced before the negatives are totally destroyed.

(3) Human Skeletal Remains: Skeletal remains from four individuals recovered from NAS North Island are stored in the Human Collections Storage Room in Haines Hall.

(4) Status of Curation Funding: Unknown

INTRODUCTION

DATE OF VISIT: August 17, 1992

PERSON CONTACTED: Roger Colten

Approximately 15 ft³ of prehistoric and historic archaeological materials recovered from NAS North Island and 0.5 linear feet of associated documentation are stored in two separate rooms in Haines Hall at the University of California, Los Angeles (UCLA)(Table 16). Materials represented include prehistoric botanical, charcoal, faunal, chipped stone, shell, and human skeletal remains, along with historic metal.

Table 16.
Summary of NAS North Island Collections
at UCLA

Collector	Date	Accession Number	Ft ³	Human Skeletal Remains
McKusick/Warren	1958	198	7	1
McKusick, et al.	1958, 1959	200-203	4	2
Ericson/ Tartaglia	1975	141	2	0
Meighan	1969?	553	1	0
Valdivia		252	1	1
Total			15	4

Human skeletal remains representing four individuals are included in three of the five collections. Many of the skeletal elements could not be located and are presumed to be lost. However, all located remains present are in good to fair condition.

REPOSITORY

Archaeological collections are stored in two rooms located in Subbasement Three of Haines Hall, a multilevel classroom building located on the UCLA campus.

Archaeological Material Storage Area 1

Archaeological Material Storage Area 1 is composed of three adjoining rooms. The office area opens onto the hallway, and the archaeological materials storage area and records room branch off from the office.

Archaeological Material Storage Area 2

The room is dedicated strictly to the storage of human skeletal remains.

Structural Adequacy

Archaeological Material Storage Area 1



Figure 28. View of archaeological materials in storage area 1.

This archaeological material storage area has a poured concrete foundation and ceiling and painted concrete block interior walls. There are no windows. There is a single wood panel door leading to the hallway adjoining the storage complex. The interior doors to the collections and records storage rooms are also single wood panel. The storage areas are currently filled to approximately 98% capacity. The building is not structurally sound as evidenced by water seeping into the facility when it rains. The collections have been draped with plastic sheets in an attempt to protect them from being damaged (Figure 28). Efforts have been made to control the water seepage by drilling an additional street drain at ground level. Overhead vents have been cemented shut to further facilitate seepage control. Although these measures have relieved some of the problems, they are inadequate. A more permanent solution should be sought before the collections are permanently damaged.

Archaeological Material Storage Area 2

The Human Skeletal Laboratory has a poured concrete foundation and ceiling, and painted concrete block walls. There is a single wood panel door that leads to the adjoining hallway. Overhead water pipes exist, but there has not been a structural failure of this system. However, as in Archaeological Material Storage Area 1, the human skeletal collections are covered with plastic sheet due to water seepage from the ground floor. The same efforts to control water seepage in Archaeological Material Storage Area 1 have also been taken in the human skeletal laboratory. Again, a more permanent solution to the problem of water leakage should be considered or the skeletal collections should be stored elsewhere in a secure and environmentally controlled location.

Environment

Archaeological Material Storage Area 1

Temperature is controlled by a central heating and air conditioning system. There is no system for regulating temperature. No system for monitoring or controlling humidity exists. All lighting is fluorescent.

Archaeological Material Storage Area 2

Temperature is controlled by a central heating and air conditioning system. No system monitors or controls humidity. Light is provided by fluorescent tubes and desk lamps.

Pest Management

Archaeological Material Storage Area 1

No evidence of pests was noted during our visit. The university provides limited pest management on an as-needed basis.

Archaeological Material Storage Area 2

No integrated program for pest management is in place in the laboratory. No pests were observed during our visit.

Security

Archaeological Material Storage Area 1

The storage doors have key locks and are also protected by a security alarm. A limited number of staff have keys. The age and structural inadequacies of the facility present just as great a danger to the collections as does unauthorized entry.

Archaeological Material Storage Area 2

The door to the human skeletal laboratory is secured by an electronic keypad. A limited number of staff have the combination.

Fire Detection and Suppression Systems

Archaeological Material Storage Area 1

Manual fire alarms are located in the hallway adjoining the storage complex and are the only means of fire detection. The fire suppression system consists of fire hoses in the hallway, fire extinguishers and a sprinkler system. We could not determine when the fire extinguishers were last charged.

Archaeological Material Storage Area 2

The fire detection system consists of manual fire alarms located in the adjoining hallway. The fire suppression system includes a sprinkler system in the laboratory, as well as fire hoses in the hallway.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1

Wood drawers are used to store the archaeological materials. The drawers are in a painted wood framework. Each wooden shelving unit is approximately 3 feet by 2 feet by 10 feet (length, width, height) and has approximately 15–20 drawers.

Archaeological Material Storage Area 2

Human skeletal remains are stored in wooden drawers in unsealed wooden frames. Each unit is approximately 3 feet by 1.5 feet by 9 feet (length, width, height) and has nine drawers.

Primary Container

Archaeological Material Storage Area 1

Two types of primary containers are used to store NAS North Island archaeological materials. The Ericson/Tartaglia (Accession 141) collection is curated in an acidic cardboard box with a folded flap lid. The box is stacked on top of the wooden shelving unit. The box is labeled directly in marker with the accession number, site name, and contents. Water damage has resulted in compression damage to the box. The remainder of the archaeological materials are stored in unsealed wood drawers measuring 3 feet by 2 feet by 0.3 feet (length, width, height). The drawers contain metal label holders with typed acidic paper labels with the accession number and site name.

Archaeological Material Storage Area 2

Primary containers used to house human skeletal remains consist of wooden drawers with sealed exteriors and unsealed interiors measuring approximately 3 feet by 1.5 feet wide by 1 foot (length, width, height). These drawers are occasionally foam lined and contain typed and hand-written adhesive labels with the site number, accession number, drawer number, and content information.

Secondary Containers

Archaeological Material Storage Area 1

Various types of secondary containers were used to store the NAS North Island material. The Ericson/Tartaglia collection is in an acidic cardboard box with paper bags inside folded plastic bags. Artifacts in the wood drawers are stored in secondary containers that include small acidic cardboard boxes, two-mil zip-lock bags, plastic vials, and a small plastic box. These secondary containers are directly labeled with marker and/or pen and have the accession number, site number, provenience, contents, catalog number, and field number.

Archaeological Material Storage Area 2

The majority of the human skeletal remains are wrapped in plastic and stored loose in the drawers.

Laboratory Processing and Labeling

Archaeological Material Storage Area 1

The majority of the NAS North Island artifacts are cleaned, sorted, and labeled. Accession number and site number are directly applied in india ink. One shell fragment contains an adhesive masking tape label written in pencil with the accession number. The label is beginning to fade.

Archaeological Material Storage Area 2

All of the human skeletal remains recovered from NAS North Island are cleaned and sorted by accession number and element. However, only two of the four individuals are labeled directly in India ink with a catalog number.

HUMAN SKELETAL REMAINS

Four individuals are represented in three different collections from NAS North Island. None are complete. All are stored loose in the drawers except for three vertebrae belonging to the McKusick et al. collection (Accession 202), and a skull from the Valdivia collection. They are wrapped in plastic. Half of the remains are directly labeled in india ink with a catalog number.

Many of the skeletal elements could not be located and are presumed to be lost. The skull and mandible associated with the three vertebrae (Accession 202) were loaned to Dr. Berger's lab in 1969 and are now stored in an unknown location. A once complete burial (Accession 203) is missing the larger long bones and skull. A sub-adult mandible is missing from a skull in the Valdivia collection. All remains, however, are in good to fair condition.

RECORDS STORAGE

The 88 ft² archives room is located in Sub-basement Three in Haines Hall. Less than 0.5 linear feet of associated documentation from NAS North Island are present.

Paper Records

Paper records are stored in acidic manila file folders in standard metal file cabinets. Individual pages are secured to the folders by metal clasps. We examined Accession file No. 198 (San Clemente Island Collections) as well as one folder containing field records for same collection. The accession file contained original records written on faded mimeographed forms.

Field records included mimeographed shell midden analysis forms written in ball point ink, as well as carbon copies of typed artifact descriptions.

Photographic Records

Photographic archives are located in a corner of the archaeological material storage room. Documentation from NAS North Island collections consists of 25 envelopes of 3 inch by 5 inch acetate negatives from Big Dog Cave. The envelopes are labeled with an item description, institution name, photographer, date, and negative number. Contact prints are attached to the back of the envelopes. The artifacts in these negatives are stored at the Natural History Museum of Los Angeles County. Approximately one third of the acetate negatives are curated in acid-free envelopes within acidic ones and are in fair condition. The remaining two thirds are stored in acidic envelopes. The negatives are bubbled and bent because of age and their storage environment.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files exist.

Location Identification

The location of a collection is identified.

Cross-indexed files

The files are partially cross-indexed.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

The Smithsonian Institution's trinomial system is employed.

Computerized Database Management

A computerized database exists and covers part of the collections.

Written Policies and Procedures***Minimum Standards for Acceptance***

Minimum standards of acceptance exist.

Curation Policy

No curation policy exists.

Records-Management Policy

No records management policy exists.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

Loan procedures exist.

Deaccessioning Policy

No deaccessioning policy exists.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

No information is available on when the last collection inventory was undertaken.

Curation Personnel

There is only a part-time curator for the archaeological collections.

Curation Financing

No information was available.

Access to Collections

Information was not available.

Future Plans

Future plans include moving the collections from the subbasement to a room in the Fowler Museum located on-campus that has better environmental controls and is more suitable for storing archaeological collections.

COMMENTS

1. The repository at UCLA does not meet current federal requirements for archaeological curation. Although measures have been taken to curb future water damage, the collections are still in danger not only from moisture but also from high humidity levels. An attempt has been made to monitor the temperature and humidity, but little can be physically done to correct the fluctuations. Records need to be duplicated before the ink fades altogether and photographs need to be moved to a more environmentally stable storage area before they are totally destroyed.
2. Although the human remains are in good condition, the missing skeletal elements suggest that these materials are improperly curated. Human skeletal remains are in danger from future disassociation and improper storage.

RECOMMENDATIONS

1. All collections should be inventoried, rehabilitated, and placed in acid-free containers according to federal guidelines and standards. Minimum work that needs to be done includes (a) transferring all loose artifact into zip-lock bags, (b) treat and seal wood surfaces, (c) provide drawer or box inventories on acid-free paper, and (d) label all containers and artifacts with appropriate diagnostic information in indelible ink.
2. All associated documentation should be recovered, arranged, described, and preserved in acid-free containers according to federal guidelines and standards for modern archival procedures.
3. A duplicate copy of all associated documentation and reports should be stored in a separate and secure location.
4. All missing human skeletal remains should be located and returned.
5. All collections should be removed from their present location and stored in a secure, environmentally controlled, and monitored repository.

**UNIVERSITY OF CALIFORNIA, LOS ANGELES
INSTITUTE OF ARCHAEOLOGY**

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 576 ft³

Compliance Status: Archaeological materials will require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 9 linear feet

Compliance Status: All records require significant rehabilitation and should be duplicated with a copy stored at a separate location for safety and security purposes. All missing photographs and maps should be located.

(3) Human Skeletal Remains: Three human teeth recovered in 1986 from the Old Airport Site are included in the NAS North Island collections at the Institute of Archaeology. All other human skeletal remains from these collections are now in the Physical Anthropology Laboratory at the University of California, Santa Barbara, where they are being analyzed as part of Native American Graves Protection and Repatriation Act compliance. We did not examine these remains.

(4) Status of Curation Funding: There are no financial resources devoted to the curation of the NAS North Island collections.

INTRODUCTION

DATE OF VISIT: 17-18 August 1992

PERSON CONTACTED: Nancy Davis and Roger Colten

Approximately 576 ft³ of archaeological materials recovered from San Clemente Island, NAS North Island, along with nine linear feet of associated documentation are in the Fowler Museum, UCLA. These materials were recovered by the Institute of Archaeology and not the Fowler (Table 17). The 1960 field season at the Ledge site was conducted by the Archaeological Survey Association, whereas the 1983–1987 field seasons were conducted by the University of California, Los Angeles.

Table 17.
Sites Represented in the NAS North Island Collections
at the Institute of Archaeology

Site Name	Site Number	Field Seasons
Ledge Site	SCLI-126	1960
Eel Point	SCLI-43	1983, 1984, 1986
Big Dog Cave	SCLI-119	1985
Ledge Site	SCLI-126	1983, 1984
North End Shelter	SCLI-1178	1984, 1985
Nursery Site	SCLI-1215	1984, 1985, 1987
Target Site	SCLI-1375	1984
Old Airport/Airfield	SCLI-1487	1986

Artifact classes include chipped stone, botanical remains, faunal remains, flotation samples, human skeletal remains, and worked shell. The flotation samples do not appear in any collections until 1984. The three human teeth were observed in a 1986 collection from the Old Airport Site.

REPOSITORY

The NAS North Island collections are in the 625 ft² former laboratory of Clement Meighan located in the basement of the Fowler Museum (Figure 29). The NAS North Island collections have been moved to a dedicated archaeological repository. The upper floors of the facility are devoted to exhibits, whereas the basement level where the NAS North Island collections are stored is used for office and laboratory space. There is, however, a large storage room with compact shelving units in the basement of the museum. This area could eventually be used to curate these materials.



Figure 29. View of repository located in the basement of the Fowler Museum.

Structural Adequacy

Construction of the new Fowler Museum was completed in 1992. The building is a modern concrete and steel structure which meets the requirements of all California fire and safety codes, including those for earthquake protection. Interior walls are covered with sheet rock and there is a suspended, acoustical tile ceiling. The floor is of poured concrete covered with tile. No windows exist in the collections storage facility. There is only a single wood panel door. The archaeological material storage area is filled to capacity. All available shelf space is used for collections storage, with boxes of artifacts and documentation also stacked on the floor and on table tops. Students are now using the area for the analysis of other collections, which contributes to the room's disarray.

Environment

The entire museum, including the basement area, is centrally heated and air conditioned, but humidity levels in the basement are not monitored or controlled. Lighting is provided by fluorescent tubes and miscellaneous desk lamps. There are no windows.

Pest Management

We could not determine whether a formal pest management program is in place. However, during our visit, we did not notice any insects or rodents.

Security

The room in which the NAS North Island collections are stored is secured with a key lock and access to the room is limited and controlled. However, since students are now conducting research on other collections in this laboratory, the security of the materials is compromised.

Fire Detection and Suppression Systems

The fire detection system consists of fire alarms. A sprinkler system and fire extinguishers serve as the fire suppression system.

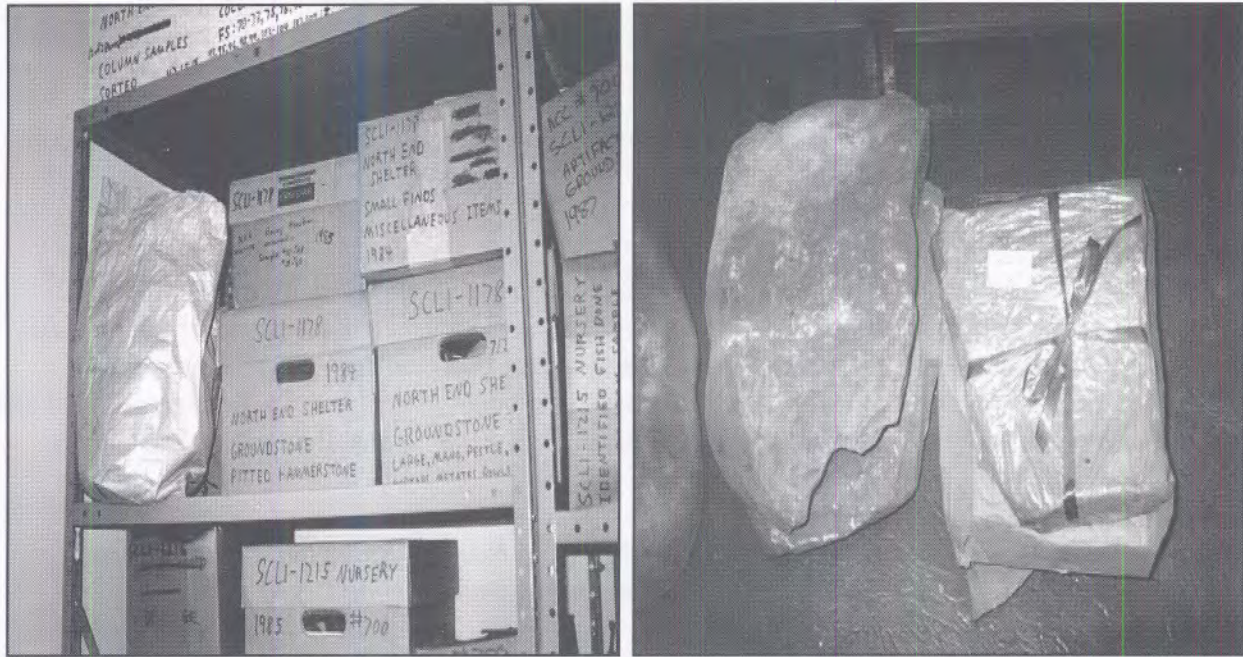
ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

The collections from NAS North Island are stored along the walls of the laboratory on 12 enameled metal warehouse shelving units. Each unit is 3 feet by 2 feet by 8 feet (height, width, depth). These units are filled to capacity with artifact boxes. Materials that could not be stored on shelving are placed on tables and on the floor.

Primary Containers

Acidic cardboard boxes of various sizes are used to store the San Clemente collections (Figure 30). Many of the boxes have telescoping lids, but a significant number have folded flap lids. A small number of artifacts are in shoe boxes and paper bags. All boxes are directly labeled in marker. Label information varies with the project year, but includes descriptions of site number, site name, year, provenience, contents, and catalog numbers. Most containers are in good condition, although some compression damage was noted on the boxes from the 1987 field season. This compression is due to inadequate storage space that lead to stacking of excessively heavy boxes of chipped stone. A large whale bone is also stored unprotected on the shelves. Metates are stored unprotected on the floor or wrapped in plastic saran wrap (Figure 31).



Figures 30 and 31. Storage containers for San Clemente archaeological materials.

Secondary Containers

The majority of secondary containers consist of large two-mil, zip-lock, plastic bags. In many cases, artifacts are curated in other types of containers within these larger bags, including smaller zip-lock bags, small two-mil, plastic bags that are secured with staples, various types of small cardboard boxes, jewelry boxes, and plastic film vials. In a few instances, items are loose within the primary containers or are packed with paper towels or styrofoam. Seldom were secondary containers labeled directly. In almost all cases, acidic paper tags labeled with ink or pencil were included within secondary containers. Label information consists of site number, provenience, depth, material class/bag contents, catalog number, and date recovered. All label information is legible and consistent.

Laboratory Processing and Labeling

All artifacts from the seven NAS North Island projects are sorted by site number, project year, and catalog number. Most artifacts are partially cleaned, but artifact labeling is not consistent. For example, only shell material from the 1983 project year is labeled, whereas labeling for the 1984 and 1985 project years also includes groundstone and bone artifacts. Label information consists of the artifact catalog number applied directly to the artifact in either black or white india ink.

HUMAN SKELETAL REMAINS

Only three human teeth recovered in 1986 from the Old Airport Site are included in the NAS North Island collections curated at the Institute. All other human remains from these collections are now temporarily in the physical anthropology laboratory at the University of California, Santa Barbara, where they are undergoing analysis as part of the requirements of NAGPRA. These skeletal remains were not examined.

RECORDS STORAGE

Approximately nine linear feet of documentation associated with the NAS North Island collections are stored in Dr. Meighan's former laboratory.

Paper Records

The majority of the paper records are filed in spiral-bound notebooks, acidic manila folders, and plastic three-ring binders that are kept on two enameled metal shelving units situated side by side against one wall. Each shelving unit is approximately 2 feet by 3 feet by 1 foot (length, height, depth), with three shelves per unit. The paper records are roughly organized by field season and site number and include administrative materials as well as field notes and analysis records.

Photographic Records

Although photographs of the archaeological materials from NAS North Island, no photographic documentation was available. These images may be in files belonging to Dr. Meighan.

Maps and/or Oversized Documents

Profile maps were located for the 1983, 1984, 1985, and 1986 field seasons. These are stored in the three-ring binders with the paper records. However, no oversized maps and/or documents could be located for the NAS North Island collections..

Reports

Preliminary reports were located for the 1983 field season. The reports are stored on the metal shelves with the paper records.

The documentation from the 1960 project could not be located, but records from 1958 were identified. This documentation includes site survey records, excavation descriptions, site maps, and a report.

The documentation that exists is in poor condition as reflected by the loose, dirty, and faded condition of the materials. No documents are archivally prepared for long-term storage or is a duplicate copy created and then stored in a separate and secure location. Since no one has direct responsibility for the safekeeping of these records, their security is threatened. The photographic images and maps are already separated from the other primary field records. Further dispersal will occur if their present storage environment is maintained.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

No accession files exist.

Location Identification

The location of collections is not identified in the repository.

Cross-indexed files

Information is not cross-indexed.

Published Guide to Collections

There is no published guide to the collections.

Site Record Administration

There are no site records.

Computerized Database Management

A computerized database system is not in use.

Written Policies and Procedures***Minimum Standards for Acceptance***

There are no minimum standards of acceptance.

Curation Policy

No curation policy exists.

Records Management Policy

There is no records management policy.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

There are no loan procedures.

Deaccessioning Policy

There is no deaccessioning policy.

Inventory Policy

There is no inventory policy.

Latest Collection Inventory

We could not determine when the last collection inventory occurred.

Curation Personnel

Prior to his retirement Dr. Meighan was given curatorial responsibility for the NAS North Island collections. Since his retirement, no one has been given the responsibility for the collections. Although the materials were collected by the Institute of Archaeology and are technically its responsibility, there are no storage facilities under the Institute's control for the long-term curation of these items. The Fowler Museum may take temporary control of these collections.

Curation Financing

There are no funds for curation.

Access to Collections

Since Dr. Meighan's retirement, the NAS North Island collections are not accessible. If they are transferred to the Fowler Museum archaeological curator, they will then be accessible for research.

Future Plans

Tentative plans have been made to transfer responsibility for the NAS North Island collections to the archaeological curator of the Fowler Museum. If this transfer occurs, the collections are expected to be moved to the new archaeological curation room in the basement of the Fowler Museum rather than to the Museum's storage rooms in the basement of Haines Hall.

COMMENTS

1. The retirement of Dr. Meighan from UCLA dramatically illustrates what occurs all too often with archaeological collections: (a) collections are recovered, but remain under the control of the principal investigator; (b) when this researcher leaves the institution, no one is assigned responsibility for the long-term curation of these materials and the collections are essentially abandoned; (c) display quality items in the collections "disappear" and the documentation becomes disassociated from the archaeological materials; (d) after a short period of time, the collections are rendered useless for future research. This scenario now describes the NAS North Island collections. Although the collections have been isolated for a relatively short period of time and are potentially still intact, no one has been assigned the responsibility for their safekeeping. Likewise, questions concerning the extent of the collection, the location of missing documentation, or the ultimate disposition of the human skeletal remains remain unanswered.
2. The human skeletal remains were transferred to the University of California, Santa Barbara where they are being analyzed as part of the requirements of NAGPRA. These remains were not examined.
3. Humidity is not monitored and/or controlled in the archaeological material storage area.
4. Labels on all boxes are written directly on the fronts of the boxes.

5. The archaeological material storage area is overcrowded.
6. The associated records have not been duplicated and a copy stored at a separate location for security purposes.

RECOMMENDATIONS

1. Curatorial responsibility for the collections should be formally established.
2. All recovered human skeletal remains should be identified, returned, and incorporated into the collections.
3. All missing documentation, including the records for the 1960 project at the Ledge Site, all photographic documentation and all field maps should be identified, recovered, arranged, and preserved according to federal guidelines and standards and modern archival procedures.
4. All collections should be inventoried, rehabilitated, and curated according to federal guidelines and standards.
5. A duplicate copy of all associated documentation and reports should be stored in a separate and secure location.
6. Humidity monitoring and control devices should be installed.
7. All NAS North Island archaeological materials should be reboxed and rebagged into four-mil, polyethylene, zip-lock bags and acid-free boxes.
8. Adhesive plastic label holders should be applied to the front of each box. Labels should no longer be applied directly to the boxes. If adhesive labels with paper inserts are used, the chance for conflicting and confusing information diminishes if label information changes.
9. Remove lab tables in the archaeological material storage area and install additional shelving units to move collections off the floor.
10. All archaeological materials and documentation should be removed from Dr. Meighan's former laboratory and transferred to the collections storage room in the basement of the Fowler Museum. If this space is not available for the long-term curation of collections, the materials should be transferred to a curation facility that can provide the staff, institutional commitment, and financial support necessary for the level of professional archaeological curation mandated by current federal regulations.

20 FINDINGS SUMMARY

Eighteen separate repositories including four military installations in two different states curate archaeological collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. We visited each of these facilities. A building evaluation, survey questionnaire, and collections and documentation evaluation were completed for each repository.

Repositories

None of the 18 repositories are in full compliance with 36 CFR Part 79. One-half were not designed for, or adapted to, the requirements of a modern curation center (Tables 18 and 19). In most cases, institutions use available space, because they do not have the financial resources to acquire additional space suitable for collections management needs.

Table 18.
Types and Frequencies of Repositories Curating
DoD Archaeological Collections

Type of Repository	Frequency
Collection Facility	1
Base Repository/Office	4
Museum	4
University/College Laboratory	6
Contracting Firm	3
Total	18

Environmental Controls

Environmental monitoring and adequate environmental controls do not exist in 17 of the 18 repositories. Only two repositories, Joshua Tree National Monument and the San Diego Museum of Man, monitor humidity and none have the capability to control it. Although most of the structures are heated and air conditioned, temperature and humidity fluctuates outside the acceptable range dictated by the American Association of Museum standards.

Table 19.
Summary of Collections by Location

	Archaeological Materials	Records	MNI/Burials
Edwards Air Force Base			
Base Repository	60.5	65.5	1
Antelope Valley College	15.0	0.5	—
San Bernardino			
County Museum	1.0	0.3	—
Fort Irwin			
Base Repository	89.0	unknown	—
Far Western			
Anthropological Research			
Group Office	947.0	113.0	—
Dames and Moore	—	14.0	—
Naval Air Station, North Island			
Base Repository	108.0	20.0	3
CSU Fullerton ^a	187.5	—	7
CSU Northridge	68.5	15.0	—
Natural History Museum of			
Los Angeles County ^a	60.0	1.0	5
San Diego Museum of Man	27.0	0.5	13
San Diego State University ^a	13.0	4.0	7(ft ³)
Southwest Museum	6.0	—	3
UCLA	15.0	0.5	4
UCLA Institute of			
Archaeology ^b	576.0	9.0	1
Marine Corps Air-Ground Combat Center, Twentynine Palms			
Joshua Tree National			
Monument	0.3	1.5	—
Statistical Research	2.5	0.3	—
Total	2,176.3	245.1	37+

^a Because of the way the skeletal materials were curated at these repositories, it was impossible to determine the minimum number of individuals.

^b Total does not include skeletal materials that are undergoing a Section 5 NAGPRA inventory at the University of California, Santa Barbara.

Pest Management

Fifty-percent of the repositories have a rudimentary pest management program, that consists of monitoring insects visually. If a problem is encountered, chemical eradication is performed. The types of chemicals used, the frequency of use, and the hazard to personnel and collections, are beyond the scope of work reported here, but should be investigated in the future because of the presence of rare and endangered rodent species in the area. Edwards Air Force Base uses live traps to capture rodents instead of chemical methods.

Security

Although access to collections is limited to a select number of employees, only fifty-percent of the repositories meet the federal standards for security of archaeological collections. Minimal security standards include intrusion alarms, motion detectors, limited access, absence of windows in the archaeological material storage area, and proper door security.

Fire Safety

Less than half of the repositories contain fire detection devices, and sprinkler systems are present in only five of the 18 facilities. All repositories have fire extinguishers in or directly outside the archaeological material storage area. This is not adequate protection.

ARCHAEOLOGICAL MATERIAL CURATION

Only one, Antelope Valley College, of the 18 repositories properly prepared archaeological materials for long-term curation. Overall, most of the primary containers are variable-sized acidic cardboard boxes that have been frequently overstacked, overpacked, compressed, and torn. Furthermore, not all primary containers included adequate label information.

The wide variety of inappropriate secondary containers is contributing to the deterioration of many components of the collections. Secondary containers include plastic sandwich bags, acidic paper bags, acidic cardboard ice cream containers, small acidic cardboard and plastic boxes, plastic and glass vials, manila envelopes, wax paper bags, and polyethylene zip-lock bags.

The major prehistoric material classes encountered include chipped stone, shell, faunal remains, ceramic, botanical remains, soil, and flotation samples, and human skeletal remains. Major historic material classes are glass and metal, leather, trade beads, coins, and metals.

HUMAN SKELETAL REMAINS

A minimum number of 36 individuals from NAS North Island and one individual from Edwards Air Force Base are stored at nine facilities.

RECORDS MANAGEMENT

Records associated with NAS North Island, Edwards Air Force Base, and MCAGCC Twentynine Palms collections 242.1 linear feet. Minimal archival practices were noted at only two of the 16 repositories. Original paper records at 14 facilities have not been duplicated. Most of the paper records are not stored in acid-free folders, maps are not stored flat in metal cases at half of the repositories, and photographic materials have not always been isolated and stored in chemically inert sleeves. A systematic records inventory is performed at only one of the facilities.

Environmental controls that meet 36 CFR Part 79 do not exist in any of the repositories. Records at these facilities are subject to severe temperature and humidity fluctuations, resulting in expansion, contraction, and dimensional changes that accelerate deterioration and promote major visible damage such as cockling paper, flaking ink, warped book covers, and cracked emulsions on photographs.

MANAGEMENT CONTROLS

Basic policy and procedure statements for artifact curation, records management, and deaccessioning exist at seven of the repositories. Although 12 of the facilities have accession records only three have minimum standards for the accepting collections. Furthermore, only seven of the repositories have inventoried their collections in the last 10 years. This situation has led to substandard care for many of the NAS North Island, Edwards Air Force Base, and MCAGCC Twentynine Palms archaeological collections.

In order to rectify this situation, the cultural resource managers at NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms must develop and implement plans of action for the long-term care and management of their archaeological collections. At a minimum, a plan of action should include the following four tasks.

1. Inventory all human skeletal remains to comply with the Native American Graves Protection and Repatriation Act.
2. Prioritize the care needed by all the collections that minimally includes rehabilitation and conservation.
3. Inventory and rehabilitate the collections to comply with federal curation standards.
4. Develop an archives management plan.

Implementation of these minimal tasks will contribute greatly to our understanding of the culture history of southern California and North America.

RECOMMENDATIONS

The following recommendations are suggested for bringing the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections into compliance with the mandates of 36 CFR Part 79 and NAGPRA. Maximum cost savings would be achieved if NAGPRA and 36 CFR Part 79 work was done simultaneously. A comprehensive plan for curation compliance includes the following nine areas.

I. DEVELOPMENT A PLAN OF ACTION

A plan of action minimally must address four points—(1) long-term housing of the collections and records, (2) rehabilitation of the archaeological materials, (3) rehabilitation of the associated records, and (4) management of these data.

II. COMPLIANCE WITH NAGPRA

The NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections must be examined for human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony. To satisfy NAGPRA requirements, the following tasks should be performed at each repository with NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections.

1. Conduct a records search to identify accession and catalog numbers and the locations of human remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects within collections.
2. Perform a box search to identify the human skeletal remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects.
3. Produce summary and inventory reports that present the results of the summary and inventory for each repository, that includes the following.
 - a. Information on unassociated funerary objects, sacred objects, and objects of cultural patrimony.
 - b. An estimate of the number of objects in the collection.
 - c. A description of the kinds of objects included in the collection, when readily available with reference to the means and dates of acquisition and locations from which the collections came.
 - d. If available, information relevant to identifying lineal descendants and cultural affiliation.

4. The inventory should contain the following.

- a. Information on human skeletal remains and associated funerary objects.
- b. An item-by-item list of all the human skeletal remains and associated funerary objects that are identified as being culturally affiliated with one or more present-day Native American tribes.
- c. A list of all the human skeletal remains and associated objects for which no present-day Indian tribe can be determined.
- d. Accession and catalog entries of the human remains with which funerary objects were associated.
- e. If known, information on the acquisition of each object, including the name of the person and/or organization from whom the object was obtained, the date the object was acquired, the place where the object was acquired, the means of acquisition, and the antiquity of the human remains and associated funerary objects.
- f. A description of each set of funerary remains and associated funerary objects, including dimension, materials, and photographic documentation.

III. DEVELOP A FORMAL ARCHIVES MANAGEMENT PROGRAM

A management program must be developed immediately to establish priorities for the documentation within the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections. All records must be coalesced and rehabilitated to comply with existing federal guidelines and standards for modern archival practices. Archives rehabilitation includes eight steps.

1. Develop an archives inventory management program that uses micro-computer technology.
2. Inventory and catalog all associated records to standards consistent with those of a professional museum.
3. Using an appropriate professional staff, conduct a condition assessment of all records and implement a long-term conservation program for appropriate records.
4. Conserve significant records that are currently at risk.

5. Transfer records into acid-free folders and appropriate archival storage units.
6. Place photographs, negatives, and slides into archival polyethylene sleeves, acid-free envelopes, and appropriate storage units.
7. Catalog and curate large-scale maps in metal map cases.
8. Produce duplicate/back-up copies of associated records that will be stored in a separate location.

Proper management of the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological archives will provide opportunities for scholars, students, and the public to benefit from the information contained in these records, a major public benefit that currently is not being realized.

IV. INVENTORY AND REHABILITATION OF EXISTING ARCHAEOLOGICAL MATERIALS

The collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections must be rehabilitated to professional museum standards. Rehabilitation must include the following.

1. Inventory and catalog all archaeological materials to a standard consistent with those of a professional museum.
2. Label and package artifacts to one consistent standard, and place them in archivally stable containers.
3. Using an appropriate professional staff, conduct a condition assessment of all archaeological materials, and implement a long-term conservation program.
4. Develop a collections manual to aid in the management of archaeological materials.

These steps for stabilizing and preserving existing archaeological materials will ensure management of the collections in a cost-effective manner. Proper management of these collections will ensure that scholars, students, and the public have access to, and benefit from, the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections, which are not being used.

V. COALESCE COLLECTIONS

A plan of action for the long-term care of archaeological materials and associated records must be adopted by NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. In this era of cost-efficiencies, the St. Louis District recommends coalescing collections into one regionally oriented repository for the curation and long-term management of archaeological collections.

VI. DEVELOP COOPERATIVE AGREEMENTS

To offset the costs, NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms are encouraged to develop cooperative agreements with other agencies to share costs of collections management for all their collections in the same regional repository. Cooperative agreements provide opportunities for joint ventures between and among federal agencies with similar curation requirements.

VII. DEDICATE TEMPORARY SPACE FOR STORAGE OF COLLECTIONS

Following the adoption of a curation strategy, NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms must create a plan of action that identifies how their temporary curation space will function. The space must be dedicated strictly for curating archaeological materials and associated records. Office, research, and work areas must be separated from this area. Space that is used both as storage and work areas is not acceptable. Minimal curation standards must include the following.

1. Storage space should be environmentally adequate to maintain stable temperature and humidity levels, in addition to maintaining environmental requirements for the types of objects being curated.
2. Storage space should minimize the number of exterior walls, windows, and doors in order to (1) decrease the chance of condensation on walls and windows during seasonal temperature changes, (2) enhance security, and (3) increase energy efficiency.
3. Water lines associated with fire suppression systems are the only kind of overhead pipes to be allowed in the archaeological material storage area. Water and sewer pipes should be removed.
4. Electric junction boxes and gas and electric meters should be outside the archaeological material storage area in order to limit access by non-curatorial staff.
5. Storage areas should be large enough to accommodate existing collections from

on-going projects prior to their transfer to the permanent off-installation repository.

VIII. SECURITY, FIRE PROTECTION, AND MAINTENANCE OF ARCHAEOLOGICAL MATERIAL STORAGE AREA

As part of any collections storage facility, a plan of action must include measures for security, fire protection, and maintenance of the archaeological material storage area that minimally incorporate the following.

Security

Entrances to the archaeological material storage area should have metal or solid-core wood doors. Doors should have dead-bolt and key locks and the storage area should be protected by an electronic intrusion detection system. Keys to the storage area must be restricted to repository personnel. All cabinets with archaeological materials should be kept locked, unless items are being removed. Researchers and visitors should not be allowed access to the archaeological material storage area unless accompanied by curatorial staff. When researchers and/or visitors request to work with objects, the objects should be taken to an area separate and outside the archaeological material storage area.

Fire Protection

Fire detection and suppression systems must be installed to protect collections and personnel. Smoke detectors must be placed in all parts of the archaeological material storage area. In addition, the appropriate types and number of fire extinguishers, with respect to the types of collections and overall size of archaeological material storage area, must be properly maintained and placed in clearly marked positions. Ultimately, sprinkler systems should be installed in the archaeological material storage area.

Maintenance of the Archaeological Material Storage Area

A scheduled plan for maintenance, including routine sweeping, mopping, and dusting by curatorial staff or bonded janitorial service, must be established. In addition, an integrated pest management program must be implemented, including regular monitoring for signs of pest infestation. Smoking, eating, and drinking should be forbidden in the archaeological material storage area.

IX. FULL-TIME MANAGER FOR ARCHAEOLOGICAL COLLECTIONS

A collections manager should be hired as soon as possible to care for the archaeological collections. This person should have professional qualifications and prior experience in collections management. Collections managers are minimally responsible for the following.

1. Ensuring that adequate written policies and procedures are in place and are shared so that staff have appropriate guidance.
2. Ensuring that management records are kept up-to-date, are complete, are properly monitored, and are readily available to researchers.
3. Managing a computerized data base.
4. Ensuring that archaeological materials can be easily located.
5. Ensuring that objects are properly labeled.
6. Ensuring that the archaeological materials and records are maintained under physically secure conditions, whether in storage, on exhibit, or under study.
7. Performing periodic inventories and inspections of archaeological materials and records to ensure their long-term survival.

The St. Louis District suggests that these recommendations are the minimum that must be addressed in order to bring NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological collections into compliance with federal archaeological curation standards. Our knowledge of the prehistory of southern California will be enhanced by the proper curation of the archaeological materials that are the responsibility of these installations.