CRM BULLETIN

Cultural Resources Management

A National Park Service Technical Bulletin

Vol.5, Nos. 1-3 Sept.,82

Rome Center Experts Direct Tumacacori Project

Douglas L. Caldwell

Preservation work undertaken at Tumacacori National Monument, Arizona, this past summer is the first treatment project in the United States involving personnel from the International Center for the Preservation and Restoration of Cultural Properties in Rome (ICCROM). ICCROM's involvement was requested by the NPS Director for assistance in resolving paint and plaster conservation problems at Tumacacori.

The three ICCROM participants have directed conservation projects throughout the world and are recognized internationally for their knowledge and skills as mural conservators and restorers. The three, Paul Schwartzbaum, Carlo Giantomassi, and Donatella Zari, provided direction for this phase of an overall preservation plan that was under the supervision of Denver Service Center historical architect Anthony Crosby*. In association with

cont. page 2

*Anthony Crosby is the point of contact for those readers desiring further details on the Tumacacori project.

The mission church of San Jose de Tumacacori. The massive bell tower was never completed by the Franciscans. Much of the recent conservation work centered in the dome area.

National Catalog Steering Committee Established

Ann Hitchcock

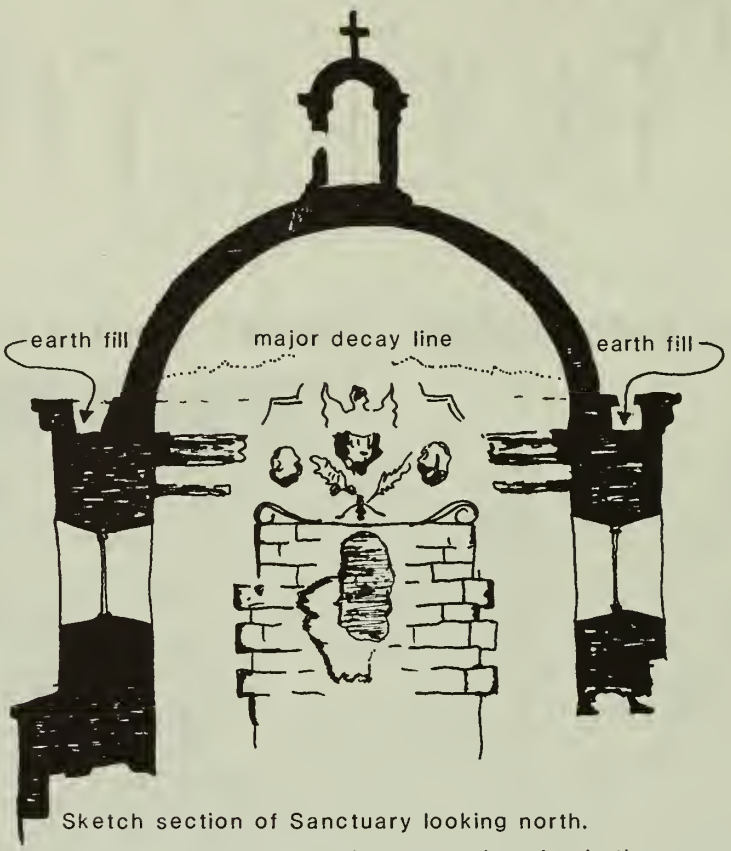
The National Catalog Steering Committee met October 19-21, 1982, at Grand Canyon National Park for its first work session. The Committee was established by the Director as a field advisory group to the Chief Curator in matters pertaining to the National Catalog. The Committee is an ongoing organization, and its members serve two-year terms. John Milley, Chief, Museum Operations, Independence National Historical Park, is chairman. Other members, selected to represent various disciplines and areas of interest and expertise, are:

Allen Bohnert, Curator, Mesa Verde National Park;
Kent Bush, Regional Curator, Pacific Northwest Region;
John Clonts, Chief, Division of Anthropological and Library Collections, Western Archeological and Conservation Center;
David Nathanson, Chief, Branch of Library and Archival Services, Harpers Ferry Center;
Diane Nicholson, Registrar, Golden Gate National Recreation Area; and
Peter White, Research Botanist, Great Smoky Mountains National Park.

cont. page 8

the project, participating Park Service personnel were instructed in some of the latest "state of the art" techniques and in mural painting conservation philosophy. The instructional aspect of the project was arranged as specific training assignments by the Denver Service Center (DSC) training office. Service employees participating in the project were: Allen Bohnert, curator, Mesa Verde NP; Greg Byrn, conservator, Harpers Ferry Center (HFC); Anthony Crosby, project historical architect, DSC; Carole Perrault, architectural conservator, North Atlantic Historic Preservation Center; Toby Raphael, conservator, HFC; Elizabeth Santos, historical architect, DSC; and Brigid Sullivan, conservation technician, Western Archeological and Conservation Center, Tucson, Arizona.

The recent project, representing the final phase of an extensive preservation program begun in 1975, was organized to preserve historic plaster and paintings on the interior of the sanctuary dome and walls. Over the years, moisture transported soluble salts to the surface of the plaster, where they crystallized and forced the decorative paintings away from the walls. These recrystallized salts also damaged much of the plaster as well. In addition, the salts drew, through hygropscopic action, more moisture to these already deteriorated areas of plaster and paint. The source of the problem, moisture penetrating from the exterior of the dome and not by capillary action from the foundation up through the walls, was eliminated (see the schematic drawing); but the results, flaking paint and gypsum wash, and stained, friable, missing and poorly attached plaster, remained to be corrected.



Sketch section of Sanctuary looking north. Shown is the relationship of deterioration in the dome and use of earth fill in the original construction.

See explanation for diagram on page 4.

Gypsum Wash Reattachment

A long fiber Japanese tissue and water were used to reattach the wash. The tissue was used primarily to protect the gypsum during subsequent conservation work. It also served as a vehicle for transporting moisture, applied with a soft, natural bristled brush to the wash. Water had to be applied only at a rate that the wash could easily absorb. If it were applied too quickly, the water would displace the fragile wash. As the wash absorbed the water, it became pliable, and a light brushing on the protective tissue pressed the wash back in place on the plaster. Additional pressure was then consistently and carefully applied to secure the wash back onto the wall. An hour after application, the tissue was removed. The gypsum wash remained in direct contact with the plaster, and the efflorescence was no longer visibly present. Some of a yellow wetted area, and some of the stain was removed with the tissue. Salts did not reform on the surface as may have been anticipated, and the wash remained intact and in place.

Some areas had been treated in 1949 with PVA (polyvinyl acetate). It was found on the surface of the final gypsum wash in some areas, or on underlying layers in others, and hanging net-like from the plaster surface in still others. Also treated were areas of heavy efflorescence, areas where the gypsum wash had not become detached, and areas where the ground plaster had eroded beneath the wash, leaving the wash free standing and insecure. As with the non-PVA treated areas, the efflorescing salts went into solution when water was applied to the tissue. Most of the gypsum wash became pliable and was easily reattached to the plaster. In areas where no gypsum plaster existed and where the plaster was friable, some grains of sand and small plaster fragments were also removed with the tissue.

Surface Cleaning

Both wet and dry methods of cleaning were used to remove surface dirt, smoke, mud, and what appeared to be oils and dung from bats.

The wet method involved using Japanese tissue applied with water, followed by a paper pulp poultice of ammonium carbonate solution. The tissue and poultices were removed after approximately 50 minutes. In some cases, a saturated solution of ammonium carbonate was immediately brushed onto the area in a circular motion to loosen all dirt. Water moistened cotton balls were then used to gently

blot away the surface stain or deposit. Blotting continued until no stain was detectable on the cotton. A shorter time of 15 minutes for leaving the poultice on the surface was also tested, but it was found that too much blotting with the cotton balls was required and that the resultant abrasion posed a threat to the surface.

Applications to surfaces other than those covered by a gypsum wash were attempted, primarily areas that had been painted with an aqeuous solution of mineral pigments. Since some of the pigmentation was removed along with the dirt, however, this method of cleaning was halted. Dry cleaning with a soft bristled brush, while not as effective as the wet applications, was then reserved for cleaning the painted areas.

Surface Consolidation

Three surface consolidation techniques were tested. They were: 1) the use of ammonium carbonate and barium hydroxide; 2) the use of barium hydroxide alone; and 3) the use of Acryloid B-72, an ethyl methacrylate-methyl acrylate copolymer.

A Japanese tissue was first applied to the surface followed by a paper pulp poultice saturated with the ammonium carbonate and barium hydroxide. This was left in place for six hours.

In this treatment, developed in 1967 by Italian chemist Enzo Ferroni, the ammonium carbonate combines with the gypsum (calcium sulfate) to form calcium carbonate and ammonium sulfate, a highly soluble salt. When the barium hydroxide is added, barium sulfate (a very stable compound) is formed. After six hours, the barium hydroxide pulp was removed along with the tissue.

The treatment using barium hydroxide alone was conducted exactly as was the second step of the treatment using ammonium carbonate and barium hydroxide described above. The barium hydroxide pulp and tissue were also removed after six hours. Again, there was a very limited amount of consolidation.

The Acryloid B-72 treatment used a solution of approximately 4 percent solids in a good grade tuolene and xylene solvent. The B-72 was applied in two thin coats, one immediately after the other, directly onto the surface. Evaluation of the treatment indicated the B-72 solution was more effective in consolidating the surface than either of the previous two treatments. However, the total surface area consolidated was only about .2 square meters.

Reconstruction of Plaster Edges

Acryloid B-72 (an acrylic resin solution), Rhoplex AC-33 (an acrylic resin emulsion), a polyvinyl acetate emulsion, and unstablized lime plaster were all used in the rebuilding of decayed edges and in reattaching detached paint at those edges. The first step required providing support to the loose and friable wash before any further work was undertaken. This was done by facing the insecure areas with Japanese tissue applied with a 10 percent solution of B-72. By so doing, the danger of losing additional wash while working on the edge was eliminated.

Next was the reconstruction of missing plaster ground. First, the loose and crumbling plaster was removed to a depth of up to 2 centimeters. The specific technique involved blowing away the extremely loose material with a blow tube or aspirator, followed by a light brushing with a soft bristled brush. In some cases, a 2 to 5 percent solution of AC-33 was used to further stabilize the edges where necessary. Field tests were conducted to determine the penetration and the effects on the moisture transmission qualitites of this treatment. They were found to be negligible. A fat lime paste (calcium hydroxide that had been slaked on-site for approximately two years) was combined with a fine sand at a lime-sand ratio of approximately 1:4, by volume. Edges, built up only where necessary to support the loose wash, were beveled down to the surface of the original plaster at an angle of approximately 60 degrees. In some instances, it was necessary to reconstruct the plaster to a depth of less than a centimeter. In other cases, if the reconstruction were thicker than 1.5 centimeters, two or more layers of plaster were used.

The new plaster was allowed to set for about 24 hours. The tissue-faced gypsum wash was then placed on the new surface and reattached to it with the polyvinyl acetate emulsion. The tissue, attached with B-72, was removed at that time with the solvent (a high grade tuolene and xylene solvent), and the beveled plaster edge finished.

Reconstruction of Missing Plaster

A new lime-sand plaster (again mixed to a ratio of 1:4, lime to sand, by volume) was chosen to bring base plaster up to a level of about 10 millimeters from the original finished surface. This was done in order to eliminate excessive undulations on the dome and sanctuary walls. This part of the plaster reconstruction actually related to the presentation of the painted plaster more than to actual conservation requirements. By eliminating major visual distractions, such as deep shadows, the remaining original materials could be more easily seen and appreciated.

Background

The mission of San Jose de Tumacacori has been a national monument since 1908. It commemorates the Spanish colonial period in the American Southwest. Father Eusebio Francisco Kino, the energetic Jesuit proselytizer among the Indians in Arizona and Sonora, Mexico, first celebrated mass at a site he called Tumacacori in 1691, just a few miles from the present site of the mission ruins. By 1698, an adobe house, fields of wheat, and herds of domesticated animals had been established at the site of that first mass. After the Pima Rebellion of 1751, the village was moved to the present site. By about 1772, the headquarters for missions in the surrounding district were moved from nearby Guevavi to Tumacacori in response to continuing Apache raids. The Jesuits, by this time, had been expelled from all Spanish lands, and responsibilty for missionary work had been given to the Franciscans. The historical record on the surviving structure is not clear, and it is difficult to pinpoint exact dates for milestones in its development. Construction of the present building is believed to have begun about 1800. It was definitely in use by 1820.

After Mexico won independence from Spain in 1821, most of the frontier missions were abandoned because of the new government's inability and lack of interest in providing security from Indian attacks. The cessation of governmental financial suport of the missions further weakened them. The situation continued to deteriorate at Tumacacori, until, in 1844, the government sold the mission to a private citizen. When the mission's last Indian communicants left the area in 1848, they carried the church's furnishings with them to the mission of San Xavier del Bac, just a few miles south of present day Tucson. Some of the statues were returned to Tumacacori in 1973. Abandoned, its massiveness was the only thing that saved the mission from total destruction by weather, vandals, and souvenir hunters until its designation as a national monument in 1908.

Reattachment of Delaminated Plaster

Some of the finish plaster had become detached from the base plaster as had some of the base plaster become detached from the surface of the adobe wall and fired brick dome. In both of these cases, a polyvinyl acetate emulsion was used as an adhesive to reattach the delaminated portions. Two important properties of PVA emulsion (limited penetration and relatively great strength) were desirable in this case. The character of PVA's to deteriorate under exposure to ultraviolet radiation was not a factor since such exposure would not occur for this particular area of plaster.

The first step involved cleaning the voids where possible by blowing any loose materials out through holes already in the plaster or which were drilled specifically for that purpose. The PVA was then injected into the voids. It was necessary at this stage to take extreme care in protecting the adjacent surfaces from the PVA while work was underway.

The reattachment of large portions of plaster was not undertaken. If it is done in the future, other techniques, perhaps using nylon or epoxy resin rods, may prove more appropriate.

Information Block for Diagram on Water Seepage into Dome's Interior

When a portion of deteriorated plaster and brick batt covering was removed from the horizontal base of the sanctuary dome, the source of the moisture problem inside the dome became apparent. The original construction technique filled the space between the base of the dome and the upper exterior walls of the sanctuary on all four sides with loose earth and cobbles. At the time it was uncovered, the moisture content of this fill was 20 to 25 percent by weight. Cracks in the covering of the dome allowed moisture penetration from above, which probably kept the earth fill consistently damp throughout the year. The cement stucco material with its painted surface allowed little, if any, upward moisture loss through evaporation. Consequently, moisture moved to the interior of the dome. The old fill was removed and replaced with low fired bricks in an extremely dry lime mortar. The dome's exterior surface was replastered with a lime plaster (5 parts lime to 1 part sand, by volume, with a small amount of clay for workability). A lime whitewash was then applied over the plaster. With the source of the troublesome water effectively eliminated, attention could be concentrated on the interior's deteriorated dome and wall surfaces.

Replacement of Putty

One of the most difficult and time consuming aspects of the work was the removal of several types of putty which had been used previously to fill holes and support edges. Because of properties totally unlike the surrounding plaster, the putty was causing some deterioration and had to be removed. A water-saturated paper poultice applied for softening the putty was partially successful. The poulticing was followed by the removal of small portions of the putty with dental tools, small knives, and microspatulas. The work was extremely slow, taking one person approximately three hours to remove one linear foot of putty. (The dome was estimated to contain approximately 200 feet of the putty). After the putty was removed, the holes and edges were rebuilt, using the same general edge treatment described above.

The Results

The conservation of the paint and plaster in the sanctuary dome was completed during the six-week project. The work represents approximately 60 percent of the total conservation work that is needed at Tumacacori, and plans to complete the remaining 40 percent are currently underway. The primary goals of preserving the historic fabric and the elimination of major visual distractions were successful. It will be difficult, however, for the majority of the visitors to Tumacacori to see a difference since they cannot directly compare the existing conditions with those in the dome prior to the work. This may be surprising to visitors, expecially if they have heard of the conservation project before their visit. But in making the results of this preservation difficult to detect, the Park Service, in a very subtle and technically sophisticated way, is fulfilling its duties to preserve the ruins of the mission at Tumacacori and to interpret its significance in the rich history of the American Southwest. The site will continue to suggest the glories of the mission's past rather than recreating its early 19th-century appearance.

Recommended Reading

Crosby, Anthony. "Tumacacori Conservation Report: The Condition of the Paint and Plaster and a Proposal for Its Treatment." Unpublished report. National Park Service. Denver, Colorado. 1982.

Gettens, R.J. and Charles R. Steen. "Tumacacori Interior." Unpublished report. National Park Service. Santa Fe. 1949.

Carole Perrault (left), architectural conservator, North Atlantic Historic Preservation Center, and Paul Schwartzbaum (right), conservator from the International Center for the Preservation and Restoration of Cultural Properties, are shown reattaching gypsum wash to the interior surface of the mission church's dome.

Giffords, Gloria Fraser. "Removal of the Plaster and Painting from Northwest Pendentive of the Sanctuary of the Church at Tumacacori National Monument." Unpublished report. National Park Service. 1977.

Tintori, Leonetto. "Scientific Assistance in Practice of Mural Conservation in Italy." Application of Science in Examination of Works of Art. William J. Young, ed. Proceedings of the Seminar, June 15-19, 1970. Boston Museum of Fine Arts. 1973.

Torraca, Giorgio. Porous Building Materials--Science for Architectural Conservation. International Center for the Study of the Preservation and Restoration of Cultural Properties. Rome. 1981.

Sayre, Edward V. "Investigation of Italian Frescoes, their Materials, Deterioration, and Treatment." Application of Science in Examination of Works of Art. William J. Young, ed. Proceedings of the Seminar, June 15-19, 1970. Boston Museum of Fine Arts. 1973.

CRM

Sources of Cultural Resources Management Research Information

Douglas L. Caldwell

ch year, Park Service personnel and searchers under contract to the Ser- ce produce many documents (historic tructure reports, archeological re- ource studies, historic preservation ides, etc.) that constitute an in- luable and irreplaceable source of nformation on the parks' cultural esources. This data can be found in e parks, the Denver Service Center, rpers Ferry Center, the regional d Washington offices, and the four rcheolgical centers in Tallahassee, incoln, Albuquerque, and Tucson. he following article is offered as n aid to the researcher in locating nformation through the Associate irector, Cultural Resources Manage- ent, Washington.

ational Technical Information Service

s required by NPS-28, the Service's uideline for Cultural Resources Man- gement, the Associate Director, Cul- ural Resources Management, enters ll reports received in Washington nto the microfiche system maintained y the Commerce Department's National echnical Information Service (NTIS). n up-to-date listing of these entries n NTIS is available upon request from he Washington CRM staff. Approxi- ately 400 titles are currently in he system. Prices vary depending pon length of the report and whether icrofiche or paper copies of the eport are ordered.

ultural Resources Repository

he Cultural Resources Repository is file of more than 7,000 reports and ther documents relating to Park ervice cultural properties and arti- acts. It is maintained in the Wash- ngton Office by the staff of the As- ociate Director, Cultural Resources anagement. The Repository is open o Service personnel. Generally, any PS employee doing research in support f Service programs can receive a opy of materials from the Repository t no cost.

ontained in the Repository are:

- Archeological Resource Studies
- Historic Structure Reports
- Historic Furnishings Reports
- Historic Resource Studies
- Park Administrative Histories
- Historic Preservation Guides
- Collection Preservation Guides
- History Studies (general)
- Archeological Studies (general)
- Correspondence
- Trip Reports
- Photo Files

ost of the materials dating from 974 to the present are also avail- able through the Denver Service Center. Others may be located in the parks, regional offices, or Harpers Ferry Center. Some of the older reports, however, are found only in the Washington Repository (a survey by the WASO staff has confirmed this with some specific titles), and the researcher would be wise to double-check this source before completing a bibliographic search.

A source of useful information is the body of correspondence dating back to the 1930's, most of it originating from Washington and dealing with problems arising in managing cultural properties. Some of the memos and letters discuss reports that were submitted on research; others discuss preservation treatments underway at the time. Of interest to those preparing administrative histories is that correspondence written by some of the "big names" in early Park Service preservation work. Also on file are old park folders and miscellaneous newspaper and magazine articles on the parks.

There is a small body of trip reports, (dating from the 1930's to the 1960's), that were written by Washington office personnel. They contain general observations of conditions in the parks, and offer recommendations for the treatment of cultural resources, and general evaluations of their management. One rare set of documents is the Superintendent's Reports for Yellowstone Park dating from the 1890's.

A file of photographs, taken primarily by former Chief Historical Architect Henry Judd, records many preservation treatment projects undertaken throughout the Park System. The collection, primarily in an 8- by 10-inch black and white positive format, numbers between 600 to 1,000 prints. A few pre-World War II photos showing historic structures and historic persons of the NPS are also in the collection. Availability and format of copies can be determined on an individual need basis.

Cultural Resources Management Bibliography

Underway is the development of a computerized bibliography of all the reports contained in the CRM Repository. When completed, the bibliography not only will list a report found in the Repository, but will also cross reference it (when applicable) with a structure on the List of Classified Structures. It will enable researchers to more readily locate needed documentation to develop and support budget requirements for maintaining these significant cultural properties in the Park System. While this project has not yet been completed due to limitations on budget, personnel, and computer support, some information from the Bibliography is available for the interested researcher.

Requests for information concerning 1) cultural resources management data in the NTIS system, 2) the Cultural Resources Repository, and 3) the Cultural Resources Repository and Management Bibliography should be directed to:

Karen Rehm
Registrar of Cultural Properties
Historical Architecture Division (408)
National Park Service
Washington, DC 20240

CRM

Book on the Work of Saint-Gaudens is Published

The Work of Augustus Saint-Gaudens, compiled and written by National Park Service employee, John H. Dryfhout, has been printed and released for sales by the University Press of New England. This is the most complete compendium ever attempted of the life and works of Augustus Saint-Gaudens. More than 500 illustrations reproduce the cameos, basreliefs, monumental bronzes, sculptures, coins and medals forming the oeuvre, as well as scenes of the artist's life and studios. The publication includes information on all known versions and editions of his work in public and private collections.

John Wilmerding, Curator of American Art and Senior Curator, the National Gallery of Art, wrote the foreword. Barbara Ras edited and Joyce Kachergis designed the book. Copies are available for $60.00 each from the University Press of New England, 3 Lebanon Street, Hanover, New Hampshire 03755.

Publication of the book marks the sixtieth anniversary of the public opening of the Saint-Gaudens Memorial. The extensive buildings, grounds, and collections of the sculptor's work in Cornish, New Hampshire, were at first administered by the Trustees of the Saint-Gaudens Memorial--a group of individuals interested in letters and the fine arts--but have been part of the National Park System since 1964.

CRM

Why Inventory Properties?

Karen G. Rehm

A chronic complaint among Park Service employees often concerns the mountains of paperwork required to carry out Service responsibilities. Many times, these complaints center on the various surveys, forms, and studies associated with a park unit's cultural resources (historic structures, archeological sites, etc.). And as much as we may wish away this workload, it will not disappear, because the Park Service's role in preserving cultural resources in natural and recreation units as well as in the cultural areas is required by law. Much of the Service's present efforts center on inventorying its historic properties (e.g., the List of Classified Structures), in addition to maintaining the National Historic Landmarks listing, the National Register of Historic Places, and developing information for U.S. nominations to the World Heritage List. While inventorying is an essential element in good planning and management, it is also a legal requirement of the Historic Sites Act of 1935, the 1966 National Historic Preservation Act and its 1980 Amendments. It is because of this legislation that the Department of the Interior, specifically the Park Service, has become the Federal government's leading advocate for cultural resources preservation.

Prior to the Historic Sites Act of 1935, the Antiquities Act of 1906 set aside as National Monuments "...historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon lands owned or controlled by the government of the United States...." The actual inventorying of these "landmarks" and "structures," however, was not required until the 1935 Act, which authorized the Interior Secretary to "make a survey of historic and archeological sites, buildings, and objects for the purpose of determining which possess exceptional value as commemorating or illustrating the history of the United States" and to "...erect and maintain tablets to mark or commemorate historic or prehistoric places and events of national historical or archeological significance...." Ironically, the term "historic landmark" did not appear in this act, and yet this legislation marks the beginning of the National Historic Landmark program. The sites surveyed were considered as having national significance, thereby qualifying them for inclusion into the National Park System. The 1935 Act also gave status to the Historic American Buildings Survey (a key factor in the restoration of many of the nation's historic buildings, and in documenting many of those structures which have since been destroyed or allowed to fall to ruin). The Landmark program was revived in the late 1950's, and around 1960, began studying and listing National Historic Landmarks on a thematic basis. Structures or districts must illustrate a major theme in American history and meet three general criteria to be listed:

> National significance in an important field of American history, architecture, or archeology;
>
> Association with individuals and events important to American history, architecture, or archeology; and
>
> Possession of integrity of materials and significance.

Studies of proposed National Historic Landmarks are reviewed semiannually by the National Park Advisory Board for recommendations to the Secretary of the Interior. National Historic Landmark designation has played a significant role in the preservation of cultural resources, such as the Cape May Historic District. Presently, there are 1,575 landmarks.

The survey process identified many properties which had historical value not at the national level, but which nevertheless warranted recognition and some degree of protection. The National Historic Preservation Act of 1966 provided this protection. In the Act, the "Secretary of the Interior is authorized...to expand and maintain a national register of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, and culture, hereinafter referred to as the National Register ...." This National Register, actually the National Register of Historic Places (NRHP), incorporated all previously designated National Historic Landmarks and all historic units of the National Park System, including the various military parks and those national monuments authorized for archeological or historical significance. The only unit classified as a national park entered on the NRHP was Mesa Verde National Park, Colorado.

States were given grants to expand their historic preservation programs and the National Register soon added properties with state and local significance. Then as now, documentation required on the nomination forms included description, significance, boundaries, photographs, and maps. Federal agencies still confer with State Historic Preservation Officers on the eligibility of the resources and submit the nominations to National Park Service personnel for inclusion on the NRHP. The Park Service must also document those properties which were automatically listed and nominate the cultural resources within natural and recreation areas. To date, the Service has approximately 675 listings and 75 determinations of eligibility on the NRHP. A park, in assessing the merits of nominating structures (which vary from 19th-century privies to the Old Faithful Inn) to the National Register of Historic Places, uses a Servicewide, systematic inventory--the List of Classified Structures (LCS).

The LCS is defined in NPS-28 (the Park Service Guideline for managing cultural resources) as "an inventory of all above-grade historic and prehistoric structures that have archeological, historical, architectural, engineering, or cultural value and in which the Service has or will acquire any legal interests." Not all of the structures on the LCS qualify for the National Register (NRHP). This inventory is intended to assist park managers in planning and programming as well as in recognizing those structures which do have historical significance.

Over time, historic structures may lose their integrity and be removed from the NRHP. The List of Classified Structures, however, will continue to list those structures even if they are demolished or destroyed. This special listing will retain the physical description and management information as a reference for future park managers. Presently, the 10,000+ structures on the LCS include monuments, historic roads, walls, and ships, as well as buildings.

In 1980, the Congress amended the National Historic Preservation Act by: adding engineering as a category of significance; strengthening the emphasis of the Federal government's role in historic preservation, more specifically defining the terms "National Register of Historic Places" and "National Historic Landmark;" and authorizing the leasing of Federal historic properties. In addition, Title IV of the Act states that, "The Secretary of the Interior shall direct and coordinate United States participation in the Convention Concerning the Protection of the World Cultural and Natural Heritage... shall periodically nominate properties he determines are of international significance to the World Heritage Committee on behalf of the United States...." Thus, the inventorying of cultural properties reached a world level with this Act.

The first properties were described on the World Heritage List in 1978. Only properties demonstrating international significance qualify. The United States had three cultural listings as of October 1982. They are Mesa Verde and Yellowstone National Parks, and Independence National Historical Park. The World Heritage List differs from the others discussed in this article in that it includes natural areas as well as cultural assets (Yellowstone qualifies under both cultural and natural, for example). The National Park Service serves as the secretariat to the Interagency Committee which reviews and selects U.S. nominations to the State Department. The State Department then transmits these selections through UNESCO where a 25-nation World Heritage Committee makes the final decision. There are 62 nations plus the United States involved in this worldwide recognition of our global cultural and natural resources.

The preservation of cultural resources has come a long way since passage of the 1906 Antiquities Act. The documentation for the inventories which personnel in the Park Service maintain can be lengthy and tedious to prepare, but it is necessary if the Service is to properly record and understand the resources it has been entrusted to preserve.

In the long run, all these housekeeping chores pay off. The information they can contain, if we conscientiously carry out our responsibilities, will result in good preservation programs in the parks, because all these various inventories interact with each other. For example, the LCS contains all the historic structures in the National Park System in which the Service has or may have a legal interest. Many of these properties meet the criteria for the NRHP, and are nominated as such, or are included within historical units which are automatically placed on the NRHP. Structures which are determined to be nationally significant by the Secretary of the Interior, may qualify as National Historic Landmarks as did National Historic Sites prior to establishment by the Congress. Nationally significant properties may qualify for the World Heritage List and will be considered for nomination. An example of such intricate intermeshing can be found in the Independence National Historical Park property. All of the structures except Carpenter Hall are on the LCS. The entire unit was listed on the NRHP as a historical unit of the National Park System, and the Independence Square portion is one of three NPS listings on the World Heritage List.

So, the next time the temptation arises to ignore doing needed documentation, do not give in to it. Future funds and personnel required to preserve, interpret, and provide the recognition appropriate to a resource's significance will depend ultimately on how thoroughly Service personnel do their homework.

CRM

The author is the Registrar of Cultural Properties, Cultural Resources Management, Washington Office.

Research in Progress

Questions on the status of any of the research projects listed below should be addressed to the appropriate Washington office division of the National Park Service. Any unit of the Service wishing to publicize ongoing research in the CRM BULLETIN should send notices and abstracts to the Editor.

Reports on completed research will be placed by the Associate Director, Cultural Resources Management, in the microfiche system maintained by the National Technical Information Service. Microfiche or paper copies made from the fiche can then be purchased directly from NTIS.

Outdoor Monuments Survey. Historic Architecture Division, WASO. First year of a two-year study to survey the outdoor monuments in NPS care, the project will propose standards for maintenance and guidelines for determining the appearance to be maintained.

Preservation Environment Study. Mid-Atlantic Regional Office; Independence National Historical Park; Curatorial Services Division, WASO; Historic Architecture Division, WASO. Literature search and monitoring at Independence Hall to develop methodology for determining appropriate level of environmental control in historic structures housing museum objects.

Paint Investigation Technology Study. North Atlantic Historic Preservation Center; National Capital Region; Historic Architecture Division, WASO. Multi-year study to advance development of paint investigation technology using the exterior walls of the White House as a case study.

Roads and Parkways Theme Catalog. Historic Architecture Division, WASO. Research for an annotated catalog of culturally significant Park Service designed roads and parkways.

Mortars, Plasters, and Architectural Finishes in 19th-Century Spanish Buildings in the Caribbean. Southeast Regional Office. Research involves the compilation and analysis of specifications by Spanish Colonial engineers and architects for mortars, plasters, and finishes used in public buildings. The findings will be tested, as far as possible, by field sampling of studied structures for which specifications and laboratory analyses exist.

Testing of Types of Photographic Enclosures and Mat Boards. Curatorial Services Division, WASO; and the Rochester Institute of Technology. This study will test the effects of twelve types of photographic enclosures and mat boards on black and white negative film and on albumen prints. Current NPS supply stocks will be checked as a step toward Servicewide recommendations for enclosures used in preserving photographic materials. Results will be available in the summer of 1983.**CRM**

Chief Curator Ann Hitchcock and Gordon Gay, Registrar of the National Catalog, are ex officio members.

One of the most pressing concerns regarding curatorial matters is the Service's lack of catalog records and accountability for 90 percent of its museum objects. Currently, there is a backlog of more than 9,000,000 objects that need to be inventoried in the National Catalog.

The major objective of the Committee is the revision of National Catalog policy and procedures in order to expedite the cataloging process and achieve Servicewide accountability for museum objects. At present, an average of 20,000 records for museum objects is completed each year. At this rate, 400 years would be needed to complete the estimated backlog. Clearly, more effective procedures, accompanied by the recognition of cataloging as a high priority, are needed.

In its first meeting, the Steering Committee addressed three major issues: 1) streamlined cataloging; 2) lot cataloging; and 3) the classification system. The Committee recommended nine specific modifications to National Catalog policy and procedures specific to the disciplines of history, ethnology, archeology, and natural history. In addition, the group identified 14 issues that must be resolved by its subcommittees. Both the recommendations of the Committee and its subcommittees will then be incorporated in a draft cataloging manual that will be presented to the field for review. The system will be simultaneously tested in ten to twelve parks. Full implementation of the system is expected to begin in FY 84.

The issues and recommendations are summarized below.

Issue: Streamlined Cataloging--The procedure by which an object may be inventoried in the National Catalog needs to be simplified.

Recommendation: Nine simple data elements, called Registration Data (e.g., catalog number, object name, location), were identified as mandatory to establish accountability for each museum object in the National Catalog.

This recommendation significantly reduces the number of data elements and the amount of verbal description presently required to list an object in the National Catalog, thus expediting the inventory process. Additional catalog documentation, called Catalog Data, was identified as optional (e.g., description, condition, measurements). The catalog card (Form 10-254) will be revised to accommodate the changes.

Issue: Lot Cataloging--The use of lot cataloging, a procedure that permits a group of similar objects to be recorded on one catalog record, would expedite cataloging if applied to all types of collections.

Recommendation: The Committee agreed that all disciplines may use lot cataloging. The subcommmittees must decide exactly how this procedure is to be handled for each discipline.

Issue: Classification System--The current classification system (for cultural objects), Nomenclature by Robert Chenhall, has been severely criticized for its inapplicability to archeology and ethnology. Modifications to the natural history system have also been requested.

Recommendation: The object classification system for history will continue to be based on Nomenclature. The subcommittees will develop new or revised classification systems for archeology, ethnology, and natural history.

The recommendations of the subcommittees are expected to be incorporated in the cataloging manual that will be available for review in August of 1983. The Steering Committee anticipates that its recommendations, if accepted, will contribute significantly to increasing the rate at which museum objects are recorded in the National Catalog. However, the ultimate success of the program depends on the parks and other Service repositories placing a high priority, in terms of funding and staffing, on achieving accountability for museum objects. To this end, the Steering Committee has made several recommendations to the Director requesting that this accelerated cataloging program be incorporated into regional and park planning and budgeting documents beginning in FY 84.

CRM

The author is Chief Curator of the National Park Service.

GPO 901-709

CRM BULLETIN

September 1982

Published quarterly by the Associate Director, Cultural Resources, in the interest of promoting and maintaining high standards in the management of those cultural resources entrusted to the National Park Service's care by the American people.

Editor: Douglas L. Caldwell
Assistant Editor: Mary V. Maruca
Cultural Resources, Washington, D.C.

Vol. 5, Nos. 1-3
(released Feb. 1983)

IN THIS ISSUE...

Cultural Resources
National Park Service
U.S. Department of the Interior
Washington, DC 20240

Postage and Fees Paid
U.S. Department of the Interior
INT 417