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CULTURAL RESOURCE MANAGEMENT
Information for Parks, Federal Agencies, Indian Tribes, States, Local Governments, and the Private Sector

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Emergency Resource Recordation

Historic Preservation Treatment Toward a Common Language

U.S. DEPARTMENT OF THE INTERIOR
National Park Service
Cultural Resources

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To promote and maintain high standards for preserving and managing cultural resources

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Cover photo: Rochester's East Main Street Armory, designed by State Architect George Heins and built for New York's Third Battalion in 1905. © David Lamb Photography, 1995.

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Departments

POINT OF VIEW

Draft Standards for Furnished Historic Interiors

Dear Editor:

Publication in *CRM*, Volume 18, No. 10, of the Mid-Atlantic Association of Museums' (MAAM) draft standards for the treatment of furnished historic interiors using "as a model" *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, raises important issues and concerns. The Secretary's Standards were codified July 12, 1995, in the *Federal Register* as 36 CFR 68. The Standards for Preservation, Rehabilitation, Restoration, and Reconstruction are requirements for the recipients of Historic Preservation Fund grants-in-aid, but may also be used by anyone planning treatment on a National Register property (buildings, structures, sites, objects, and districts).

The Heritage Preservation Services Program, Washington, DC (formerly Preservation Assistance Division) is responsible for the development, interpretation, enforcement, and, when necessary, revision of 36 CFR 68 as well as 36 CFR 67 (Standards for Rehabilitation). The following comments are offered within the context of MAAM's request for NPS support of another set of standards specifically for furnished historic interiors.

1. "Spin-off" of a Federal Regulation

The National Park Service has always been supportive of the broad use of its professional Standards for treating historic places. The draft standards for furnished interiors create a problem, however, because they re-interpret the content of the existing regulation, while bearing striking similarity in format as well as language and numbering. In this regard, what may have begun as a statement of professional agreement, is, in the end, a critique of the model. It serves to confuse the recently published federal regulation and, thus, undermine its intent as an "umbrella" for treating all property types.

2. Proliferation of Standards

In *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, all property types listed in the National Register are called "the property" or "properties." Further, since interiors are components of buildings (or buildings in districts), they are subsumed within the property type, "building." Furnishings, if they were addressed, would then be a sub-set of interiors within the broader context of buildings. The Standards were revised in 1992 to be applicable to a broad range of property types, while guidelines would interpret specific examples of property types. Furnished historic interiors address a level of specificity not addressed in the Secretary's Standards.

The reason umbrella treatment Standards were developed was precisely to avoid the proliferation of mini-standards for parts of resources. The assumption is that treatment of any historic resource follows an agreed upon course of action, and is weighed in merit using as an ideal the notion of "least intervention possible."

3. Alteration of the Hierarchy for Treatment

To the extent that the draft standards alter the meaning of the existing codified Standards, they demonstrate to me that the wrong model was selected. The most notable difference is that the acknowledged hierarchy (set up as early as the 1970s in the first Standards) has been re-arranged. The hierarchy for treatment clearly established in *The Secretary of the Interior's Standards for the Treatment of Historic Properties* reflects levels of intervention, from the least to the greatest. While Preservation is the first, most favored treatment in the regulation and the draft furnished interior standards, the other three treatments go against widely accepted principles for treatment. Rehabilitation, not Restoration, is the second treatment in the hierarchy because it accepts the continuum of history rather than acknowledging backdating. The draft standards put Reconstruction before Rehabilitation as a preferred treatment. Treatment of museum collections, and the interpretive ramifications, would thus seem to have different goals and priorities.

4. Reinstatement of General Standards

Much of the updating of the earlier *Secretary of the Interior's Standards for the Treatment of Historic Properties* was to acknowledge that General Standards governing very different treatment philosophies (Preservation, Rehabilitation, Restoration, and Recon-

struction) was illogical; for example, if changes over time show evidence of development in Preservation and Rehabilitation, they absolutely do not in Restoration. Restoration removes the evidence of all but the most significant time—it does not acknowledge the continuum.

The general standards for historic interior furnishings, thus, deny two of four treatments in the Specific Standards—Restoration and Reconstruction. To the extent that the general standards for furnished interiors convey the notion of preservation or conservation, they function as a single, consistent philosophy in and of themselves. But to follow with specific standards for four treatments that deny principles in the General Standards is to reinstate the illogical.

In summary, statements of principle for the treatment and interpretation of historic interiors and their furnishings most certainly need to be addressed. Development of guidelines or other guidance materials using the existing regulation, 36 CFR 68, as umbrella treatment Standards would be the preferred course of action. But modifying, re-arranging, and thus inadvertently re-interpreting the model can only lead to confusion. Finally, the sum total of differences between the published regulation and the draft standards for furnished historic interiors demonstrates more differences than similarities in the decisionmaking process. All of these points suggest the need for further discussion before creating more standards, rather than interpretive guidelines.

—Kay D. Weeks
Heritage Preservation Services
Washington, DC

Perceptions of Preservation

Dear Editor:

I enjoyed reading the article by Leland M. Roth, "Living Architecture: Differing Native and Anglo Perceptions of Preservation" in *CRM* Vol. 18, No. 5. I was intrigued by his views on Sgan Gwaii, a.k.a Ninstints World Heritage Site, which is part of Gwaii Haanas National Park Reserve and a Haida heritage site. As a Parks Canada cultural heritage type I have been closely involved with planning the conservation of the site. This has meant consulting with agency officials, Haida representatives and conservation specialists. While the consensus seems to be to let the monumental poles die a natural death, there are some elaborations on this approach which may interest your readers.

In the 1970s the provincial museum, which was then interested in the site, found the poles to be suffering from the incursions of the forest and other vegetation. The seedlings from trees and salal bushes were rooting in the poles, grass and other vegetation were holding moisture, advancing deterioration, and fallen poles and house beams were quickly disappearing. The museum, guided by its then chief of conservation, Richard Beauchamps, took the view that although the poles could not be preserved indefinitely, their life could be prolonged by some simple measures and therefore proceeded to implement a program of conservation.

The objective of the conservation was to keep the poles standing as long as possible. A guiding principle was that there was to be no intrusive measures taken to prolong the life of the poles. No chemical preservatives were used. Instead, more natural remedies were employed. Damaging trees were removed from the immediate vicinity, leaving a sufficient number to act as a wind break. Removing the trees brought increased sunlight and with it ultraviolet rays which destroyed many of the mosses and lichens that grew on the poles. Soil and organic material from around the bases were removed and replaced with inert beach gravel. Perhaps the most intrusive element was the supporting of a memorial pole with a bridge rail. The maintenance procedures established by the museum were continued by the site's Haida watchman, Captain Gold. Saplings continued to be removed, the pathways hardened with stones, and a watch kept on the lean of the poles.

As a result of a 1987 agreement between the provincial and federal government, the area was set aside as a federal reserve. A subsequent agreement between the Canadian government and the Council of the Haida Nation provided for the co-management of the area. Throughout both the provincial and federal eras, however, the Haida have remained interested in the area and appointed watchmen to look after important cultural sites. Captain Gold is the watchman at Sgan Gwaii. Last year Captain Gold advised us of two issues affecting the conservation of the site. At least four of the poles were leaning over to the extent that they were in danger of falling. And he wanted a more formal guide for brushing the site. Just where should the forest end and the grassy area around the poles begin?

I was given the task of coming up with a plan. Last summer, we gave a contract to Richard Beauchamps, now a consultant, to visit the site with two Haida elders. Richard proposed some emergency work to straighten four

Mortuary poles with temporary bracing, Sean Gwaii, Gwaii Haanas, Queen Charlotte Islands, B.C. Canada, January, 1995.

poles before implementing a more comprehensive conservation plan. Although the Haida elders wanted no obvious intrusions, they wanted to keep it "looking nice" and agreed with the proposal of Richard and Captain Gold to straighten the poles. Subsequent visits by resource managers, archeologists, landscape architects, and other interested individuals supported this plan and in September we hope to initiate a two-week project to excavate and re-erect four poles (three mortuary and one memorial). While this is going on we hope to come up with a more comprehensive conservation plan which will go to the Archipelago Management Board for approval. The AMB is the joint Parks Canada/ Haida body that is responsible for Gwaii Haanas. The planning is focusing on maintaining the poles, controlling vegetation and lessening the impact of visitation. As well it will have to accommodate visitor amenities such as mooring, toilets and trails in as unobtrusive a manner as possible. The big debate right now is whether to have a shelter near the village.

—James Taylor
Historian, Parks Canada
July 20, 1995

LOCAL PROGRAMS

New CLG Publication Marks 1,000 CLGs and Administrative Changes

A new 16-page brochure, *Preserving Your Community's Heritage Through the Certified Local Government Program*, has been published by the National Park Service's Heritage Preservation Services Program in conjunction with the National Conference of State Historic Preservation Officers. Intended as the principal piece of program literature for the Certified Local Government Program, the handsomely illustrated publication explains the objectives of the program and provides brief descriptions of over 30 CLG grant-supported projects carried out in communities all over the country. The release of the new publication marks the 10th anniversary of the initial certification of localities under the program and the fact that there are now 1,000 participating CLGs. To the earliest group of five Georgia communities certified by the Georgia SHPO and approved by the

National Park Service in 1985, have been added cities, towns, boroughs, and counties in all 50 states.

The array of projects depicted in the new brochure manifests the CLG program's diversity both in terms of activities and types of communities. Born 15 years ago of a mistrust by urban mayors of the National Register nomination process and their lack of an official voice in it, the CLG program has emerged as an ideal federal-state-local partnership. Not only have the State Historic Preservation Offices always had a strong hand in shaping their own CLG program to the particular characteristics of the state but, most importantly, the program has delivered dollars (however small) to the locals; it remains the sole source of federal funding devoted exclusively to local historic preservation activities and, among many SHPOs, the only Historic Preservation Fund subgrants made. While focusing on the products of CLG grants as the most readily visible results of the program in the selected communities, the new publication highlights, as well, other important CLG accomplishments and benefits: building on local initiative; supporting the transformation of local preservation groups from grass-roots advocates to policy makers; integrating local preservation activities into local government, especially land use planning; a focus on a wide range of resource types including cultural landscapes, and archeology; and, innovative public education activities.

Issuance of the new publication also highlights the beginning of a new chapter in the administration of the CLG program as a result of both the reorganization of the National Park Service and the push to "reinvent and streamline" government programs (as outlined by the Historic Preservation Performance Review Committee in its report of March of 1994). Due to the Park Service reorganization, the CLG Program, formerly handled out of both the Washington Office and five regional offices, will now be administered exclusively in Washington. This change strengthens the role of the SHPOs in the CLG Program, but, as the production of the new brochure demonstrates, the National Park Service remains committed to upholding its position in this model partnership among three levels of government. Single copies of the publication, *Preserving Your Community's Heritage Through the Certified Local Government Program*, are available from the SHPO or from the National Park Service, Heritage Preservation Services Program, P.O. Box 37127, Stop 2255, Washington, DC 20013-7127.

—Stephen A. Morris

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Features

Nancy L. Todd

Studying Armories

DoD's Legacy Program Funds New York State Survey

Detail from second floor landing, Troop C Armory, Brooklyn, NY. Photo by Merrill Hesch, New York State Historic Preservation Office, 1993.

The New York State Historic Preservation Office (NYSHPO) has recently completed a comprehensive, intensive level survey of (and subsequent National Register Multiple Property Documentation Form for) pre-World War II Army National Guard armories in New York State. The project was nearly fully funded by a grant in 1992 from the U.S. Department of Defense's Legacy Resource Management Program, a federal fund designed to subsidize the identification, evaluation and protection of cultural and natural resources under Defense's stewardship. A subsequent, fiscal year 1994 grant is being used to add individual listings to the earlier National Register Multiple Property Documentation Form, to conduct outreach and educational events to promote public awareness and appropriate preservation of New York's armories, and to publish a book and produce a documentary about the armories.

Built to house local units of the various states' volunteer militia, today's National Guard armories are perhaps the most imposing, tangible reminders of the role of the citizen soldier in American military history. The armory as a specific building type is a product of the post Civil War era, even though a variety of generic storage facilities for munitions (such as powder magazines, arsenals, etc.) were common even during the earliest years of the Colonial Period.

A foundation for the study of the armory as a building type is presented in *America's Armories: Architecture, Society and Public Order* (1989) by Robert Fogelson. Over the past several decades, numerous articles have been published in a variety of scholarly journals (mostly historical and architectural publications) and several theses and dissertations have appeared on the subject; however, Fogelson's is the first comprehensive study of the dozens of large-scale, regimental armories in the biggest metropolises of the country. This ground-breaking study of the country's "biggest" and "best" armories provides a valuable framework for studying America's hundreds and hundreds of smaller, often single-company armories in small to mid-sized communities all across the country.

Fogelson's book and NYSHPO's subsequent Legacy-funded survey confirm the fact that New York State contains the best, most distinguished collection of historic Army National Guard armories in the country in terms of both quantity and quality. At one time, there may have been nearly a thousand historic armories in America; today, perhaps only 300-400 survive.[1] The majority of these are located in the Northeast and Midwest states of the country, primarily in relatively heterogeneous, industrialized regions. Most are located in urban areas, although some are in suburban communities; few, if any, are in rural areas. Most of the country's extant armories are believed to date from the early-20th century; a significant number were built during the WPA era. (For example, all of Oklahoma's 50+ historic armories date from the 1930s.) Many of these early-20th century armories are not especially distinguished or sophisticated architecturally, particularly in comparison to other public buildings in their respective communities built during the same period.

Target practice, believed to be the Sixth Battery, 104th Field Artillery, date unknown. Courtesy New York State Division of Military and Naval Affairs.

In stark contrast, many of New York State's 70+ armories date from the late-19th-century and are elaborately rendered in flamboyant, Victorian-era interpretations of Medieval Gothic military architecture. Most of the state's armories are massive, castellated-style fortresses distinguished by bastions, towers, turrets, and/or bartizans; crenelated parapets and machicolated cornices; sally ports and portcullises; and even, occasionally, moats and drawbridges. Many of these armories are prominently sited in vital, downtown locations (primarily county seats); virtually all are imposing edifices in their local contexts, often complementing their respective communities' finest public buildings and civic complexes. Historically, most armories were designed to be community centers as well as military facilities; presently, in an era of rampant suburban sprawl, many of these same armories are serving as catalysts to downtown revitalization and economic development in some of the state's most needy urban business districts.

The Initial Survey

In 1992, the NYSHPO received a grant from the Legacy Resource Management program to inventory and evaluate its pre-World War II armories. The survey was conducted according to standard NYSHPO survey guidelines (which are, in turn, based on policies set by the National Park Service in National Register Bulletin 24, *Guidelines for Local Surveys: A Basis for Preservation*.) A literature search was conducted, a

Who/What is the National Guard?

The National Guard, despite its deceptive name, is essentially a state-based entity. Most military organizations in America, such as the Army, Navy, Air Force, and Marines (as well as the Army Reserves and the Naval Reserves) are federal entities under direct and complete control of the U.S. Department of Defense (DoD). Similarly, America's primary reserve components, i.e., the Army Reserve, Naval Reserve, and Marine Corps Reserve (there is no Air Force Reserve) are also federal entities. America's secondary reserve component, i.e., the National Guard, consists of two elements: the Army National Guard and the Air National Guard, both of which are state-based and state-run entities, although they are, ultimately, accountable to DoD's Department of the Army and Department of the Air Force, respectively.

The predominantly centralized structure of the American military is, for the most part, a fairly recent phenomenon: it was not until the early-20th century that a strong, federalized military system emerged and ultimately eclipsed the formerly decentralized, state- and locally-based military units that had, since the Colonial era, comprised the backbone of the American military system. During the 17th, 18th and 19th centuries, the Colonies (and, subsequently, the Republic) depended on the "militia system," i.e., trained citizen soldiers who served only in times of emergency (and who had other daily vocations) rather than on a "standing army," i.e., professional soldiers whose sole vocation was the military.

Companies, the basic building block of the militia, originally were locally-based units with strong, hometown ties. Militiamen (and their self-chosen leaders) were usually neighbors who joined together, served together, and often retired together; consequently, individual companies usually had unique local or regional "character" and strong, community-based loyalties. The local companies were organized into regional regiments, battalions or brigades; all units were more or less loosely united under their respective state governments. Prior to the Dick Act of 1903, there was little, if any, formal (or binding) federal direction or control.

The modern National Guard is the 20th-century outgrowth of the 19th-century militia: first and foremost, National Guardsmen and -women are volunteer citizen soldiers whose primary vocations are non-military. Companies are still formed at the local level and are still overseen by their respective state governments. Each state has its own Adjutant General, usually appointed by its respective governor, although occasionally elected at large. The states operate relatively autonomously regarding their Guards, although they adhere to policies and directives established by the National Guard Bureau (NGB), a division of the DoD's Department of the Army. (Occasionally, such as during wars or national emergencies or disasters, the states' National Guard units are called directly into federal service.)

Unlike the old militia, however, which historically comprised the bulk of troops purportedly prepared for action, the modern, decentralized National Guard serves as an auxiliary to the country's main, centralized Armed Forces. Although still serving in combat—even as recently as Desert Storm—the National Guard, in the 20th century, is most widely renowned for its role in keeping domestic peace and aiding victims of disaster (both natural—such as flooding and fires—and man-made—such as terrorist bombings).

Despite the evolution of the Guards' duties, the various units of the National Guard often retain the same kinds of localized character and hometown loyalties which distinguished their 19th-century counterparts. Many modern National Guard units are justifiably proud of their regimental heritage, and nowhere is the heritage of the volunteer citizen soldier so tangibly and imposingly manifested as in the individual state armories scattered all across America.

variety of primary and secondary sources were consulted, and every single pre-World War II armory in the state was visited, photographed, and documented on New York State Building/Structure Inventory Forms. Much to the surprise of SHPO staff, the armories, both collectively and individually, retained a remarkably high degree of integrity of setting, design, materials, craftsmanship, and feeling; all extant armories were virtually intact, thereby circumventing the need to grapple with "minimum" levels of integrity required for National Register eligibility and/or listing. (Because of the rarity of the resource type at both the state and national levels, armories were presumed to be both architecturally and historically significant under criteria A & C at the outset of the project.)

Because of financial and time constraints, the survey and subsequent National Register nomination forms were, in most cases, a synthesis of previously published (or produced) materials (including the aforementioned book by Fogelson, a history of the National Guard written by Renee Hylton and Robert K. Wright, Jr., and a survey of New York City's armories by Anne Beha, Associates) coupled with assessments of the current conditions of the buildings and, occasionally (when easily accessible), previously undiscovered primary or secondary sources. As a result, the survey and most of the National Register forms are not the definitive and/or final word on New York's armories; they merely contain enough information to justify the buildings' eligibility according to the National Register criteria.

Fortunately, a second Legacy grant was obtained to publish a full-length book about New York's armories. Extensive research has already been conducted toward completing the book—some of it, in fact, spotlighting some rather gross inaccuracies presented in the survey! (For example, the information in the survey suggested some of New York's 1930s armories were constructed under the auspices of the WPA Program; this appeared, at the time, to be a logical guess, because armories were, indeed, a popular type to receive WPA or PWA funding. However, further

The Legacy Resource Management Program

The Legacy Resource Management Program, a multi-year, multi-million dollar program enacted by U.S. Congressional legislation in 1991, provides the U.S. Department of Defense (DoD) both guidance and funding for identifying and protecting its significant natural and cultural resources. In the highly competitive Legacy grant process, the New York State Historic Preservation Office (NYSHPO) had the good fortune of being at the right place at the right time. During the 11th hour of fiscal year 1992, Renee Hylton, historian for the National Guard Bureau in Washington, DC, was courting potential sub-grantees for a grant she had obtained from the Legacy Program on behalf of National Guard units across the country. Only three states were ready, willing, and able to accept a sub-grant: the Oklahoma National Guard (and its sub-subgrantee, the Oklahoma SHPO) received money to nominate Oklahoma's WPA era armories to the National Register of Historic Places and to prepare a book about the history of state armories in the national context; the South Carolina National Guard (and its sub-subgrantee, the South Carolina Educational Television Corporation) received money to produce a PBS documentary about National Guard armories across the country; and the New York National Guard [i.e., the New York State Division of Military and Naval Affairs (DMNA) and its sub-subgrantee, the New York SHPO] received money to inventory all and nominate many of its 70+ pre-World War II armories to the state and national registers of historic places via a Multiple Property Documentation Form (MPDF).

Guthrie Armory, Guthrie, Oklahoma, built between 1935 and 1937. Listed in the National Register of Historic Places in 1994.

During the past three years, the nascent partnership established between DMNA and NYSHPO has flourished into a remarkably strong and effective cooperative to preserve, protect and promote New York's architecturally and historically-significant armories. In fiscal year 1994, NYSHPO (with DMNA as its primary partner) applied directly to Legacy for additional funds to expand upon the important, but preliminary, work completed with the fiscal year 1992 grant. SHPO received a substantial, multi-year grant for a four-part project:

27th Separate Company Armory (built c.1892), Malone, NY. Photo c. 1930's courtesy Gladys Chetny, Franklin County Historical Society.

research revealed that not a single armory in New York State was built with WPA money.) The book, scheduled for publication in 1996, hopes to clear up any inaccuracies in either the survey or the subsequent National Register materials, and, of course, to greatly expand upon the skeletal information gathered in 1992. In the meantime, the following narrative, derived from the National Register nomination form, is still believed to be an accurate summary of New York State's historic armories.

New York's State Armories

Built in 1879, the lavish and imposing Seventh Regiment Armory on Park Avenue in New York City marked the emergence of the National Guard armory as a unique American building type and immediately became the standard that inspired armory construction in the United States during the next half century. Built for Manhattan's elite "Silk Stocking" regiment (one of the country's oldest, most distinguished units), the Seventh Regiment Armory was, and still is, internationally

phase 1 (completed in December 1994) called for the nomination of 10 additional armories to the National Register (as addenda to the MPDF prepared with the fiscal year 1992 grant); phase 2 (currently underway) calls for outreach, education and "public relations" events to promote awareness and appreciation of the state's armories (and to encourage their maintenance and restoration according to the Department of the Interior's Standards for Rehabilitation); phase 3 (recently begun) calls for the publication of a coffee-table book about the state's historic armories; and phase 4 (pending) calls for the production of a documentary to be based on the aforementioned book.

It is *not* particularly remarkable that NYSHPO was anxious to jump at the opportunity to conduct an in-depth study of its state armories; after all, most SHPOs are aware of and interested in the broad range of historic military resources in their respective states but on federal land (or under federal jurisdiction)—ranging from small, state-owned, single company armories on crowded urban lots to expansive bases and camps often thousands of acres in extent whose boundaries encompass a wealth of archeological resources and historic buildings/structures. What *is* remarkable, in the case of New York's project, is 1) the whole-hearted support of DMNA, a state agency that, until recently, might not have been characterized as "pro-preservation;" 2) the virtually unprecedented availability of substantial funding through a federal agency; and 3) a surprisingly conducive political climate that enabled a variety of often sparring local, state and federal entities to bury their differences and, instead, to harmoniously cooperate in a win-win project.

At the Department of the Army's National Guard Bureau in Washington, DC, historian Renee Hylton deserves recognition for her efforts to keep a spotlight on the Army National Guard's cultural resources; these state-based facilities are often eclipsed by the far more prominent, powerful and prolific "regular" Army installations. At New York's DMNA, Col. James O'Toole (former Acting Adjutant General) and LtCs William Knox and Maurice Savage (both of DMNA's Environmental Unit) are to be commended for their efforts to keep the project on the agency's front burner at a time when the country's military installations are being directed to increase preparedness while at the same time decrease spending. At NYSHPO, Wint Aldrich [Deputy Commissioner for Historic Preservation, Office of Parks, Recreation and Historic Preservation (OPRHP)] and Ruth Pierpont (Director of OPRHP's Field Services Bureau) deserve recognition for their willingness to take on such a large project when so many other SHPO projects, programs, and services are desperately competing for SHPO staff attention. In an unprecedented move, SHPO elected to complete the project "in-house" rather than subgranting it out to a freelance consultant, thereby allowing for close control of both the quality and timeliness of the project.

17th Separate Company Armory (c.1904), Flushing, Queens. Courtesy NYSDMNA.

renowned for its distinguished interiors by L.C. Tiffany and Stanford White.[2]

Three primary features distinguish the armory as a specific building type. First, in terms of function, the armory serves not only as a military facility but also as a clubhouse for the guardsmen and as a civic monument designed to convey power, pride and patriotism. Second, in terms of form and plan, the armory consists of an administration building with an attached drill shed at ground level. Finally, in terms of design and decoration, the armory reflects the influence of Medieval Gothic military architecture: many armories are fortress-like castles distinguished by soaring towers, crenelated parapets, and machicolated cornices, projecting turrets and bartizans, and massive sally ports with iron portcullises.

Armory construction in New York State between c. 1880 and c. 1940 can be divided into three distinct phases, each with its own specific features and each reflecting a particular trend in military history and/or socio-economic-political conditions of its respective period. The first, most prolific phase occurred between c. 1880 and c. 1900; armories constructed during this phase were among the most "castle-like" in appearance, often characterized by exaggerated asymmetry, soaring towers, crenelated parapets, and massive sally ports. These armories were meant to be literal fortresses, designed to defend respectable, middle- and upper-class Americans from the "dangerous classes," i.e., the unruly throngs of laborers and immigrants (many of whom were professed Socialists and Anarchists) who seemed to indicate that America was on the brink of class warfare. Many of the armories built during this phase, particularly those in Upstate New York, were designed by the renowned State Architect, Isaac G. Perry.

The second phase (c. 1900–c. 1920) of armory construction marked the demise of the castellated style and the increasing popularity of more restrained, even classically flavored interpretations of medieval military architecture. Armories constructed during this phase marked the demise of the fear of class warfare at the domestic level and the emergence of the United States as a global power in an era of imperialism and expansionism

Veterans' Room, designed and decorated by Louis Comfort Tiffany and Stanford White. Seventh Regiment Armory, Park Avenue, New York City. Courtesy NYSHPO National Register files.

Hudson Armory (c.1898), Hudson, NY. 1930s photo courtesy Tom Duclos, Curator, NYSDMNA.

Drill Hall, 69th Regiment Armory (c. 1906); Lexington Avenue, New York City. Courtesy NYSDMNA.

(particularly after the Spanish-American War in 1898). At the local level, this phase also marked the emergence of the armory as a civic center designed for community use. The internationally-renowned Armory Show of 1913, the first and most important exhibit of Modern Art in America, was held in New York City's 69th Regiment Armory, built in 1906.

Armories built during the last phase (c. 1930–c. 1940) continued to emphasize the facility's importance as a community center. Armories were often the only public spaces in their communities suitable for large-scale social and recreational events. Immensely popular boxing matches, trade shows, and even circuses, for example, were often held in armories. Stylistically, armories built during this phase display a remarkably broad range of influences, ranging from simple, classically inspired buildings, to Gothic/Tudor Revival, to Art Deco.

The state militia, having dominated the American military system since the Colonial era, was eclipsed during the 20th century by the increasingly popular and powerful Federal standing Army (and, later, Navy and Air Force). Although still serving in combat (even as recently as Desert Storm), the National Guard today is more widely recognized for its role in maintaining domestic peace and providing relief to victims of natural disasters. Numerous companies and regiments have disbanded during the past few decades; dozens of old armories have been deaccessioned. Of those dozens, many are now owned by local governments; many of those owned by New York City serve as homeless shelters. Many of the privately-owned armories have been adaptively reused as YMCAs, apartment complexes, commercial facilities, and even private homes.

Many more historic armories may soon be deaccessioned by the Division of Military and Naval Affairs (DMNA); those that are (and will remain) in state ownership desperately need appropriate care and restoration. SHPO and DMNA staff hope that the variety of projects funded by the Legacy Management Program will contribute to the preservation of these incomparable resources.

Niagara Falls Armory (c. 1895), Niagara Falls, NY. Courtesy SSG. Fred Gibson, D-152nd Engr Bn (C).

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1 These figures and the subsequent sweeping generalizations about armories in the national context are guesstimates; further research (i.e., comprehensive level surveys of every state's respective armories) is needed to confirm these speculations. The author of this article is solely responsible for any gross misrepresentations, overstatements, and/or understatements.

2 The Seventh Regiment Armory was declared a National Historic Landmark (NHL) in 1986; it is the only armory in America to have achieved that level of distinction, although a second armory, New York's 69th Regiment Armory, is pending NHL designation.

Nancy Todd is a Survey and National Register Program Analyst, New York State Historic Preservation Office, Office of Parks, Recreation and Historic Preservation, Waterford, NY. She carried out all aspects of both grants described in this article. For more information on either the armories themselves or on any of the Legacy projects related to New York's armories, contact Nancy Todd at the New York SHPO at 518-237-8643 x 262.

Pat Davis

Legacy Program Preserves Post's History

Stilwell House, Commanding Officer Quarters designed by Alfred Giles.

Fort Sam Houston is unique even among historic Army posts. What makes it especially unique is the fact that more than 900 of the buildings on post are either on the National Register of Historic Places or qualified for placement on it. That makes the installation a repository of living history that exceeds even colonial Williamsburg in magnitude.

The refurbishing effort currently underway on historic old Infantry Post—part of the installation's Legacy demonstration project—stimulated considerable interest among local and state conservation and historical organizations. The climate of cooperation that developed between the post and these organizations resulted in the adoption of a programmatic agreement involving the post, the Department of the Army, the city of San Antonio, the Texas Historic Commission, the Advisory Council on Historic Preservation, the San Antonio Conservation Society, and the Society for the Preservation of Historic Fort Sam Houston.

Michael Hilger, post historical architect, examines the damage to the interior of the main band building. The 700° heat peeled 13 layers of lead paint from the walls and woodwork. A new seamed roof was added to the structure to protect future interior repairs.

The end result was a demonstration project that has grown into a full-fledged prototype program involving other governmental agencies.

Classes are being taught to senior staff members of government agencies in leadership roles. Artisans are being trained in an apprenticeship program, in conjunction with the National Park Service. The post's historical architect is providing expertise in preservation techniques, ensuring that everything is researched in meticulous detail. Architectural styles and old paint colors are being copied—with the notable exception of the use of lead paint and the tools and materials of yesteryear. Unfortunately, those can only be approximated.

Ross Hunt, a master stonemason with the National Park Service, has even developed a tool to finish the mortar in the style of the 1800s. The most minute detail—such as finding the source of the sand from which the mortar was made—is studied and duplicated. In the areas where modern work and materials are used, Hunt has left definitive indicators where the original construction left off and the reconstruction began. In fact, you could say he has left no stone unturned in ensuring that future generations can differentiate between the original historic edifice and the more modern rehabilitation project.

Architect Michael Hilger follows these same stringent preservation procedures in working with the wood, glass, iron, and paint of the buildings. He demonstrated one technique used in the lath plastering job in the Stilwell house, which incorporates the use of goat hair mixed with the plaster to keep the plaster from cracking and dropping.

Hilger also plans the placement of various rooms in a functional configuration, in preparing for the future tenant's reuse of the completed buildings. His techniques employ both the artistic and the functional in all aspects of the building, as well as maintaining the historical integrity of each undertaking.

In addition, the Directorate of Public Works (DPW), for whom Hilger works, has contracted with the University of Illinois Graduate School of Architecture to develop a study of Fort Sam Houston's historic landscape planning. The study also will include executing a landscape plan that will employ plants in use on military posts of the era. These will be organized into xeriscapes that use native plants that require minimal watering.

Among Hilger's considerations in revitalizing the area is incorporating an old "trick-of-the-trade" in using the prevailing wind in a form of cross-ventilation. It seems post engineers in the early days kept the greensward of a parade field open in

front of the housing area, to allow the unrestricted breeze to cool the quarters and work areas. In the days before electric fans and air conditioners, builders had to use every means at their disposal to make life tenable on the plains of Texas.

Hilger also will preserve the original wide, covered porches; high ceilings; and full length windows in tact. Early designers used these features as additional means of cooling the housing and work area buildings.

The preservation effort at Fort Sam Houston originally began as a Legacy demonstration project, aimed at stabilizing a rare complex of buildings associated with turn-of-the-century martial music. The old Band Building complex, which includes the practice and mess halls, had been vacant and unused since a fire damaged them in 1980. The state of disrepair initially led installation managers to favor demolition of the buildings.

The installation encompasses a main post of 3,000 acres, containing more than 900 buildings qualified for inclusion in the National Register of Historic Places. It also has responsibility for Camp Bullis, a huge subordinate installation where the U.S. Army Medical Department Center and School trains more than 38,000 resident students annually. Base realignments and closures, with the subsequent transfer of functions to Fort Sam Houston, expanded both the military mission and the post population at the exact time the installation was experiencing a concurrent loss of funds. This drain on the coffers caused further problems in providing appropriate maintenance.

The installation found itself critically short of maintenance funds, due to cutbacks and increased mission requirements. The available monies, therefore, were applied to activities and facilities having the most critical need. This resulted in a number of additional buildings that began to deteriorate, requiring a high degree of repair.

Fort Sam Houston has enjoyed an especially close relationship with the city of San Antonio, from the arrival of the first U.S. Army unit in 1845 to the present. The original military fortification was even built on 92 acres of land donated by the city, giving rise to the affectionate nickname by which San Antonio became known, "The mother-in-law of the Army." The pasts of the city and the post are woven together in such a way that they have become indistinguishable, historically.

The installation is a popular tourist site for San Antonio's many convention visitors and tourists. It is now a regular stop for tour buses, with an estimated 1,000 visitors per week. The post's attraction for the general public and its historic significance to the community have combined to make the post an item of prime interest to two non-profit organizations. The San Antonio Conservation Society, and the Society for the Preservation of Historic Fort Sam Houston are raising funds for the preservation of several historic buildings.

In 1990, the Texas Historical Commission recognized the special historical significance of the band building complex. Texas Congressman Henry B. Gonzales became the champion of the project and began to solicit private funding to restore these buildings.

In fiscal year 1992, the installation used $200,000 in Legacy funds to research the historic context of 12 abandoned buildings located on the old Infantry Post, and to provide subsequent archival and architectural drawings of the buildings. The rehabilitation drawings were done in accordance with the Secretary of the Interior standards, and included construction specifications.

During fiscal year 1993, the project received an additional $270,000 to provide training for Army managers and artisans in rehabilitating and stabilizing the band building. The hands-on training began in October 1993 and continued through March 1994. The U.S. Army Construction Engineering Research Laboratories (USACERL) served as the proponent for developing the "hands-on" craftsmanship instruction in the procedures for maintenance and stabilization of historic buildings. The NPS Williamsport Training Center served as the prime contractor, providing historical artisans such as carpenters, masons, and painters for training and stabilizing work.

The Legacy project participants—the Society for the Preservation of Historic Fort Sam Houston, the San Antonio Conservation Society, the Texas Historical Commission, and the city of San Antonio—have formed a viable working group in conjunction with the Department of the Army and the installation in funding and overseeing the historical integrity of the area.

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The reconstructed belvedere, atop the new seamed roof, gives the 1880s vintage Band Building a rakish air and a new lease on life. The band sat in the rooftop belvedere and played military marches, as the troops passed in review on the plains below. The new roof was added first, to preserve the interior which was exposed to the elements following the fire.

Thomas J. Iurino

Revitalizing America's Canals

Towpath Trail, Lock 27, Cuyahoga Valley National Recreation Area, Ohio.

Of the 5,000 miles of transportation canals that were operated during the nation's canal heyday during the early 1800s, today 1,000 miles of these canals' overgrown towpaths have been reclaimed for public use as trails.

This was one of the findings of Towpath-to-Trails, the latest joint-effort of the Park Service's Rivers, Trails and Conservation Assistance program (RTCA) and The Rails-to-Trails Conservancy (RTC). NPS and RTC released this study in October 1995.

RTC and RTCA, which have been promoting rail-trail conversions since the mid-1980s, have turned to canal towpaths as another option for the hundreds of communities across the country who are eager to find ways to develop a local, interconnected system of greenways.

"Greenways are on the 'hot list' of hundreds of state and local governments," observes Rory Robinson, the Park Service lead on the Towpath-to-Trails project. "Restoration of canal towpaths as trails offers communities a great way to build their greenway systems."

While canals have always been a draw for history buffs, Robinson hopes that the study shows the benefit of thinking about canals as recreational resources as well. "Canals tell a story, but unfortunately, that story isn't widely known because sometimes the canal is overlooked," says Robinson. "The more people we draw to canals, the better the chance that they will be preserved and used."

Towpath Trail south of canal, Cuyahoga Valley National Recreation Area. Photos by Rory Robinson.

Where towpath trails have been developed, they have become extremely popular. The 184-mile C&O Canal, a unit of the Park Service, is visited by 4 million people annually. Other popular towpaths include: 200 miles (and counting) of the 520-mile Erie Canal, developed through a joint venture of New York State and hundreds of local governments; the 10-mile Augusta (GA) Canal, operated by the City; and the 66-mile Delaware and Raritan Canal, managed by the State of New Jersey.

RTC and RTCA hope that other communities can learn from these successes. "There are 31 canal towpath-to-trail projects underway today," says Kristine Olka, of the Rails-to-Trails Conservancy, "With the results of this study, we hope to assess what works and what doesn't so we can offer practical assistance to these local groups." To address the most common issues in towpath-to-trail conversions, RTC and RTCA are developing several "how-to" fact sheets.

Both Robinson and Olka presented the study's findings and their plans for future collaboration at Networking the Nation With Trails, RTC's 5th national conference held November 15-18 in Clearwater, Florida.

For copies of the study, contact Rory Robinson at 216-657-2950, or Kristine Olka at 202-797-5407.

Tom Iurino is an outdoor recreation planner in the National Center for Recreation and Conservation, NPS.

CRM Index Available

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Kevin L. Jones

Ecological Approaches to the Stabilization of Civil War Earthworks

The following article is abstracted from Archaeological Site Stabilisation and Reconstruction in the United States *by Kevin Jones. The full report is a significant and comprehensive guide to site stabilization. It presents the results of 1993 field visits to more than 25 separate earthworks locales in nine states to examine sites from the Paleo-Indian period through the Civil War. Study objectives included methods for recording and assessing damage, vegetation management, and physical techniques for protection. Mr. Jones' work was supported through a Winston Churchill Memorial Fellowship. The Fellowship recognized the nationally-important need to preserve and protect earthworks associated with Maori history and culture, as well as the practical significance of international information exchange.*

The protection of archaeological sites and earthworks, such as Civil War fortifications, has lagged behind other fields of historic conservation. For example, buildings are rigorously protected from weathering effects. Conservation treatments take the historic objects out of the natural ecological processes that might otherwise affect them. By contrast, archaeological sites, being part of the soil, are fundamentally affected by ecological processes: soil formation and erosion, weathering, siltation, tree root growth, and burrowing and grazing animals.

Attention is now being devoted to ecologically appropriate ways in which sites can be maintained in their natural setting but in such a way as to ensure conservation. Sites need protection and management of (a) *surface features*, such as the profiles of mounds or ditches, which can be subject to soil erosion, or damaged by stock, so that they continue to be places of interest, where the public can see the evidence of past human activity; and (b) *sub-surface deposits* which are subject to natural or induced deleterious effects. An example of an induced effect is deliberate burial which changes the chemical processes and physical pressures on a site.

It has long been recognised that grasses are the best cover for archaeological sites. However, grasslands are readily invaded by shrubs and eventually trees unless they are grazed, mowed, burnt, or naturally subject to extremes of drought or cold. In the eastern United States, forest or shrubland is the natural vegetation cover and open grassed sites soon succeed to forest. This ecological process occurs on archaeological sites once they are abandoned by human beings. The problem for the modern land manager is to decide what to do with the forest succession on the site: should there be concern about root intrusion into the site's stratigraphy? What about the mitigating effects of forest against rain and soil erosion? Is it warranted to clear the understorey to maintain views? If so, how can the long-term maintenance of the forest cover be ensured?

In the mid-1980s concern grew in the United States National Park Service about the conservative capacity of the existing ground and forest covers on Civil War sites. Of the large areas of battlefield that came to the Union War Department after 1865, only a small proportion was maintained in its original farmed or grassland cover. Small areas were treated as memorial landscape and kept in grass to reflect the setting of key actions known to have taken place on open ground—Gettysburg being the most notable example.

In most areas, however, trees were generally allowed and there was no intervention to manage succession. (In some areas, trees would be historically correct for example, at the Wilderness battle site.) At about 60-80 years of age the initial

Cold Harbor, Richmond National Battlefield Park. Confederate trenches under open oak/hickory forest. The forest floor here has been cleared of shrubs; the soil is acid and infertile; only mosses and thin grass grow with some oak seedlings in foreground. How will the protective forest canopy last in the long term unless such seedlings are selectively allowed to grow? Photo by the author.

colonising pine trees start to lose their vigor and begin to die. These trees eventually fall. They are replaced by hard woods such as oaks and hickories which eventually take over as site cover. After about 100 years well established oak-hickory forest covers the archaeological site.

The Andropogon Reports on Earthwork Management

In 1987-88, the National Park Service Mid-Atlantic Regional Office engaged the services of Andropogon Associates to consider the ecological management of Civil War sites to protect the values espoused in parks' operating philosophies. The main conclusions of the Associates' report, *Earthworks Landscape Management Manual*, were (a) there should be much less use of wide areas of closely mown grasslands; (b) greater use should be made of tall or medium height native grass swards on earthworks, sufficient to protect and at the same time expose the earthworks for view; and (c) attempts should be made to establish a more natural forest ecology on those sites where visibility was sought and forest was left to grow.

A more natural forest ecology regime allowed for visibility of the site, without severe removal of the ground-cover, while allowing some (but not natural densities of) understorey trees and saplings to grow so that they would eventually replace the canopy species in the forest as the latter died. At the same time, grasslands would be restored or re-constructed. In short, a suitable archaeological cover could be devised using insights from savannah restoration now widely practised in the United States. (The analogy cannot be taken too far, however, because southern soils are often leached and of poor fertility, particularly those thrown up from the subsoil into defensive banks. Mid-Western savannah forms very rich soils.)

Successful establishment of little bluestem on Battery 5, Petersburg National Battlefield Park. The invasive shrubs (e.g., sweet gum at left) may be removed by burning or hand-weeding. The age of establishment is approximately 2 years and the grass now offers good protection. The figure is John Davis, park interpreter. Photo by the author.

The establishment of native grassland on earthworks is being undertaken on a relatively small scale at both Richmond and Petersburg National Battlefields, Virginia, following the recommendations of Andropogon Associates.

Two Battlefield Case Studies in Virginia

The Virginia battlefield parks were the main focus of the Andropogon Associates study and report. The **Richmond National Battlefield Park** commemorates Union campaigns against the Confederate forces under McClellan in 1862 and again under Grant in 1864. The battlefields of both Richmond and Petersburg (discussed below) are characterised by very extensive lines of trenches and forts, on a perimeter some 5-20 km from the city centres.

Cold Harbor was the scene of fighting in 1862 and 1864 over an 11 km-long front with only 150 acres today reserved in the park. The lines of the Confederate and Union armies in 1864 consist of more or less parallel lines of trench and breastwork, three and four ranks deep, taking advantage of low ridgelines. Toward the northern part of the unit, where the opposing lines are close together (and many thousands of Union soldiers were killed or injured), the surface has had all shrubs removed to reveal the form of the trenches. Soils are clayey and are of poor fertility. The near-ground plant cover is particularly thin, consisting of a few strands of grass and mosses, caused by the lack of light and fertility and high soil acidity. Happily, visitors follow the road and generally respect the signage asking them to stay off the earthworks.

In the adjacent area of the no-man's land between the lines, there had been an attempt, earlier this century, to open up the battlefield and to grass it with the object of presenting an historical vista. Today the forest cover here is almost entirely 50 to 60 year old pine (probably loblolly, *Pinus taeda*), with small, sparse seedlings of oak, hickory, and sassafras. The natural forest succession through pine to oak/hickory has been arrested when the grassland failed, and the pines were allowed to grow to full size by an earlier park management. The understorey has continued to be removed up to the present day with the result that there is no provision for eventual replacement of the pines which will become senescent in the next few decades. Their removal will be costly but could not have been avoided in any event unless a decision were made to allow a natural forest succession.

This pattern of open area under widely spaced pine surrounded by a natural succession of oak/hickory forest with an understorey is very distinct. A new interpretative track follows the lines through this oak-hickory forest, and may offer the chance to retire the northern, open, part to a more natural succession.

The park's historical land management has therefore set difficult ecological parameters with which to work, but overall the battlefield presentation is effective. It offers a clear sense of the murderous proximity of the opposing lines, and an effective treatment (for interpretation) of the trenches with drifts of Fall leaves piled against the banks.

*Fort Fisher, Petersburg. A young oak-hickory-holly forest cover on the earthworks. There are plentiful seedlings re-generating on the banks and a loblolly pine (*Pinus taeda*, a clue to the young forest age) at right. A high winter water table in the ditch (centre) kills off any plant growth. Photo by the author.*

Elsewhere, Fort Harrison is at the centre of a long (approximately 8 km) linear easement which protects Union and Confederate lines running north from Fort Brady on the James River. Parts of the fort and some of the adjacent linear earthworks have been grassed in little bluestem (*Andropogon scoparius*), a shorter prairie-grass species endemic to regions from the Appalachians to the eastern seaboard. The standing forest in the park unit is pines with an oak-hickory forest succession fairly well advanced. About 200 m of the earthworks near the picnic site, one kilometre from Fort Harrison, were planted with *A. scoparius* plugs (nursery grown planter-pots of the species) about 3 years ago. The technique was to kill pre-existing vegetation with a herbicide, to clear any shading forest within approximately 10 m of the earthwork, and to plant in the plugs in autumn at a density of greater than 1 at l' centres (i.e., a density of about 6 plugs/m^2). The grass growth has been hand-weeded, but not in the last year. The weeds requiring special attention were honeysuckle, blackberry, and broadleaf weeds generally.

Fort Harrison itself has been treated in a similar fashion in some parts. The earlier treatments (1989-1990?) covered larger traverse earthworks in the centre of the fortification. The traverses have not been weeded since establishment, because they are isolated in the grassed centre of the fort and it is anticipated that they can be fired as a unit to clear the shrubland which is rapidly establishing. At the time of visit, this shrubland consisted of 1-2 m-high saplings of pine, oak, hickory, and sweet gum; among the short-lived weeds were goldenrod (*Solidago* sp.), pokeweed (*Phytolacca* sp.), and daisy fleabane (*Erigeron* sp.); and the vines include the native grapevine (*Vitis* sp.), blackberry and raspberry (*Rubus* sp.). Little bluestem (*A. scoparius*) was present in low densities throughout and had thrived on the southern aspects. In some places, the traverses appear to have originally been in exotic grasses which were not cleared, and here the *Andropogon* was not present.

In the summer of 1992-1993, an attempt was made to cover further areas of the perimeter earthworks of Fort Harrison. Here the herbicide Roundup was applied to an existing shrub cover, and the cover cleared from the ground surface. To protect the exposed soil, straw mulch was applied. Plugs of *A. scoparius* were planted at 30 cm intervals over some 50 m length of the earthworks (estimated to be 12 m wide, an area of about 600 m^2). Unfortunately, the exercise was undertaken in the notoriously dry, hot summer of 1993, due to the availability then of student conservation corps labor. At the time of my visit (late October 1993), most of the plugs had failed, except for a few still alive at the base of breastworks. A contributing factor to the apparent failure of this particular plot may have been the retention of some shade trees in the vicinity of the earthworks. The park also has no capacity to irrigate the newly-established grass.

The **Petersburg National Battlefield Park** commemorates the Union siege of 1864-1865, which followed the Union debacle at Cold Harbor where Ulysses S. Grant realised that he could not take Richmond directly.

Battery 5, a simple breastwork enclosure with embrasures (earthwork enclosures for gun emplacements), is close by the park visitor center and maintenance complex. It has been cleared of tree cover many times in the past, with the result that it has stood in a pine (probably loblolly, *Pinus taeda*) successional stage for much of the time. There had also been repeated attempts to lime the acid soils under the pine trees and to establish fescue K31. This had failed due to drought, acidity and shade; the effect here was probably not dissimilar to that described previously for the open parts of Cold Harbor in the Richmond National Battlefield. The main grass which established here was crab grass (*Digitaria sanguinalis*). There was extensive wear from visitor usage.

The recommended prescription from Andropogon Associates had been: (a) repair of eroded areas (by applying topsoil), (b) mulching and oversowing with fescue K31, a clover, and *A. scoparius*. I was advised that fescue K31 only had been sown, and not the native grasses, the latter being a quick adventive in all old fields in Virginia. However, I believe that the *A. scoparius* must have been sown or plugged to achieve the density that I saw. Although attempts have been made to correct fertility and acidity problems, *A. scoparius* has invaded naturally on the failure of the fescue and has competed successfully with the annuals. Vines (principally honeysuckle and blackberry), tree saplings (pine, probably *P. taeda*, oak, sweet gum *Liquidambar styraciflua*, wild cherry *Prunus* sp.) and sedges are establishing on the slopes of the

earthworks. The crab grass is still dominant in the central, flat, closely-mown part of the fortification.

The pattern of *A. scoparius* establishing naturally on an earthwork was evident at The Crater, one of the most famous sites of the Civil War. Fescue thrives on the cool, north-facing interior slopes and at the bottom. *Andropogon scoparius* forms a fairly even sward composed of small clumps on the south-facing slopes, and on low ridges on the north face. Here, it is naturally established. This seems to represent a natural microclimatic and edaphic (soil) preference of the plant, while it has difficulty competing with the fescue under well-watered and cooler conditions.

What is the Best System of Stabilisation?

This question has no simple answer. Demonstrated successes on the eastern Civil War battlefield parks, converting unsatisfactory brush- and/or vine-weed covers to indigenous grasses, have been relatively small in scale, compared with overall park management requirements. They have required detailed prioritisation, forest clearance, close management and manipulation of soil acidity and fertility, herbicide applications, rehabilitation of profiles at topsoil level, and irrigation of newly established grasses. The cost-effectiveness of this procedure, compared with simply allowing conventional grass covers to grow longer with less fertiliser application, is still under review. The higher cost of initial establishment of native grass covers (neglecting potential damage to earthwork fabric) is established. However, it will be some years before the on-going costs of native grassland cover can be compared with conventional management.

In some places, unwarranted management practices, involving ground clearance over historic earthwork fabric and single- or few-species replacement programmes, were failing because of maladaptation of those species to annual seasonal variation in conditions. These ground covers surely fail completely in the longer term. Some park managers fail to recognise that naturally established, sometimes "weed" species (both natural and introduced), can usually provide a good conservative ground cover. Such natural ground covers (based on locally occurring natural ecological processes) need to be manipulated but cannot be prevented from developing of their own accord without great cost and, worse, great threat to historic fabric.

Confederate Fort Gregg, Petersburg. Site of a recent conversion from pine oak-hickory forest to grassland. The site on clearance was top-dressed with topsoil and planted in the annual grass, winter rye (now dead). Later, the site was planted in perennial fescue varieties which will come through the adventive summer annual crab grass (prominent here). Little bluestem will come in as an adventive and compete well with the fescue on south-facing banks. Photo by the author.

Fire can be used in the maintenance of native grasslands in the face of forest invasion. However, unless local fire authorities allow the practice as a routine in local agricultural management, it will have little place in historical parks. This is especially so in the urban or near-urban settings of the eastern seaboard. The pattern of park forest and grassland cover (and other facilities such as roads and buildings placement) will need to be carefully designed for fire. In addition, the cost of meeting park regulations concerning fire management is probably too great for the small park units devoted to national battlefield management.

There is no consensus on the desirability of allowing forest cover to develop on archaeological sites. On much-visited sites, tree clearance is carried out and grass established, but in many more cases understorey only is removed, or the forest and its understorey is left. In the east and southeast, a pine and subsequent oak-hickory succession is accepted on parts of extensive sites, except where close management is sought. In some parks, trees will not be replaced as they senesce (age). No solution has been found to the control of adventive vine weed-species, some of which had been introduced as a ground cover in previous attempts at establishing a conservative ground cover. In some parks, less noxious vine ground covers such as periwinkle are still encouraged where clearance of understorey species has been carried out.

Removal of understorey species over quite large areas is practised in most parks. Although this is the simple solution to maintaining visibility of site features, its effects on regeneration prospects for forest (where desired) are not always being recognised. The successful examples show that a form of slightly artificial savannah (mixed grassland and groves of regenerating forest, originally maintained by fire and buffalo grazing) can offer site protection and the visitor attraction of reconstructed prairie or native grasslands.

Trees are a mixed blessing in protecting against erosion: (a) trees are very heavy and, where sited at the head of a slopes, their developing weight poses the risk of slope failure; (b) when the trees die they leave cavities which can conduct water down into the sediments beneath, again a problem on slopes; (c) there is a risk of tree throw, particularly under severe windstorm conditions, or for certain genera such as *Robinia* (for example, black locust, an early successional component); (d) trees do not protect as much as believed from the splash of raindrops falling on the ground. In addition, there is always a time when the trees have to be felled, either because of old age or failure to

thrive or for harvest, and this process is particularly catastrophic from the point of view of erosion protection.

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Copies of Mr. Jones' full report are available for $26 from the Science and Research Division, Department of Conservation, P.O. Box 10-420, Wellington, New Zealand.

Candace Clifford

Cooperative Partnership Preserves Lighthouses

A partnership of three federal agencies and a non-profit society is working to preserve American lighthouses. The National Park Service (NPS), U.S. Coast Guard (USCG), Department of Defense (DoD), and U.S. Lighthouse Society (USLHS) have joined forces on a multi-faceted project to initiate a comprehensive historic preservation program for the U.S. Coast Guard. This project includes a survey, a training course, condition assessments, and a handbook.

Survey

The Coast Guard is responsible for buildings, sites, structures, and objects, including artifacts, documents, archeological sites, and properties of traditional cultural and religious significance to Native American communities. The survey will address all these property types, assess the current level of preservation planning for these resources, and recommend actions to improve Coast Guard historic and cultural resources management practices.

Cove Point Light Station, near Lusby, MD. Tower constructed 1828. Photo by Candace Clifford.

Training Course

Up-to-date training on a regular basis is an essential element in federal agency preservation program planning. The Advisory Council on Historic Preservation has developed and taught a two-day training course especially tailored for U.S. Coast Guard personnel. The course emphasizes situations and property types typically encountered by the U.S. Coast Guard.

Condition Assessments

A survey team of historical architects and a maritime historian have visited 21 former light stations in nine states, encompassing five different construction types. For each site, the team assessed physical condition and historical significance, and prepared a report which describes the historic features, identifies and prioritizes preservation treatments to be implemented as funds became available, and provides a historical overview and significance evaluation for the former station.

Handbook

When completed, the *Historic Lighthouse Preservation Handbook* will be made available to every lighthouse manager in the country. It will focus on the maintenance problems associated with the many different materials and construction techniques used in former light stations. In addition, the *Handbook* will recommend strategies for the evaluation and documentation of former light stations, as well as include a history of lighthouse construction types; existing historic preservation laws, standards, and guidelines; and sources for more information relating to lighthouses. A section on conservation of classical lenses is also planned.

The Partners

The U.S. Coast Guard Historic Resources Preservation Planning Project is coordinated by the NPS National Maritime Initiative. Other partners include the Advisory Council on Historic Preservation; the Navy's Legacy Cultural Resource Management Program; the NPS's Division of Conservation, Interagency Resources Division, Preservation Assistance Division, and Williamsport Preservation Training Center; and the non-profit U.S. Lighthouse Society.

Klaus A. Schnitzer

Objects Out of Context

Photo by the author.

The Fine Arts Department of Montclair State University in New Jersey began its relationship with the National Park Service in 1982. A field trip of my Advanced Photography class to the former immigration station at Ellis Island led to a series of documentary/interpretive workshops which culminated in a major exhibition and accompanying book. This event coincided with the reopening of the Ellis Island Immigration Museum in 1990.

One of my graduate students in the first Ellis workshop, Brian Feeney, was able to secure a staff appointment as the staff photographer at Ellis Island. He consequently became our liaison and collaborator in the Ellis project. His transfer to the Gateway National Recreation Area brought about the opportunity to begin a new collaborative project of photographing the abandoned military structures at Fort Hancock on the Sandy Hook Peninsula which is part of Gateway.

While an immigration station and a coastal defense fort may appear to have little in common, they offer two things that have been essential to the success of these projects: access to significant historic structures and an extensive collection of artifacts from these sites. Although formal documentary photography has always been part of the process, students, faculty from MSU, and visiting artists could concentrate most of their efforts on producing the type of interpretive work that reflects their fine arts background.

In my many years at Ellis Island I became fascinated with items that would be collected, stored, indexed, computerized, and eventually exhibited. We normally think of museum holdings to have artifacts that are rare, display a high level of artistry, and have cultural significance. At Ellis Island the museum collection would include rusted buckets, old mops, broken institutional dishes from the 1930s, encrusted typewriters, and everything else that could be unearthed from these 27 acres of abandoned buildings. The artifacts that fascinated me most were utilitarian, which if found any other place would have been consigned to the junk pile. I started a series of photographs with a printmaker colleague of mine, Robert Sennhauser, that would document the museum artifacts in 8 x 10 Polaroid black & white on a solemn black background. A color 8 x 10 Polaroid showing the same item in a contemporary setting on how it could be used today became a companion piece (underwritten by a Polaroid artist's support grant). Combining the two images into a single frame for presentation we hoped to relay the sense of contradiction that was created when these simple pieces of "junk" were elevated to the status of a museum object. This was the beginning of our "Artifact Reuse Series." (A similar project was done for the Lower East Side Tenement Museum in Manhattan.)

Continuing with a similar theme, the items from the Sandy Hook collection that captured my attention were the pieces of unexploded ordinance found at this site. They range from traditional round cannon balls to 1,000 pound bottle-nosed shells. These objects of potential destruction were photographed like precious sculpture— out of context. Taken out of context a cannon ball, like the one that appears in the accompanying photograph, has been mistaken for a microorganism, a piece of modern sculpture, or most commonly, the Earth's moon. The viewer is given contradictory inputs— the visual versus the potential.

I thank the NPS and especially Felice Ciccione, the patient museum curator at Gateway National Recreation Area, and Brian Feeney for making these projects a reality.

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Ray Morris

The Ancient Tabby Ruins of Fort Frederica National Monument

Palm trees, live oaks, and Spanish moss today shade the 260-year-old tabby foundations and ruins at Fort Frederica National Monument on St. Simons Island, Georgia. This site marked the southernmost permanent British town of Frederica and opposed the Spanish claim to the land from their citadel at St. Augustine, 120 miles to the south.

Frederica's place in history was that it served as a home for Georgia's regiment, the 42nd Regiment of Foot under the command of the Colony's founder James Edward Oglethorpe. From this strategic vantage Oglethorpe launched an unsuccessful siege of St. Augustine in 1740 and two years later repelled a Spanish armada and invasion force of over 2,000 soldiers and sailors. At Gully Hole Creek, a Spanish reconnoitering party reached within one mile of Frederica. Oglethorpe personally led this attack on horseback capturing one sergeant by his own hand and sending the Spanish troops fleeing. Later that day Scottish Highlanders aided by men from the 42nd Regiment repelled some of Spain's best soldiers, grenadiers from Havana at Bloody Marsh.

With the withdrawal and retreat of the Spanish force to St. Augustine the border question was settled, and with peace the town of around 1,000 people lost its military importance. The disbanding of the regiment in 1749 saw most of the townspeople leave with the soldiers. What was finally left of the town died with a great mysterious fire that burned many of the buildings to the ground in 1758. Frederica then became a ghost town with few buildings and activity on the ground until it was made a national monument in 1936 by an Act of Congress. This legislation set the town of Frederica aside for the great historical interest of the colonial period and specifically for its role as an important center of southern life in the early history of Georgia and its founder James Edward Oglethorpe. This site was also established to commemorate the repulse of the Spanish force sent to crush the settlement and colony in 1742. But Frederica's roots were set with tabby.

No one knows who was the first to blend equal parts of oyster shells, sand, lime, and water to make this crude 18th century form of concrete. Tabby was Frederica's answer to crude log and palmetto thatched huts that dotted the 35-acre hexagonal-shaped town site. A foundation study by the U.S. Army Corps of Engineers on Frederica's tabby found the use of beach sand, fine shell fragments, and calcium carbonate as the primary cementing mixture, with calcium oxide also detected. One theory regarding the derivation of the word Tabby was that it comes from the Spanish tapia, meaning a mud wall, or wall made with forms. Form boards were used in wall construction of many of the town walls of Frederica. These forms were held apart by wooden pins, set about one inch from the lower edge of the boards. These pins resembled an oversized nail. The head of the pin held the outside board fast, while a wooden peg was driven through the point of the pin holding the inner board. Small slats, or pieces of wood, dovetailed into the top of the boars, steadied the form. The hardening of the tabby mixture depended upon humidity, temperature, and consistency of the mixture, varying the time required before form removal variable. One source mentioned four hours as an average setup time for the colonial masonry mix. Then the forms were moved to another location or served to build the walls higher in size.

Hawkins-Davison House, courtesy Fort Frederica National Monument.

Francis Moore House, courtesy Fort Frederica National Monument.

Frederica was not simply a rude garrison town, it was a community of craftsmen, artisans, merchants, and professionals who were hand-picked in England to inhabit the colony. Frederica became an ideal test ground for hypotheses and concepts concerning the American colonial experience and the archeological processes that can reveal details of the past. Frederica is well suited to determine the nature of military-civilian interaction within the frontier town as well as pointing out the variety of socio-economic affiliations of the towns inhabitants.

Frederica's 84 lots contained many tabby houses and outbuildings as well as a history of historical archeology. During the past 52 years, over 45 archeological excavations have occurred at Fort Frederica National Monument. The late Charles H. Fairbanks of the University of Florida conducted the first excavations and mapped out the town. Frederica is an excellent scientific study due to a variety of reasons. It was important to the early colonial history in the southeast and it was a unique isolated site with little post colonial occupation. Most importantly, Frederica contained a cross section of cultural and economic structure of the early American colonies.

Today, Fort Frederica is a 238- acre preserve made up of an 8-acre tract commemorating the Bloody Marsh battle site and 230 acres of the town of Frederica, fort ruins, adjacent buffers, and marshlands across the Frederica River. Only two principal above-ground ruins, segments of the fort and the barracks tower, remain today to remind visitors of the early time of the town. The public interpretation program begins in the park visitor center where a movie, touch computers, exhibits and displays of archeological artifacts help establish life at Frederica in the 18th century. Tabby ruins, including the fort, town ruins, and foundations are the most appealing aspect of the site to visitors today. None of the town was reconstructed

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Lauren B. Sickels Taves

Southern Coastal Lime Burning

General James Oglethorpe (1696-1785) was a soldier and a scholar with a determination to make his colony of Georgia work. Other colonies were founded on religious persecution or for the benefit of reaping the natural riches of the land, but the initial colonists sailing to Georgia were *selected.* Over 600 men were interviewed in England, but only 35 families were finally chosen.

In 1733, housing was initially comprised of wood or in the more rural settings, such as Fort Frederica on St. Simons Island, palm-thatched shelters. Some housing was quickly replaced by "substantial dwellings of brick or tabby; for among the settlers were bricklayers and masons."[1]

The first bricks were sent over as ballast in ships, but by 1734, industrious Salzburgers had begun making bricks. John West of Savannah began his brick operation in 1736 and within the first eight months of 1738 had made more than two hundred thousand. Samuel Holmes, a bricklayer and mason, arrived in 1737 and before one year had passed had already produced more than one hundred thousand.[2]

Despite the labors of these men, bricks were just not being made in the quantities needed according to colonist Henry Myers in May 1741. "As the bricks were dear and much labor for young beginners, we have fallen upon a much cheaper and better way of making houses, of a mixture of lime and oyster shells (of which we have vast quantities) framed in boxes, which soon dries and makes a beautiful, strong and lasting wall."[3] Mr. Myers was writing of the fore-mentioned Southern coastal building material, 'tabby,' found between roughly Charleston, South Carolina and St. Augustine, Florida and popular from the 16th through 19th centuries.

Lime Sources

Be it brick or tabby, a necessary ingredient in the building process was lime. The procurement of lime for the early building of the Southern colonies appears to be one of the easier tasks for the settlers. The islands along the coast of South Carolina, Georgia, and Florida were originally occupied by Native Americans, who dined on the

so visitors have the opportunity to use their imagination aided by outdoor exhibits containing reproductions of artifacts actually found at the site.

Archeological education program at Fort Frederica. Photo courtesy Fort Frederica National Monument.

A major educational initiative is taking place at Fort Frederica with the local school district and supported by a major grants from the Fort Frederica Association and National Park Foundation. Children in 4th and 5th grades are learning about archeology through a multi-disciplinary program. After learning about the theory of archeology through 15 background lessons, students perform an actual on-site supervised field dig at Fort Frederica on a 30-year-old site of reburied artifacts. The children and teachers then return the artifacts to a full-scale archeological laboratory that was established in the nearby Oglethorpe Point Elementary School. There they clean, classify, weigh, and measure the artifacts as well as write a report on their findings and perform curatorial maintenance on selected pieces. Several identified artifacts are selected, displayed, and interpreted in exhibit cases inside the school. The program will soon be available throughout the state and possibly around the country with the installation of a Georgia Statewide Academic and Medical Systems (GSAMS) interactive long distance learning center that will be permanently based at the school.

Frederica's tabby ruins stand today as a silent sentinel to the early period of America's colonial past. This primitive concrete mixture stands to remind visitors and park neighbors of the resourcefulness and adaptation that our original settlers devised to exist and thrive during the early days of the Southeastern Coast.

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plentiful clams and oysters abounding the shores. Typical of their habits, they concentrated their refuse in piles rather than scattering them.

These Indian middens were found by the English and Spanish. Historical references cite their size to be as large as several acres.[4]

The use of shells in making lime was nothing new to the white man, particularly the English. Historical references such as Pliny and Vitruvius were available to cite.[5] On a more contemporary scale, architectural patternbooks and trade treatises had become the rage in Britain over the last century, with more being published each year. One work, *Mechanick Exercises*, by Joseph Moxon, published in 1703, expounded on the trades of smithing, joinery, carpentry, turning, and bricklaying. In his discussion on lime, he states: "But the shells of Fish, as of Cockles, Oysters, & c. are good to burn for Lime."[6]

Oglethorpe, being a scholar, was undoubtedly aware of these works, and apprenticed masons and bricklayers learned of these sources through handed-down knowledge as well. The Indian middens, therefore, must have been a pleasant sight as they readily solved the problem of lime. No search and digging needed to be undertaken to find a proper clay or stone. The task at hand merely became how to convert these shells into lime.

Lime Kilns or Casts

Again, current knowledge had its precedent in earlier published books or handed-down knowledge. The Spanish missions in Georgia had already been making lime by building "casts, built of wood, probably cedar" when Oglethorpe arrived.[7] For centuries these casts have been known as "intermittent kilns with mixed feed" where a layering effect of limestone or shell have been alternated with a fuel such as coal or wood. The two materials or "feed" form the kiln and burn together, basically leaving nothing but lime and ash. Early authors such as Pliny and Vitruvius expounded on the employment of "ash" in the setting of mortars; English colonists therefore would not care that wood ash mixed with shell lime during the firing process. "Intermittent" referred to the fact that each burn of a charge (e.g. oystershells) constituted a separate operation. The charge of shells were burned based on the demand of the neighborhood.

Primitive kilns were constructed of stone and located against the side of a hill for easy access to the top and bottom. One early kiln, excavated at

Jamestown, was a crude, funnel-like structure "dug into banks at the river edge (where it was handy to unload the shell)."[8] This form had also been found in St. Augustine, suggesting the use of simple mounds for lime-burning along the coast between Jamestown and St. Augustine.

However, along the Georgia coast, stones and therefore kilns of a more permanent nature were rare. Philip von Reck wrote in 1736: "At the present time all houses here are made of wood, because no stones are found in Georgia, until time is found to bake bricks."[9]

Modifications had to be made and adapted to fit life in the New World. Oglethorpe copied the Spanish and constructed a lime kiln on St. Simons "south of the German Village and about four miles from Frederica." This early lime kiln was made by "piling wood and oyster shell, layer on layer, into a great mound."[10] By November 1736, limeburnings were producing "2 or 300 bushels [of lime] at a time, " and most of it was used for house construction in the town.[11]

The popularity of the "cast" kiln made of wood and shell layers seemed to remain in Georgia for, in 1830, Thomas Spalding suggested that such a kiln was still in use. "Two days in the week [are] employed in collecting shells and building lime kilns."[12] Permanent kilns took longer to construct than two days. The "cast" kiln could be done in two days as was done at Wormsloe State Historic Site in Savannah and at Fort Frederica National Monument on St. Simons Island, Georgia.

Re-creation

These early "cast" kilns were also called "ricks" and continue to be historically re-created today, thereby keeping alive a technique rapidly becoming a "lost art."[13] For the purposes of obtaining historic lime for an independent research project on tabby, a rick was constructed based on old techniques.

Initially a pit is dug, measuring about 4' square and 3' deep. It is filled with pine knots, heart pine, and other small sources of kindling. This step is very important as the fire must reach extremely high temperatures of around 2000°F for the oystershells (calcium carbonate or $CaCO_3$) to decompose into a suitable lime. The pit is then edged with a frame of oak or pine tree trunks, each approximately 10" diameter by 8' long. Two trunks rest on the ground perpendicular to the pit; two more trunks of 6" diameter rest perpendicularly, in a notch, atop these, forming the frame. Between the latter trunks, smaller logs of similar length, but only 3-4" diameter, are laid. Any cracks between the logs open to the pit below are chinked with pine knots or kindling. A second round of 6" diameter logs is built, forming a total of four layers. (Four layers equal one tier.) The logs should be completely covered with a layer of oystershells. These layers of logs and shell form the first section or tier. Subsequent layers of logs, of approximately 8' long x 6" diameter, are placed perpendicular to the layer below,, and oystershells are then piled atop this until the desired height is achieved. To prevent the popping and flying of oystershells, a final layer of kindling or branches may be placed over the upper layer of shell.

The rick was constructed of two tiers with each subsequent tier being slightly smaller than the last. The logic behind this is that as it burns, the rick will collapse in upon itself rather than fall outward and potentially diminish the heat of the fire.

The intense fire produces glowing, white-hot shells, a visual assurance that the 2000°F temperature was reached. Ultimately, the heat will turn them into a white powder called quicklime (Ca0). If combined with the ash in the pit, one obtains the grey color found in tabby.

The rick will maintain a steady fire for about five hours, during which time a 'watch' should be kept. After the burn, the pit will be filled with oystershells, giving the appearance that nothing happened. Within several days, however, the shells will mysteriously begin to break down and turn to a white, talcum-like powder.

The rick was left alone for approximately one week to cool and air slake, producing hydrated lime ($Ca(OH)_2$). This method of slaking is time-honored and seems to work along the Southern coast where humidity is high. Over the last 100 years, textbooks have advocated for the use of slaking lime by covering with water and letting it sit for three weeks. Today, however, hydrated lime is available in bags where the manufacturer has perfected the slaking in a factory setting. After one week, the lime is then removed from the pit, sieved, and stored in air-tight containers prior to use. It will keep indefinitely in a dry place. If rain is forecast during this week, a tent can be erected

The two-tiered rick is complete and stands ready to be torched. Note that each subsequent layer is slightly smaller than the last. The author is shown in period costume. Photo by Ed Matthews.

The rick is torched. Photo by Ed Matthews.

over the pit of lime. During Oglethorpe's and Spalding's eras, work was covered from the elements with palmetto leaves. Do not cover the pit itself. This traps the heat in and the air and moisture out, thereby altering the chemical process of breaking the shell down into a powder.[14]

The rick described above, containing approximately 25 bushels of shell, yields about 10 bushels of quicklime.

Conclusions

Although St. Simons had kilns for both brick and lime, the vast quantities of oystershells and the fact that Oglethorpe's favorite masonry material was tabby placed a crimp on the brickmaking business until the first demise of tabby by the end of the Revolutionary War and the Savannah fire of 1796 promoted the fireproof qualities of brick.

The procurement of lime was definitely a necessary part of the early building of the Southern colonies. To what extent it would play was not imaginable until Oglethorpe and his men settled the islands of Georgia and found the extensive Indian middens. Several of Oglethorpe's men spread the use of tabby by constructing houses of it, thereby using vast quantities of oystershells for the lime and aggregate.[15] Two of these houses still remain, though in ruins, a tribute to the tabby process.

References

1 Burnette VanStory, *Georgia's Land of the Golden Isles* (Athens, GA., 1981), p. 130. Tabby is an early coastal cement mix of equal volumes of lime, sand, oystershell, and water. A research project is currently underway on tabby and its restoration.

2 Mills Lane, *Architecture of the Old South: Georgia* (Savannah, 1986), p. 19; Allen D. Candler, ed., *Colonial Records*, XXII (Atlanta, 1913), p. 221.

3 *London Magazine*, XIV (1745), p. 395.

4 Georgia Historical Society, Margaret Davis Cate MSS, 997, folder 175, Box 9. Hereafter known as Cate 997/175/9.

5 Vitruvius [Marcus Vitruvius Pollio], *The Ten Books of Architecture*, trans. Morris H. Morgan (New York, 1960); Kenneth C. Bailey, *The Elder Pliny's Chapters on Chemical Subjects* (London, 1932).

6 Joseph Moxon, *Mechanick Exercises*, 1703 (reprint, Scarsdale, N.Y., 1979), p. 241.

7 John T. Lanning, *The Spanish Missions of Georgia* (Chapel Hill, 1935), p. 3. This work stated that many of the tabby ruins in Georgia were Spanish missions. *Georgia's Disputed Ruins* edited by E. Merton Coulter (Chapel Hill, 1937) disputed this and firmly established the mission buildings as sugar works of a later period.

8 A.C. Manucy to M.D. Cate, June 29, 1953, Cate 997/175/9.

9 Kristian Hvidt, ed., *Von Reck's Voyage* (Savannah, 1990), p. 34.

10 Cate 997/175/9. Curtis Childs, retired Ft. Frederica employee, stated that this site was located two miles from the fort and that the shells were usually burned near the Indian midden as powdered lime was easier to transport than moving the shells to the fort for burning. Childs also noted that between c. 1738 and c. 1746 lime burnings were quite frequent. Interview with Curtis Childs, St. Simons, Georgia, October 2, 1993.

11 Robert G. McPherson, *The Journal of The Earl of Egmont* (Athens, 1962), p. 210. In St. Augustine, 7,000 bushels of lime were created from oystershells in a mere six-month period—from August 1671 to the following Spring. Arana, *Castillo de LSan Marcos*, p. 18.

12 Thomas Spalding, "On the mode of Constructing Tabby Buildings," *The Southern Agriculturist*, December 1830, p. 619.

13 Fort Frederica National Monument has an annual lime-burn in March. The author was a member of the team constructing the 1993 rick at Wormsloe State Historic Site and the 1994 rick at Fort Frederica.

14 If rain is forecast before the lime is retrieved, Childs says his pit is *not* covered at all, but upon removal any wet lumps from subsequent rains are removed by sieving.

15 The middens served a two-fold purpose: they provided the well-washed aggregate in tabby and some mortars, and as discussed, they were used to produce the ingredient, lime. Some early plantations such as Dungeness on Cumberland Island, Ga. were as high as three stories. One can thus image the size of the ricks these early builders made to yield the lime to construct such massive dwellings. The Noble Jones house ruins are now within Wormsloe State Historic Site.

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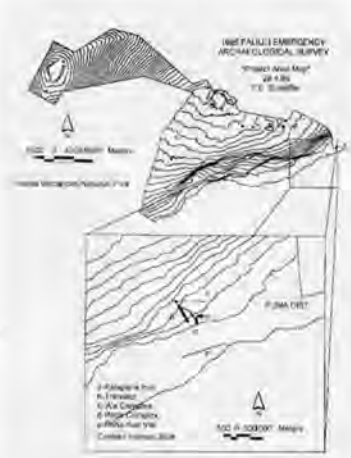
Jamie M. Donahoe

Emergency Resource Recordation

GPS May Be Your Best Bet



Hawaii Volcanoes National Park; 1995 Paliuli Emergency Archeological Survey. Project Area Map by T.E. Scheffler.

The National Park Service has been using GPS (Global Positioning System) in resource mapping applications for several years. The List of Classified Structures (LCS) teams, working since 1992, have generated locational data for most of the structures included on that list. Natural resource programs have used GPS for a number of purposes, including monitoring research plots. Recently, however, the Pacific West Field Area has found that GPS can be a significant tool for emergency resource recordation.

GPS is a method of generating fast, accurate locational data by using radio signals from satellites to triangulate a position anywhere on earth. Very simply, a GPS receiver calculates a 3D position using the time it takes for radio signals to travel from four or more satellites orbiting the earth to the receiver. The full constellation of 24 satellites is now in operation, giving full-time, world-wide coverage. Depending on the GPS equipment, it is possible to get sub-meter accuracy within a second. Some models of GPS receivers, such as Trimble's Pathfinder Pro XL used in many parks, have a data dictionary feature which enables collection of attribute information as well as the location of a given resource. GPS is particularly well suited for work in areas where there are no standard positioning aids such as benchmarks or permanent natural landmarks, as in the two examples described here.

GPS was used to expedite data collection necessitated by the Vision Fire at Point Reyes National Seashore in California, and by impending lava flows in Hawaii Volcanoes National Park. In the case of Hawaii Volcanoes, information was going to be irretrievably lost as archeological sites by the hundreds are inundated by lava flows from the Pu'u 'O'o eruption which began in January 1983. At Point Reyes, information needed to be collected so damage assessments could be made and lists of affected resources compiled.

The October 1995 Vision Fire at Point Reyes National Seashore began when an illegal campfire flared up under the high wind and low humidity—perfect firestorm conditions. The fire, which ultimately burned more than 12,350 acres, also destroyed 47 homes and structures. Two park structures were lost.

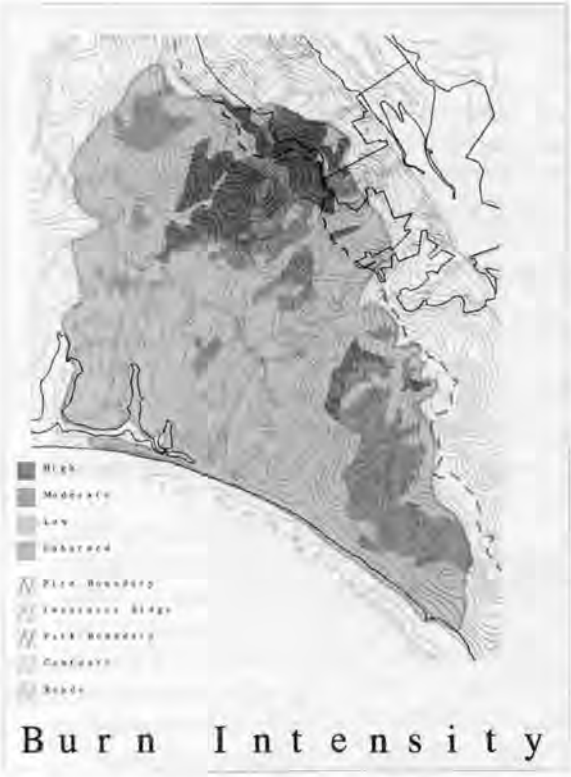
In fighting a fire, information about the terrain and particular resources that need to be protected is critical to determining a strategy for fighting the fire. The steep canyons of Point Reyes were often inaccessible to fire trucks. Firefighters needed to know which structures needed to be protected and where they could and couldn't get with their equipment. In addition, the resource management staff needed to know what park resources had been affected, both for planning purposes and for release of information to the media.

Two GIS (Geographic Information System) mapping efforts were fully functioning within 24 hours of the initial response. California's Office of Emergency Services (OES) used GPS data to map the fire perimeter and the destroyed, damaged and threatened structures. The fire perimeter was flown each day and the data captured using a hand-held GPS receiver. While only accurate to 100 meters since the data was not post-processed, it was accurate enough for delineating a 12,000-acre area. Once the perimeter was defined, statistics such as acreage burned were easily calculated. The park's GIS and other resource management staff concentrated on plotting threatened and endangered (T&E) species habitat and generating vegetation maps and other resource locator maps for use by the DOI's inter-agency Burned Area Emergency Rehabilitation (BAER) team, which was responsible for submitting a report on rehabilitation needs and plans within three days of the fire's control. Twenty-three miles of dozer lines, put in as fire breaks while trying to control the fire, were walked and mapped, and data such as width and slope were recorded to help calculate rehabilitation efforts and costs.

Without the extensive computer mapping and GPS capabilities available to the teams, the task would have been even more difficult to

accomplish. Trimble Navigation, located in nearby Sunnyvale, loaned the park five of its GPS units, four of which were capable of real time data correction, further expediting data collection. Park staff from several divisions were quickly trained on the equipment and sent out into the field beginning the Friday after the fire began.

Data collection continued after the fire was contained in order to assess the damage to the park's resources. Burn severity was measured at known threatened and endangered plant sites. The area was also systematically surveyed for disturbed cultural resources. The BAER team looked at archeological sites and historic dairy ranch sites, examining trees, fence lines, and looking for newly exposed trash dumps. They focused primarily on previously identified archeological sites, but also did a cursory survey for new sites. Known archeological sites were re-recorded, including 13 Coast Miwok Indian sites, two military sites, and nine 19th-century ranch sites. A number of trash dumps were revealed, and their locations were recorded with GPS before being reburied for protection. These data files were corrected by post-processing, yielding close to seven-meter accuracy.



Damage to other park resources, such as trails, bridges, and signs, was also recorded using GPS. Roads and trails crews will thoroughly map the trail system in the spring, when all trails will be walked.

In the weeks after the fire, active natural resource data collection continued. Park staff established new research plots in order to monitor burn recovery, collected site data with the GPS receiver, and incorporated it into the park's GIS. They developed a data dictionary based on site attributes and recorded the location and site attribute information. Ten plots were established to track four T&E plant species. These are new plots, where no rigorous scientific data had been yet collected. After the first rains they will be checked and then monitored on a periodic basis to study the various plants' recovery. GPS will be used to relocate the plots since the landscape will change quickly as vegetation reappears.

At Hawaii Volcanoes National Park, an estimated 15,000 archeological sites and features have been lost to lava flows in the last 12 years. In 1993, the flows began moving toward a large section of known archeological features. Faced with losing additional sites, the park applied for emergency funding so that they could record the location of sites before they were inundated.

NPS Research Assistant Timothy Scheffler had been working on a mapping project at Kaloko-Honokohau, but when funding became available, he spent two months at Hawaii Volcanoes mapping archeological features at Lae'apuki / Panau Iki Ahupua'a in the Mo'olehua area of the park, the section facing the greatest threat of being inundated by the lava. Cathy Glidden was the principal investigator for the project; reports are forthcoming. Briefly, the goal of the project was to use the location data to study the distribution of the features. In addition, using the data dictionary feature, they were able to collect information about each feature's length, height, width, and condition; about the soil and vegetation presence; and develop an overall geographical context for all the points, all in a fraction of the amount of time it would have taken to record the information by hand. The geographic context allows for density and distribution analyses. The data files were exported to AutoCAD files so maps could be generated. In addition, the project team used GPS to record the location of two large petroglyph fields. The park now has an ongoing GPS-based recordation project, for which the emergency work provided the basis.

GPS enabled the park to quickly gather significant data about several hundred archeological features before they were buried by the advancing lava flow. The park staff likes to say they have "permanently stabilized" those features by encasing them in lava.

Jamie Donahoe is the LCS Team Historian in the Pacific Great Basin System Support Office of the National Park Service.

Robie S. Lange

National Park Service to Study Large Federal Dams

Top right and below: Shasta Dam, CA.

The National Park Service (NPS) has entered into a contract with the Public Works Historical Society (PWHS) to conduct a National Historic Landmarks (NHL) theme study of large federal dams. The historical interest of these massive structures rests not only with their representation as bold, massive, and sometimes innovative engineering accomplishments, but for their broad impact on large parts of the nation; first through the sudden influx of federal dollars and armies of workers, and later through long-term impacts on navigation, flood control, irrigation, power generation, water supply, recreation, and the environment.

Photos by the author.

East Park Dam, CA.

The NHL Survey undertakes this project as part of an Interagency Agreement with the U.S. Army Corps of Engineers (COE) and the Bureau of Reclamation (BOR). COE Senior Historian Martin Reuss and BOR Senior Historian Brit Storey proposed the project to NPS and secured the necessary funding. They have participated in the project planning and will continue to actively review and comment on each phase of the project.

At the conclusion of this four-year effort, the project will yield two products. The first will be a comprehensive analytical study of the history of dam development in the United States. Each major type of dam construction (earthfill, concrete gravity, concrete arch, etc.) will be addressed. (Combination locks and dams will not be studied as part of this project.) In addition to evaluating the historical significance of various construction and engineering methods, this study will also address important aspects of social and environmental history related to these dams. The second product will be NHL nominations for those COE and BOR dams found to possess the required levels of national significance and historic integrity. While the Interagency Agreement funds the preparation of NHL nominations for only COE and BOR dams, the broader context provided by the historical study will be used by NPS to evaluate and nominate nationally significant dams constructed by other entities.

Howard Rosen, the Director of the PWHS, will coordinate the contractor's efforts. Martin Melosi, the Director of the Institute for Public History at the University of Houston, TX, and David Billington, Department of Civil Engineering, Princeton University, NJ, will serve as co-principal investigators and co-authors of the manuscript. Donald C. Jackson, Department of History, Lafayette College, PA, will conduct specific research tasks and support the rest of the project team. In coordination with the principal investigators, Alan Newell and his staff at Historical Research Associates, Inc., will prepare the NHL nominations and evaluation guidelines.

For additional information contact program manager Robie Lange at 202-343-0350 or by e-mail: robie_lange@nps.gov.

Robie Lange is a historian with the National Historic Landmarks Survey, NPS.

Frederic J. Athearn

Oil and Gas Industry Contributes to Cultural Heritage Management on Public Lands

For over a quarter of a century, the oil and gas industry has made major contributions to the discovery and management of cultural properties in the West.

The first Arab embargo driven "energy boom" to hit the West was directly related to the so-called "energy crisis" of the early 1970s. In 1973, Arab nations boycotted the United States, shutting off supplies of cheap oil. The ensuing "crisis" of gasoline shortages lead to long lines, rationing, and skyrocketing prices. The federal government decided to help increase domestic production by offering incentives to oil and gas operators, as well as to coal and alternative fuels such as oil shale. Additionally, the government wanted consumers like power plants to switch from oil to low sulphur coal since there were huge reserves of that mineral in the West. About the same time, oil shale production which has boomed in spurts since at least 1890 became popular once again. Numerous oil companies proposed to build shale processing plants and extract oil for no more than $40 per barrel. Considering the cost of Persian Gulf oil was around $32 per barrel in the mid-1970s, the economics might have been valid.

While the mad rush to develop federal mineral reserves was going on in the West, oil production also increased. New discoveries such as the Overthrust Belt in Wyoming led to greatly enhanced drilling. Deep well technology also made it possible to drill for oil that was previously thought to be unavailable. Older fields like the Rangely Field were given a new life through tertiary recovery techniques. West Texas fields were injected with carbon dioxide to increase their production. All of this was due to the high price of oil. Thanks to the Arab Embargo, domestic oil prices soared. At $35 a barrel, exploration and production was feasible. During 1979, another Arab oil embargo began a second "crisis." This time, however, gasoline shortages were not as severe. The price of oil again rose dramatically, which helped spur domestic production.

Western oil and gas drilling increased some 200% between 1975 and 1981. Much of the activity was in Colorado, Utah, New Mexico, Montana, Wyoming, and in older areas like Texas, Kansas, and the Dakotas. In addition to coal and oil shale projects, the BLM and to a lesser extent, the U.S. Forest Service were overwhelmed by the demand for service. In most cases, the BLM was so underfunded and understaffed that there was no possible way to meet industry's demand for cultural and environmental compliance. While it is true that BLM (and other land management agencies) were required to provide these services to land users, there was no practical way to do so. The waiting time for BLM staff to do "clearances" would be outrageous. So enter the "consulting archeologist".

Industry, realizing that environmental and cultural resource compliance would cause delays, offered to pay for the services of consultants who would do the work, submit it to the land management agency for review. The federal agency would still be responsible for consultation with the State Historic Preservation Office and the Advisory Council for Historic Preservation, for instance, but at least the field work would get done in a timely manner. Initially, colleges and universities did consulting work. There were no guidelines for field inventory and mitigation, so in the early 1970s most cultural resources projects were truly flying by the seat of their pants. The result was inconsistent data, poor quality inventory and, in some cases, outright fraud. Worse, the university consultants could not keep up with the demand.

Because of intense pressure for compliance, a number of "environmental consulting" firms entered the field. They offered complete services from preparing environmental impact statements to handling cultural resource surveys. Compliance packages were sold on a project basis. Again, archeologists were hired to do survey work. They could be private firms that were subcontracted, or they could be a consulting company's employee. Whichever the case, the system was the same. The field inventory would be done, written up,

and submitted to the land management agency for Section 106 consultation.

The other category of consultants was the private contractor. Prior to the mid-1970s there were virtually no private consulting archeologists. That was because there was no demand for their services. But during the "energy boom," the need for help soared. Dozens of firms were established to provide what came to be called "cultural resources management" or CRM. These organizations functioned like the universities or environmental consultants. They did the field inventory, evaluation, and if needed, mitigation. Reports were submitted to the land management agency for consultation. This system of private/government partnership, that began in the 1970s, continues, virtually unchanged to this day. The cottage industry of consulting archeologists spawned in the 1970s remains alive and well.

It is important to remember that not only did consultants provide inventory services, but in many cases also did excavations that were required for mitigation. One other function the federal government served was to permit consulting archeologists. Under the old 1906 Antiquities Act, anyone working on federal lands had to have a permit. Prior to 1982, all Antiquities Permits were issued by the Departmental Consulting Archeologist (DCA) in the Secretary of the Interior's office. Permits were issued based on professional criteria developed by the DCA. The system was highly centralized and often extremely slow to move. In 1984, the BLM got direct permit authority from the Secretary. This was based on the passage of BLM's organic act, the Federal Land Policy and Management Act of 1976. Under Section 302(b), BLM issued cultural resource use permits. These were done at the state office level and this new process greatly reduced administrative time. In addition to "survey" permits, the Archaeological Resources Protection Act (ARPA) of 1979 required that a permit be issued for excavation of archeological sites. To do so without a permit is a criminal offense. Thus, the federal government granted permits to assure professional quality personnel and it did the required consultation under the law.

The result of all this activity was the ongoing inventory and often mitigation of significant archeologic and historic sites located on public lands. The "energy boom" which lasted until about 1984, drove thousands of big and small surveys. The big inventories involved thousands of acres and were generally driven by coal mining. But for every large project there were (and are) hundreds of small operations. Oil and gas accounted for most of this activity. Well pads of only a few acres, pipeline rights of way, roads, and other associated activities resulted in hundreds, if not thousands, of small surveys.

All over Colorado, New Mexico, Utah, Montana, and Wyoming hundreds of oil wells were drilled on federal lands and/or for federal minerals. The result was hundreds of "inventory" reports generated to comply with the 1966 act. These documents were sometimes scattered based on drilling patterns. In some cases, larger development areas were "block surveyed" to "clear" an area of hundreds, or maybe thousands of acres, prior to field progress. The result of the larger surveys were that the oil and gas industry provided valuable archeological data for thousands of acres of both federal and private land. The significance of this is that areas that had never been looked at before, became known to archeologists. By taking pieces of this puzzle and putting them together, an overall picture began to emerge. What were once considered "nominal" sites became important because they contributed to the historic context of a region.

The result is that over the last 20 years, archeologists have increased the body of knowledge on a scale that was previously unknown. This is particularly true in the Four Corners area. The Farmington, New Mexico District, BLM, has generated numerous reports from oil and gas activity. The San Juan Resource Areas in both Colorado and Utah now have a far better picture of Anasazi culture thanks to inventory performed for oil and gas seismic and other enterprises.

One of the earlier projects, the Shell Oil Company CO2 development on Mockingbird Mesa, Colorado entailed the inventory of three thousand acres of Anasazi culture. The result was Colorado BLM's publication *The Mockingbird Mesa Survey* by Jerry Fetterman and Linda Honeycutt (1988). The Mockingbird Mesa project showed that data generated by survey could be put to good use. In fact, oil and gas surveys have contributed to the body of knowledge over the years in the form of publications that are used by professionals, schools, and the general public. Industry paid for the survey work, and the BLM picked up the publication costs. In a sense, a partnership has formed to get information out to researchers as well as the public where it can be used by those interested in this subject.

In addition to publications, there are thousands of small reports that were created as part of the compliance process. The majority of these projects involve oil and gas operations. Most of this "grey literature" is unpublished, on somebody's office shelf, and generally never used. Some reports dating back to the late 1970s are massive tomes that, at the time, represented state of the art research. This included predictive models,

overviews, and some large area surveys. They too have never been published or even used much. In some cases, only one or two copies exist in a BLM office or in the State Historical Society's library. Hence, a good deal of the material that was generated over the last 20 years, much of it thanks to the oil and gas industry, continues to languish on dark shelves, the pages yellowing and turning to dust. This "grey literature" never made it to the mainstream academic world. Many researchers do not know of its existence. Hence, a huge body of literature remains hidden from society.

Industry has done much to fund individual surveys, and in some enlightened cases, large area inventories. The scattered single project reports may not be of great scientific value per se, but when they are compiled into a regional context, they become a significant part of the whole. Individual hearths, lithic scatters, isolated finds, and so forth show archeologists a pattern of human use and occupation of the land. The sites reveal how folks lived, where they were and what kind of life they had. Wyoming, for example, has some 50,000 to 60,000 archeological and historical sites on record. Most have been generated since 1975 and the majority are a result of oil and gas inventory.

Equally important are negative reports. These are even more marginal than small project reports. They basically say, "I found nothing here." But that can be as important as finding sites. By not discovering anything, we know where prehistoric people were not. Unfortunately, not all of this good information has been collected, synthesized, and placed into regional contexts. Some BLM Class I (overview) documents have attempted to do just this; but they are few and far between.

The other contribution the oil and gas industry has made to science is on a larger scale. Some more forward-thinking oil companies realized the economy of scale in doing large area surveys (or what were once called block surveys) to "clear" an entire field in one shot. Shell Oil Company did this at Mockingbird Mesa for the CO^2 project. Arco proposed such a clearance north of Grand Junction, Colorado. Chandler has done this level of survey in their field south of Rangely, Colorado. Block clearances are more common in Wyoming where tens of thousands of acres were surveyed. The obvious advantage of this method for inventory is that you get all the compliance work done at once, eliminating piecemeal operations. The benefit for the archeologists is that a larger region is examined that, in turn, affords a contextual look at the history and prehistory of the region.

Several world-class sites have been found due to oil and gas activity. Probably the most famous is the Mesa Site in Alaska. In 1978, it was recorded during a routine oil and gas inventory. At the time, it was suspected to be an important site, but due to location and remoteness, it was more than 10 years later that the site was excavated. The results were impressive. Here was one of the earliest prehistoric sites in North America. The place was a summer hunting camp from which aboriginal hunters sought game. The significance of this site was that it brought into question some long held theories about migration across the Bering Strait.

The oil and gas industry has financed thousands of acres of inventory in the West. Tens of thousands of sites were recorded, and in many cases excavated. Federal agencies along with land users such as oil and gas have contributed to the body of archeological literature in the West. (Sadly, these efforts of 20 years are not recognized by the academic world.) These contributions, however, have not always been made willingly. Some would say that various industries who use the public lands only do what is minimally needed to comply with the law. This might be true with some land users, but most oil and gas operators are more than cooperative about complying with the various statutes. In a sense, a *de facto* partnership grew up between federal land managers and these public land users.

Frederic Athearn is a historian in the Colorado State Office, Bureau of Land Management, Lakewood, CO.

University of Oregon Student Named H. Ward Jandl Fellow

Anne Seaton, graduate student in Historic Preservation at the University of Oregon, is the recipient of the 1996 H. Ward Jandl Fellowship in Historic Preservation sponsored by the Historic Preservation League of Oregon, the University of Oregon Historic Preservation Program, and the Keepers Education Preservation Fund. Awarded as a tribute to H. Ward Jandl, former deputy chief of the National Park Service Preservation Assistance Division, Oregon's Jandl Fellowship recognizes excellence in the preparation of historic documentation in fulfillment of Master's degree requirements in historic preservation. By researching and documenting the Lone Pine Tree Indian Shaker Village in The Dalles, Oregon, Seaton makes a practical contribution to the historic record of Oregon's cultural heritage landscape. For more information about the H. Ward Jandl Fellowship Fund, contact the editor, *CRM* (see page 2).

Kay D. Weeks

Historic Preservation Treatment
Toward a Common Language

In "The Language of Preservation," the introductory chapter of William J. Murtagh's book, *Keeping Time* (1988), the author comments at length on the confusion of historic preservation terminology. He concludes, "Today, the typical interdisciplinary team of specialists working on preservation projects and programs is composed of people united by a common goal, but not necessarily a common language."

Standards leaflet (see page 35 for ordering information).

When Bill Murtagh's book was published in 1988, there seemed to be good reason to believe that considerable progress had been made in achieving "a common language," where, for example, Preservation and Restoration were broadly understood for their distinct differences and not used interchangeably in everyday speech or work proposals.

adaptive use

conservation

maintenance

preservation

protection

reconstitution

"We must strive for a language of preciseness, one that is universally understood and accepted."

—W. J. Murtagh

reconstruction

recycling

refurbishment

rehabilitation

remodeling

renovation

replication

restoration

stabilization

Optimism for the adoption of "a common language" in the late 1980s was based on the fact that the Department's first professional standards for work on historic resources, codified in 1978 as 36 CFR 68, had already been in use across the country for a decade! *The Secretary of the Interior's Standards for Historic Preservation Projects* were, without a doubt, linguistic and philosophical ground-breakers in the United States.[1] Their publication in 1978 represented a pioneering effort in the development of principles (together with accompanying Guidelines) that would successfully link historic preservation theory to practice.

The first Standards held up remarkably well in spite of the fact that the "common language" problems seemed to persist. The Standards were cited as the requirement for all grant-in-aid projects assisted through the National Historic Preservation Fund for 14 years. But, with over a decade of debate in the field, coupled with an expanding "register" of places and burgeoning technologies, the first Standards were bound to need updating. Revision, viewed by Murtagh, is more than merely inevitable. "It seems clear that the vocabulary of preservation will continue to evolve so long as the activity it describes remains a vital one."

Within that positive framework of change, *The Secretary of the Interior's Standards for the Treatment of Historic Properties* were codified as 36 CFR 68 in the July 12, 1995 Federal Register (Vol. 60, No. 133). The revised 1995 Standards replace both the 1978 and 1983 versions.[2]

Revised Secretary's Standards (1995) for Four Treatments
Preservation
Rehabilitation
Restoration
Reconstruction

Differences Between the 1978 and 1995 Standards (36 CFR 68)

Revisions to the 1978 *Standards for Historic Preservation Projects* began in 1990 in conjunction with the National Conference of State Historic Preservation Officers and meetings with the National Trust for Historic Preservation and a number of other outside organizations. Goals included broadening the Standards to encompass *all* National Register property types; sharpening the language; reducing the document in length; and making clearer distinctions between treatment approaches. The results follow.

First, the 1995 Standards may now be applied to all historic resource types listed in the National Register of Historic Places, including buildings, sites, structures, objects, and districts.

Second, the revised Standards eliminate the general and specific standards format. In the 1978 system, general Standards applied to every project, even though the philosophical goals of work might differ dramatically. Specific Standards to be used in conjunction with general Standards acknowledged the differences in work approaches, but resulted in a total of 77 Standards—in combination—as opposed to a total of 34 in the revision. Further, the Standard for Acquisition was deleted; and Protection and Stabilization were consolidated under a single Preservation treatment. As a result, the total number of treatments was reduced from seven to four—Preservation, Rehabilitation, Restoration, and Reconstruction.

Most important, however, the distinctions between the four treatments are now underscored within an established hierarchical framework. Thus, the first treatment, *Preservation*, places a high premium on the retention of *all* historic fabric through conservation, maintenance, and repair. *Rehabilitation*, the second treatment, emphasizes the retention and repair of historic materials, but more latitude is provided for replacement because it is assumed the property is more deteriorated prior to work. (Both Preservation and Rehabilitation standards focus attention on the preservation of those materials, features, finishes, spaces, and spatial relationships that, together, give a property its historic character.) *Restoration*, the third treatment, focuses on the retention of materials from the most significant time in a property's history, while permitting the removal of materials from other periods. *Reconstruction*, the fourth treatment, establishes limited opportunities to re-create a non-surviving site, landscape, building, structure, or object in all new materials.

In summary, the simplification and sharpened focus of these revised sets of treatment Standards is intended to assist users in making sound historic preservation decisions—and promote the use of "a common language" in the planning stages of work.

The following central ideas in the 1995 Standards (36 CFR 68) are shown in juxtaposition, to emphasize the relationship and differences among the four philosophical constructs:

Standards for Preservation

Use the property as it was used historically or find a new use that maximizes retention of distinctive features.

Preserve the historic character (continuum of property's history).

Stabilize, consolidate, and conserve existing historic materials.

Replace minimum amount of fabric necessary and in kind (match materials).

Standards for Rehabilitation

Use the property as it was used historically or find a new use that requires minimal change to distinctive features.

Preserve the historic character (continuum of property's history).

Do not make changes that falsify the historical development.

Repair deteriorated features. Replace a severely deteriorated feature with a matching feature (substitute materials may be used).

New additions and alterations should not destroy historic materials or character. New work should be differentiated from the old, yet compatible with it.

Standards for Restoration

Use the property as it was historically or find a new use that reflects the property's restoration period.

Remove features from other periods, but document them first.

Stabilize, consolidate, and conserve features from the restoration period.

Replace a severely deteriorated feature from the restoration period with a matching feature (substitute materials may be used).

Replace missing features from the restoration period based on documentation and physical evidence. Do not make changes that mix periods and falsify history.

Do not execute a design that was never built.

Standards for Reconstruction

Do not reconstruct vanished portions of a property unless the reconstruction is essential to the public understanding.

Reconstruct based on documentary and physical evidence.

Precede reconstruction with thorough archeological investigation.

Preserve any remaining historic features.

Re-create the appearance of the property (substitute materials may be used).

Identify the reconstructed property as a contemporary re-creation.

Do not execute a design that was never built.

A Common Language...and More

Certainly, as the field of historic preservation continues to grow and change, the Standards will be revised again. No philosophical system is ever permanent. But this announcement is, in part, to underscore the notion that achieving a common language for historic preservation treatment is at least in an active state of evolution. And the concern, as Murtagh also consistently argued in *Keeping Time*, is far more than a matter of language.

Treating historic properties has the capability of changing their physical history, and, as a result, the way they will be remembered, studied, and interpreted by future generations. If historians, architects, administrators, and practitioners agree on treatment philosophy and methodology prior to work, the long-term consequences of treatment can be better predicted and managed.

When historians make errors in fact or interpretation, the record of ideas may be corrected at a later time. Historic preservation—history manifested in tangible materials—does not permit that luxury. Knowing what the consequences of work will be in the planning phase provides the basis for more informed judgments about the irreplaceable material record. What we choose to repair, replace, or demolish ultimately determines how the property is understood by today's and tomorrow's viewers. Signs fall down and interpreters aren't always there. So essentially, the work itself is the explanation.

Educational Spin-Offs for the 21st Century

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (1995) is now in print. A 188-page book with numerous illustrations, the Guidelines for treating historic buildings are envisioned as a philosophical model for the development of "spin-off" Guidelines for every other historic property type listed in the National Register of Historic Places—sites, structures, objects, and districts. Beyond the historic property types, specific resources, such as barns, aircraft, habitation sites, bridges, sculpture and monuments, and central business districts are also prime candidates for helpful Guidelines using the umbrella Standards.

In this regard, Heritage Preservation Services' companion Standards and Guidelines for treating historic landscapes is slated for publication in 1996, following a period of careful coordination between NPS and the professional landscape community.

Finally, the Program is releasing a video, *Working on the Past with the Secretary of the Interior's Standards for the Treatment of Historic Properties*, in early 1996. It addresses the four treatments, their differences, and the consequences of applying each one to a property using case studies and site interviews to make important points about the work. In this age of mixed media, an interactive computer program would seem to be the next, inevitable educational product to assist the public in choosing the most appropriate treatment for a historic property and providing in depth guidance on individual work approaches.

References

1 It is noted that a slightly modified version of the Standards for Rehabilitation was codified in 36 CFR 67, and focuses on "certified historic structures" as defined by the IRS Code of 1986. These regulations continue to be used in the Preservation Tax Incentives Program for property owners seeking certification for federal tax benefits. Illustrated Guidelines for the single treatment, Rehabilitation, continue to be available as a separate book in support of the Tax Incentives Program.

2 W. Brown Morton III and Gary L. Hume, co-authors

Kay D. Weeks serves as technical writer and editor for Heritage Preservation Services Program. She is co-author and principal architect of the 1990 Guidelines for Rehabilitation which continue in print; and co-author, with Anne E. Grimmer, of the newly published book, The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, & Reconstructing Historic Buildings.

The Secretary of the Interior's Standards for the Treatment of Historic Properties (1995) is available as a leaflet free of charge upon request from the Heritage Preservation Services Program.

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, & Reconstructing Historic Buildings (illustrated book) is sold by the Government Printing Office for $12.00. Stock Number 024-005-01157-9. Send check or money order payable to Sup. Docs. Mail to Sup. Docs. P.O. Box 371954, Pittsburgh, PA 15250-7954. MasterCard and VISA accepted. Phone orders to 202-512-1800; Fax orders to 202-512-2250.

Barbara J. Little

Public Benefits of Archeology

The Public Benefits of Archaeology conference was held in Santa Fe, New Mexico from November 5 to 8, 1995. The exchange of good ideas among over 150 participants contributed to the success of the meeting. Much of what was discussed about public benefits is applicable to cultural resources in a broader sense.

What did we learn? Just like politics, all archeology is local.

In spite of archeologists' frequent emphasis on global developments and culture change over long periods of time, it became apparent that what many people value about archeology is a sense of connection with time and place. Archeology can and does provide "common ground" among the many elements of diverse communities. Educators reinforced the value of archeology in teaching respect for other people and other times. Preparing both children and adults with an appreciation for a diverse world is an important contribution that archeological knowledge can make. We need to remember that as we go about our mundane tasks of Section 106 compliance and report review.

Many more valuable insights emerged as both speakers and audience members discussed various audiences for archeology, including visitors to sites and museums, teachers and students, Native Americans and other local communities, tourists, planners, avocational archeologists, scholars, and politicians. The conference ended with a discussion of how best to get the word out and a listing of "action items."

Katerine Slick, a Trustee of the National Trust for Historic Preservation, admonished archeologists to "get on the tourism train." Tourism will soon replace manufacturing as the number one industry in the United States. Archeologists are able to contribute to Heritage Tourism, which relies on authenticity and quality. Highlighting authenticity as the appeal of museums, David Hurst Thomas spoke eloquently about the importance of archeology in presenting and preserving the "real things" that visitors find compelling.

The conference was sponsored by the National Park Service (National Register of Historic Places, Archeology and Ethnography Division, Southwest System Support Office, and Pecos National Historical Park); the Society for American Archaeology, the Society for Historical Archaeology; the National Conference of State Historic Preservation Officers, the National Trust for Historic Preservation, the New Mexico State Historic Preservation Office, the National Association of State Archeologists, and the Advisory Council on Historic Preservation.

There will be a follow-up publication. If you are interested in being on the mailing list, please send your address to Barbara Little, National Register of Historic Places, P.O. Box 37127, Suite 250, Washington, DC 20013-7127.

Departments

—continued from page 5

PRESERVATION RESOURCES

Click Your Way to Information About the National Register

The National Register of Historic Places offers lots of information on its Internet "home page." Among the offerings are National Register bulletins, information on teaching with historic places, and access to the National Register Information System (NRIS). To get to the National Register home page, use WWW.CR.NPS.GOV as your URL then click to *Historic Places* followed by *National Register of Historic Places*.

The NRIS contains information on over 75,000 properties which are searchable by 2 million indexed terms. It is available from six in the morning until eight at night. Many more capabilities are being added.

To access the NRIS from the National Register home page click to *National Register Information System*, then *Internet*. Do not forget to associate a Telnet client with your browser or it will not work. Telnet is the most common way of interacting with databases on the Internet—commercial telnet packages work best but "freeware" can also do the job. After connecting, type "NATREG" at the prompt. If you have proper VT100 terminal emulation you will not be asked for a terminal type.

Shortcuts include going directly to the NRIS home page on WWW.CR.NPS.GOV/NR/NRIS. HTML or simply "telnetting" directly on 165.83.212.245. Feel free to reference the NRIS in your own home pages. If you are not on the Internet and you want modem access, call our reference desk on 202-343-9559 to get details. Remember, the NRIS is only one offering on the National Register home page—take a browse.

—John Byrne

Life-Saving Association Formed

The U.S. Life-Saving Service Heritage Association was formed during the first Lifesaving Station Symposium held in September 1995 at Cape Cod National Seashore in Massachusetts. It was organized by the National Park Service's National Maritime Initiative and the Hull Lifesaving Museum to provide a formal opportunity for owners and managers of these unique properties to meet, communicate, and exchange ideas.

The U.S. Life-Saving Service was a federal agency that grew out of private and local humanitarian efforts to save the lives of shipwrecked mariners and passengers. As part of its ongoing efforts to survey historic maritime properties, the Initiative has created an inventory of surviving lifesaving properties around the United States. There are currently over 150 known surviving lifesaving and lifeboat stations in this inventory. These properties can be found in national parks, as part of U.S. Coast Guard stations, as museums, as research facilities, bed & breakfasts, and as private residences.

Charter membership in the U.S. Life-Saving Service Heritage Association, which includes a subscription to a biannual newsletter, begin at $25. The Association's mailing address is P.O. Box 12, Hull, MA 02045. Anyone with knowledge of an existing station is encouraged to contact the Initiative at 202-343-9508.

—Candace Clifford

Participants of the first Lifesaving Station Symposium, September 14–16, 1995, at Cape Cod National Seashore, MA, posing in front of the Old Harbor Lifesaving Station, a NPS exhibit at Race Point Beach in the Seashore near Provincetown. Photo by Candace Clifford.

Publications

Now available for distribution are recently published revisions to two manuals for the Remote Sensing/Geophysical Techniques for Cultural Resource Management and the Low Altitude, Large Scale Reconnaissance for Cultural Resource Managers workshops.

Low Altitude Large Scale Reconnaissance: A Method of Obtaining High Resolution Vertical Photographs for Small Areas was written by James W. Walker of Brigham Young University and Steven L. De Vore of the National Park Service (revised 1995). This manual provides guidelines for the use of radio controlled model aircraft for obtaining aerial pho-

tographs over small areas such as archeological sites, historic buildings and structures, and historic districts. The manual covers topics on the history of this technique, the construction and maintenance of the aircraft, and aerial photography and interpretation considerations, including the type of camera, film, processing, and the use of TV. The manual also contains a section on planning, surveying, and flying.

Near-Surface, High Resolution Geophysical Methods for Cultural Resource Management and Archeological Investigations was written by Don H. Heimmer of Geo-Recovery Systems and Steven L. De Vore of the National Park Service (revised 1995). Recent advances in prospecting techniques and instrumentation offer archeologists new site investigative tools. This manual provides guidelines for geophysical surveying at archeological sites through a translation of techniques developed primarily for mineral exploration. It gives, in 176 pages, information on active and passive geophysical methods and techniques, ground-penetrating radar surveying, and metal detectors, as well as quality control, administrative requirements, and acquisition records.

The manuals, whose production and publication were funded in part by the National Park Service through its Cultural Resource Training Initiative, are free and may be requested from the **National Park Service, Intermountain Field Area, Rocky Mountain System Support Office, Stewardship and Partnership Team, P.O. Box 25287, 12795 W Alameda Parkway, Denver, CO 80225-0287.** Address your request to the attention of Steven L. De Vore.

Preservation Briefs 38: Removing Graffiti from Historic Masonry, by Martin E. Weaver; 15 pp; October 1995. The National Park Service's Heritage Preservation Services' short, illustrated essay focuses on cleaning methods that can be used to remove surface-applied graffiti without damaging historic masonry. The Brief emphasizes prompt removal as a key to preventing recurrence of graffiti, as well as the importance of developing a maintenance program in advance to be prepared when graffiti occurs. "Tips" for successful graffiti removal, and a discussion of barrier coatings are also included, along with charts to provide guidance in the graffiti-removal process. Preservation Brief 38 is available from the Government Printing Office for $1.75 per copy. Order by GPO stock number: 024-005-01158-7. Send check or money order to: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Payment may also be made using VISA or MasterCard. Call 202-512-1800 or fax 202-512-2250.

Guardians of the Lights, by Elinor De Wire; 340 pp; ISBN #1-56164-077-8. The author paints a colorful portrait of the lighthouse keeper in America, from 1716 when the first official lighthouse was established to the early 1980s when automation replaced the last "guardians of the lights." A wealth of material from archives and personal interviews provides vivid stories about lighthouse keeping—the daily work, fog, storms, and natural catastrophes, children and pets, legends and ghosts, women's and family's roles, and the diverse character of those who held the job. Lighthouse keeping was a unique occupation, now obsolete, and this book is a fitting tribute to the tough and dedicated souls who kept the lights burning. To order a personalized autographed copy, send $32.00 check or M.O. (includes tax, p&h) to Elinor De Wire, P.O. Box 654, Gales Ferry, CT 06335-0654.

AIC Publications

Two new publications are available from the American Institute for Conservation of Historic and Artistic Works (AIC). The 1995 *AIC Abstracts* contains abstracts for more than 100 papers presented at AIC's 23rd annual meeting in St. Paul, Minnesota, June 4-11, 1995. Lengthy, substantive abstracts from the general session on ethics in conservation, as well as abstracts from the specialty groups sessions and the poster session, are included. *The Gilded Metal Surfaces Symposium Abstracts* includes 19 detailed abstracts for the symposium at the annual meeting in St. Paul.

General session topics in *AIC Abstracts* focus on ethical investigations into the antiquities trade, UNESCO, large-scale disaster recovery, aircraft restoration, care and treatment of human skeleton remains, conservation of natural science collections, maintenance of outdoor sculpture, and architectural conservation. *Gilded Metal Surfaces Symposium Abstracts* includes topics such as "Corrosion Chemistry of Gilded Silver and Copper"; "Archaeological Gilded Metals Excavated in Japan"; "Architectural Gilding on Exterior Metal: An Overview of Materials and Methodology"; and "The Fabrication of Gilt Bronze Mounts for French Furniture of the 18th Century."

For ordering information, contact AIC, 1717 K Street, NW, Suite 301, Washington, DC 20006; 202-452-9545.

State Statutes

The Archeology and Ethnography Program of the National Park Service and the National Trust for Historic Preservation announce their joint publication, *A Survey of State Statutes Protecting Archeological Resources*. This combined Archeological Assistance study (No. 3) and Preservation Law Reporter Special Report provides a ready resource on archeological protection at the state level and will assist state prosecutors, land managers, and law enforcement personnel to efficiently and effectively execute

their statutory responsibilities as part of their state archeological resources management program. Also, it will serve as an important guide to improve archeological protection casework by agencies at all levels of government, by providing information necessary to effectively integrate state and federal legal tools. For questions or comments about this publication, contact Dr. Francis P. McManamon, Chief, Archeology and Ethnography Program, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; 202-343-4101.

Snapshots of the Past, by Prof. Brian Fagan, University of California at Santa Barbara, AltaMira Press; 160 pp, 1995. *Snapshots* informs the reader, in the framework of 30 brief essays, about the leading issues in archeology today. In this new work, Fagan collects many articles from his regular *Timelines* column in *Archaeology Magazine*, as well as several new articles, into a single volume. He leads the reader on a tour through time and space ranging from the ascent of the human species to public controversies that concern today's archeologist. For more information, contact AltaMira Press Marketing Department, 1630 North Main Street, Suite 367, Walnut Creek, CA 94596; 510-938-7243, Fax: 510-933-9720.

Classic Repair Manual Republished

Repair of Ancient Buildings, by A.R. Powys; 1995. The classic explanatory work on conservative methods for the upkeep of the fabric of historic buildings, is in print again. The new edition reproduces the original 1929 text and updates notes added to an edition of 14 years ago. There are chapters on the repair of windows, ceilings, joinery, walls, temporary supports, church bells and more. For more information, contact The Society for the Protection of Ancient Buildings, 37 Spital Square, London E1 6DY.

Review

Manual of Natural History Curatorship, edited by Geoff Stansfield, John Mathias and Gordon Reid. London, HMSO, 1994. ISBN 0-11-290513-7. xviii+306 pages, hardback. (Issued by the Museum and Galleries Commission, the agency appointed by the British Government to provide standards, professional guidance and registry for museums, it aims to supply, ". . . the first comprehensive guide to the care and management of natural history collections.")

Reviewed by Ralph Lewis, Harpers Ferry, WVA.

The manual has 14 chapters by 11 experts, including the editors. The consistent layout of each chapter in clearly captioned and numbered sections and subsections help make the information accessible, as does the index. Each chapter includes a list of references. Suggestions for further reading and an up-to-date general bibliography add to its usefulness.

Chapter 1 defines the two basic functions of natural history museums, offers a concise worldwide review of their organization and administration, then introduces important general aspects of natural history collections. In Chapter 2 an experienced curator addresses the acquisition of collections: methods, constraints, policies based on a broad range of considerations, the essential role of accompanying data, and an eye to the future. Chapter 3 on the preparation and preservation of collections does not repeat the detailed instructions for standard preservation procedures readily available in cited publications. After a historical review of the subject showing that most existing collections have been preserved by methods developed before the ascendancy of molecular biology, it warns that these procedures fail to preserve features important for their biochemical study. The discussion of preservation policy considers this as well as ethics, law, health, safety, education and other factors. Following a closer look at biochemical materials and processes involved, the chapter reviews modern dry, cold, wet, and microscopical methods of preservation. Documentation of collections, Chapter 4, begins with the pertinent principles and standards. Succeeding sections deal with documentation in the field including aquatic habitats, entry (i.e. accession) documentation, specimen cataloging and computer systems for documentation. Although largely based on well-developed British practice, it usefully parallels U.S. museum needs. Chapter 5, the longest, deals with housing and maintenance of collections: their protection against environmental threats, pests and security risks; storage equipment and techniques; handling specimens including ones with special needs; packing and transportation; maintenance measures and storage requirements of accompanying data.

Natural history collections result from scientific research and have a fundamental role in the fields of systematics and taxonomy. They provide essential validation for research in many other fields. Chapter 6, Using Natural History Collections, explores these primary uses but points out numerous other ways society finds the collections useful. Use of the collections seldom makes headlines, so development and promotion are important aspects of use discussed. Natural history museums and their curators often become involved in the field collection and preservation of observational records documenting the natural resources of specific areas. Chapter 7 discusses the origins, aims, objectives, policies, and uses of these data banks as developed and organized into biological recording centers in Great Britain. In Chapter 8, Live Animals and Plants in Natural History Museums, another specialized type of

collection, receives thoughtful review. Sections include ethics and conservation issues, applications and scope and the practical matters of infrastructure and environmental requirements. The following chapter on health and safety in natural history museums should alert curators to the hazards in both the museum environment and in the specimens. A suggested code of practice concludes the chapter.

The remaining chapters consider the work of natural history museums with the public. Chapter 10 discusses education and interpretation as an important function. The specimens and data of the collections provide a rich reservoir of information which the museum can transmit to the public through a wide selection of media and methods. Chapter 11, Natural History Museum Exhibition, reviews the development of this primary means of communication as well as current approaches and types. Chapter 12 provides a concise, practical discussion of collaboration between natural history museums and schools. Chapter 13 similarly addresses natural history museum development and effective use of information services, publications and shops in expanding services to the public. The concluding chapter looks at what natural history museums may accomplish in cooperation with other institutions and organizations. Not only curators but administrators and policy makers should find this manual a dependable and enlightening source of help.

Mining Conference Proceedings Available

Copies of *Death Valley to Deadwood, Kennecott to Cripple Creek*, proceedings of the Historic Mining Conference held at Death Valley in January 1989, are still available. To request a free copy, write to Division of National Register Programs, National Park Service, 600 Harrison Street, Suite 600, San Francisco, California 94107-1372.

Internet Update

A major list of museum web pages (Guide to Museums and Other Cultural Resources) is maintained by the Natural History Museum of Los Angeles County at: http://cwis.usc.edu/lacmnh/other.html. Virtual Library Museum Pages are located at: http://www.comlab.ox.ac.uk/archive/other/museums.html. CIMI (Computer Interchange of Museum Information) and MCN (Museum Computer Network) maintain a site at: http://www.cni.org/pub/CIMI/www/ framework.html. Historic Preservation WWW information includes PreserveLink, service of NCPE (National Council for Preservation Education): http://www.crp.cornell.edu/preserve.html;Internet Resources for Heritage Conservation, Historic Preservation and Archaeology: http://hpb1.hwc.ca:10002/Internet_Resource_Guide.html. National Park Service's Links to the Past include http://www.cr.nps.gov and two gophers of particular use for historic preservation: National Park Service gopher menu: gopher://192.102.223.200:70/11 gopher_root%3A%Bnps_resources %5D; gopher for National Center for Preservation Technology and Training:gopher://gopher.ncptt.nps.gov.

For more information, contact John N. Pearce, Director, Center for Historic Preservation, Mary Washington College, 1301 College Avenue, Fredericksburg, VA 22401-5358; 703-654-1311; Fax: 703-654-1068;e-mail:jpearce @850.mwc.edu.

The WWW address for the National Trust for Historic Preservation is http://www.nthp.org—.

Southwestern Archaeology (SWA) WWW address is http://seamonkey.ed.asu.edu:80/swa/. If you have timely current events data related to prehistoric, protohistoric, or historic southwestern archeology, anthropology, history, or heritage, contact Brian Kenny, Box 61203, Phoenix, AZ 85082-1203; 602-227-3154; kenny@getnet.com; azarch@aztec.asu.edu; kenny@planning.mcdot.maricopa.gov.

BULLETIN BOARD

AAAM Fair

March 1996 has been designated as Arizona Archaeology Awareness Month (AAAM). An AAAM Archaeology Fair will be held at Pueblo Grande Museum & Cultural Park, March 30-31, with the theme, "What Is the Future of Our Past?" The fair is co-hosted by the State Historic Preservation Office, Arizona State Parks, Pueblo Grande Museum and Auxiliary, Arizona Archaeological Society, and the Southwest Archaeology Team. For more information, contact Ann Howard at 602-542-7138; e-mail: ahoward @pr.state.az.us.

Rock Art Field School

The 1996 Rock Art Field School will be held at Deadman Wash in Coconino National Forest, Arizona June 8-16. Sponsored by the Arizona Archaeological Society, the sessions will include learning how to record petroglyphs and pictographs, assisting in recording sites that are rapidly being destroyed, and learning about all aspects of rock art from experts in the field. Applications will be accepted on a first-come basis. For more information, contact Jane Kolber, P.O. Box 1844, Bisbee, AZ 85603; 520-432-3402.

AIC News

The Foundation of the American Institute for Conservation of Historic and Artistic Works (FAIC) has received $60,000 from the Getty Grant Program to establish a Conservation Cultural Diversity (FAICCD) summer internship program. The FAICCD summer internship program will create 12 undergraduate internships for students from ethnic and racial minority groups to acquaint them with the practical aspects of

the conservation profession and encourage them to consider a career in the field. The program will also have a broad impact by providing career information to a large number of minority students through fact sheets, career day presentations, and a career brochure.

Correction

In *CRM* Vol. 18, No. 8, the top photo on Page 9 was mistakenly identified as "Holin Hills in the 1950s." The caption should have read, "Holmes Run Acres," which is another 1950s Fairfax County community.

An examination of "Collaboration in the Visual Arts" will highlight AIC's 24th annual meeting to be held in Norfolk, Virginia, June 12-15, 1996. Speakers will address collaborative efforts among conservators, scientists, artists, designers, fabricators, and architects. Topics to be discussed include the selection of stable, long-lasting materials and the handling, storage, and treatment of objects.

AIC is the national membership organization of conservation professionals dedicated to preserving the art and historic artifacts of our cultural heritage for future generations. Registration materials and a complete list of speakers and paper titles are available upon request. Contact the American Institute for Conservation of Historic and Artistic Works, 1717 K Street, NW, Suite 301, Washington, DC 20006; 202-452-9545; fax: 202-452-9328; e-mail: jennaic@aol.com.

Call for Nominations

The Society for American Archaeology (SAA) invites nominations for the 1996 Excellence in Cultural Resource Management (CRM) Award. The CRM Award recognizes lifetime contributions and special achievements in the categories of program administration/management, site preservation, and research, on a rotating basis. The 1996 award will recognize high quality and important contributions in archeological research performed in the cultural resource management arena. This category may include recognition of achievements in the course of a single project or the work of individual(s) focused on long-term study of a state or region. This category is intended to recognize innovative and substantive research that makes a lasting contribution to knowledge of the archeological record. Nominations should include a copy of the nominee's curriculum vita and a brief statement of the nominee's archeological research accomplishments in cultural resource management. For more information, or to submit nominations, contact Michele Aubry, SAA CRM Award Committee Chair, Archeology and Ethnography Program, National Center for Cultural Resource Stewardship and Partnerships, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; 202-343-1879; Fax: 202-343-5260; e-mail: michele_c_aubry @nps.gov. Nominations should be submitted by January 15, 1996.

National Preservation Institute Seminars

The following seminar series are offered during 1996 by the National Preservation Institute with the cooperation of the National Building Museum: Section 106 of the National Historic Preservation Act: Review and Update; Historic Landscapes: Techniques for Identification, Interpretation and Documentation; Preserving Historic Urban Neighborhoods; and Cultural Resource Management Plans. For locations, dates, and time, and a registration form, contact the National Preservation Institute, P.O. Box 1702, Alexandria, VA 22313; 202-393-0038.

International Preservation Center Opens

The St. Petersburg International Center for Preservation officially opened this summer in St. Petersburg, Russia. The new center provides opportunities for collaborative research and information exchange about the latest findings in conservation science to preserve the cultural heritage of St. Petersburg and its neighboring cities. It is a joint effort, founded by the City of St. Petersburg, the Getty Conservation Institute in Los Angeles, California, and the Russian Academy of Sciences.

The Getty Conservation Institute is an operating program of the J. Paul Getty Trust. Committed to the preservation of cultural heritage worldwide, the Institute seeks to further scientific knowledge and professional practice in the field of conservation and to raise public awareness of conservation's importance. Through field work, research, training, and the exchange of information, the Institute addresses the conservation needs of museum objects and archival collections, archeological monuments and sites, and historic buildings and cities.

Museum Exhibit Lighting

The Washington Conservation Guild, with the Division of Conservation of the National Park Service, is sponsoring a seminar and workshop on museum exhibit lighting March 6-8, 1996, at The Smithsonian Institution. Designed for conservators, curators, and exhibition professionals, the seminar will attempt to address the frequently divergent views of these groups in the museum world. A one-day workshop, presenting specialized information of use to museum professionals, and including object vulnerability, energy conservation, exhibit case lighting techniques, fiber optic applications, etc., will follow the seminar on March 8. Presenters will include nationally-recognized museum lighting designers, conservators, lighting educators, conservation scientists, and representatives from the lighting industry. Training emphasis will be on achieving a successful balance between collections "use" and

"preservation," and will focus on integrating conservation requirements with interpretive and aesthetic concerns, cost efficiency, and energy conservation. Participants will gain familiarity with the most current exhibit lighting strategies and techniques and will see first-hand the latest lighting sources and equipment. The seminar is made possible in part by funding from The National Center for Preservation Technology and Training, National Park Service. For further information, contact Ann Boulton at 410-578-0145.

Search for Excellence in Universal Design

The National Endowment for the Arts and the National Building Museum are searching for images showing examples of universal design excellence in the fields of architecture, interior design, landscape architecture, graphic design, and industrial design. The jury-selected images will feature and credit the work of designers who are reaching beyond compliance with the Americans with Disabilities Act (ADA) to create products and environments that are useable by the broadest public. Universal Designers & Consultants, Inc. (UD&C) will gather excellent examples of universal design to be considered for inclusion in a collection of color slide visuals and text that illustrate and articulate principles of universal design. Individuals or organizations who are interested in more information about the project or in receiving a submission package should contact UD&C, 1700 Rockville Pike, Suite 110, Rockville, MD 20852; 301-770-7890; fax 301-770-4338; or e-mail: JPSALMENUDNC@ DELPHI.COM. All submissions must be received by April 1, 1996.

International Journal Available

The International Journal of Heritage Studies, aimed mainly at academics and universities, is being offered as an individual subscription at 50% discount to the *CRM* readership. For information, write to Dr. Peter Howard, Faculty of Arts and Education, University of Plymouth, Earl Richards Road North, Exeter EX2 6AS, United Kingdom.

Landscape Architecture Symposium

"The Landscape of Theme Parks and Their Antecedents" is the topic of the Dumbarton Oaks Studies in Landscape Architecture symposium, to be held on May 17-18, 1996. The symposium will deal with the role of landscape architecture in the design of theme parks. Registration information will be available in March, and can be obtained from Studies in Landscape Architecture, Dumbarton Oaks, 1703 32nd Street, NW, Washington, DC 20007; 202-342-3280.

ACRA National Conference

The American Cultural Resources Association (ACRA) had its first national conference in Washington, DC, October 7-8, 1995. Over 80 attendees participated in six workshops and panel discussions on topics ranging from governmental affairs, to Section 106 compliance, to meeting insurance needs, marketing and business management. Speakers included the heads of various national preservation lobbying organizations and federal agencies such as the Advisory Council on Historic Preservation and the Keeper of the National Register of Historic Places. ACRA will shortly announce a new listserv dealing with CRM where persons interested in cultural resource and business issues, such as recent lobbying efforts, can keep up with current issues without disturbing the other lists. Brief announcements will be made to the Net from time to time with directions on how to download more in- depth files on particular issues. This should cut down on long postings, and provide readily accessible background data and a discussion forum for those who desire it without unduly disturbing those who do not. The next conference will be in Sacramento, California in October 1996. Contact Tom Wheaton, Executive Director, ACRA, (Internet)http://www.mindspring.com/~wheaton/ACRA.html.

SIA Annual Conference

The Society for Industrial Archeology (SIA) promotes the study and preservation of the physical survivals of technological and industrial development and change. The SIA Annual Conference will be held in Sacramento, California May 30-June 2, 1996. In addition to paper sessions, the conference will feature tours to a number of unique manufacturing, transportation, and historic sites in Central California. For further information about the conference, contact Prof. Patrick E. Martin, Director of Graduate Studies in Industrial Archaeology, Michigan Technological University, 1400 Townsend Drive, Houghton, Michigan 49931-1295; 906-487-2070; fax: 906-487-2468; Internet: pem-194@mtu.edu.

Southwest Symposium

The 1996 Southwest Symposium will be held at Arizona State University February 9-10. The theme of the overall meeting is Regional Interaction in the Prehistoric Southwest.

For more information, contact Dr. Michelle Hegmon, Assistant Professor, Department of Anthropology, Arizona State University, Tempe, AZ 85287-2402; 602-965-7837; fax: 602-965-7671; e-mail: hegmon@anthro.la.asu.edu.

Smithsonian Fellowships

Proposals are invited for the fifth annual Fellowships in Museum Practice program, a professional development opportunity dedicated to helping museums increase their expertise and leadership. An award enables experienced staff to spend time at the Smithsonian conducting research on a topic of importance to the field. Fellowships are designed to accommodate individual work

schedules. Applications are accepted until February 16, 1996, for projects beginning after October 15, 1996. For guidelines and application procedures, contact Nancy Fuller, CMS Smithsonian Institution, MRC 427, Washington, DC 20560; 202-357-3101; fax:202-357-3346; e-mail:ompem016@sivm.sl.edu.

Goucher College

Goucher College's Center for Continuing Studies in Baltimore is accepting applications for its limited-residency Master of Arts in Historic Preservation program. Now in its second year, the program is designed for self-directed students who find it inconvenient to attend a traditional on-campus graduate program in historic preservation. It combines intensive summer courses with tutorials conducted through the mail, telephone, or other electronic means, providing students with maximum flexibility of time and place of learning. The summer 1996 session will be in June. The curriculum is designed to provide students with the opportunity to concentrate in specific areas of historic preservation through the selection of elective courses and thesis topic. Depending on the course load selected, the program may be completed within three years. Goucher College is accredited by the Middle States Association of Colleges and Schools and meets the guidelines established by the National Council of Preservation Education.

To receive a catalog and application, call 1-800-697-4646, or write to the Center for Continuing Studies, Goucher College, 1021 Dulaney Valley Road, Baltimore, MD 21204.

Heritage Areas Conference

The National Coalition for Heritage Areas will hold its second conference, **Rally II: Working for America's Real Places**, March 31 to April 2, 1996, in Baltimore, MD. For more information, contact Sarah E. Polster, Program Coordinator, National Coalition for Heritage Areas, P.O. Box 33011, Washington, DC 20033-0011; 202-673-4204; Fax: 202-673-4038.

Maritime Parks Workshop

The National Park Service (NPS) National Maritime Initiative announces a workshop specifically designed for national, state, and local park personnel who manage historic maritime resources. Titled "Chart a Course for Preservation: A Workshop Promoting Cooperation Among Maritime Parks," the workshop will be held in April 1996, and will be hosted by the Salem Maritime National Historic Site and the park's cooperating associations in Salem, Massachusetts. It is intended to be a forum for park managers, historians, archeologists, interpreters, architects, and planners to address issues involved with identifying, evaluating, maintaining, interpreting, conserving, and preserving ships, lighthouses, lifesaving stations, shipwrecks, and other maritime sites and structures. This will be the first formal opportunity for the maritime park community to meet and exchange ideas. The workshop will be funded in part through the 1996 Cultural Resource Training Initiative.

For more information, contact Hallie Brooker at 202-343-8170.

Pan-American Course

A Pan-American Course on the Conservation and Management of Earthen Architectural and Archeological Heritage will be held

Printed on recycled paper

Williamsport Preservation Training Center Relocates

The Gambrill House. Photo by Kenneth Sandri, Exhibits Specialist Trainee with WPTC.

The administrative office and shop of the Williamsport Preservation Training Center (WPTC) have been housed in buildings belonging to the C&O Canal National Historical Park, Williamsport, Maryland. As of November 2, 1995, the administrative office relocated to the Gambrill House in the Monocacy National Battlefield, Frederick, Maryland. The WPTC shop will remain in Williamsport until an adequate space can be found in Frederick.

The WPTC was established in 1977 to meet the growing demand for preservation specialists within the National Park Service. The role of the WPTC is to support the preservation and maintenance of historic properties in the National Park Service by providing a comprehensive program of preservation education and work-centered training. The WPTC utilizes historic preservation projects as its main vehicle for training preservation philosophy, building crafts, building technology, and project management skills. The three major components of WPTC's programs are:

- A three year training program for both Exhibits Specialists, Preservation Craftspeople, and other historic preservation professionals;
- Preservation, rehabilitation, and restoration of National Park Service, other federal, or state-owned historic properties;
- Short-term training courses, workshops, and cross-training developmental experiences aimed at building the knowledge and skills of park maintenance personnel responsible for the preservation and maintenance of historic properties.

If you would like to find out more about the WPTC, contact Dorothy Printup, Historic Preservation Skills and Crafts Training Manager, at (301) 663-8206.

Williamsport Preservation Training Center
4801A Urbana Pike
Frederick, Maryland 21704
301-663-8206 Fax: 301-663-8032

from November 10 to December 13, 1996, at the World Heritage Site of Chan Chan in Trujillo, Peru. The course is geared toward professionals and technicians in disciplines involved with the conservation and management of cultural heritage, and/or personnel with at least three years experience in the conservation and/or management of earthen historic/archeological sites. The course will be conducted in Spanish. The deadline for application was December 15, 1995, but if you would like more information, contact Training Program, The Getty Conservation Institute, 4503 Glencoe Avenue, Marina del Rey, California 90292-7913; 310-822-2299; Fax: 310-821-9409.

Call for Papers

The Society for Industrial Archeology announces its 3rd Annual Winter Symposium on March 23, 1996, at West Virginia University. The Three Rivers Chapter Winter Symposium committee welcomes proposals for papers and work-in-progress reports relating to the history of the Three Rivers Region including the following themes: transportation, iron and steel, navigation and maritime history, coal and coke, glass, and social history. Abstracts of 100 words or less should be directed to Lee Maddex at the Institute for the History of Technology and Industrial Archaeology, West Virginia University, 1535 Mileground, Morgantown, West Virginia 26505; 304-293-3829, fax: 304-293-2449, or e-mail: lmaddex@wvnvm.wvnet.edu. Submissions are due by January 31, 1996.

CAMP Conference

The Council on America's Military Past (CAMP) will hold its 30th Annual Military History Conference April 24-28, 1996, in El Paso, Texas. If you wish to submit papers and/or names of speakers, write to CAMP '96 Conference, P.O. Box 1151, Fort Myer, VA 22211. For membership information, contact CAMP, 518 West Why Worry Lane, Phoenix, AZ 85021; 1-800-398-4693.

Inter-American Symposium—When is Integrity Lost?

Inter-American Symposium on Authenticity in the Conservation and Management of the Cultural Heritage

San Antonio, Texas, March 27-30, 1996

Sponsored by: US/ICOMOS; International Council on Monuments and Sites, United States Committee; The Getty Conservation Institute; The San Antonio Conservation Society

with the participation of the ICOMOS National Committees of Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, France, Guatemala, Haiti, Honduras, Jamaica, Mexico, the Netherlands, Panama, Paraguay, Portugal, Peru, Spain, the United Kingdom and Venezuela.

As the concepts of authenticity and integrity have expanded from their original European roots to the entire world and to encompass new categories of cultural resources, the principles on which the preservation movement was founded have been thrown into question. At the heart of the debate lies the authenticity of the values that transform a site into a cultural resource. The valid interpretation of authenticity is the foundation upon which all preservation work rests.

Because the global professional network of ICOMOS provides the largest world forum for preservation, it has been in its midst that most important discussions on the topic have taken place. In 1994, meetings of specialists took place in Norway, Italy, and Japan. At the conclusion of the meeting in Nara, it was decided that authenticity continue to be discussed in all regions of the world in preparation for the 1996 ICOMOS General Assembly in Bulgaria. The European Symposium was held in the Czech Republic, the African in Zimbabwe, and our Symposium for the Americas is to be held in San Antonio.

Specialists from all the Americas will convene at the historic Saint Anthony Hotel to discuss what the topic means in the kaleidoscopic cultural context of this hemisphere, as well as the implications of its interpretation on the protection and management of the built heritage. To promote the broadest possible interaction, the Symposium will feature sequential thematic presentations by Christina Cameron of Canada, Carlos Flores Marini of Mexico, Elias Mujica of Peru and Silvio Mutal, formerly with the United Nations Development Program. Illustrative case histories will be presented by a broad spectrum of specialists from all over the Hemisphere. Presentations by individual National Committees will also be featured. To keep the debate focused, open discussion groups follow each plenary session and will be established according to three professional interest areas: archeological resources, architecture/urbanism, and cultural landscapes. Each group will develop recommendations to be approved at the closing plenary session.

Come join your colleagues from all the Americas! Registration fee covers the conference material, receptions, tour of the Missions, and other visits. Cost for ICOMOS members: $240 by February 27 and $290 after. For non-ICOMOS members, $300 by February 27 and $350 after. To register, send name, address, institutional affiliation, phone and fax, discussion group preference, and a check for the registration amount to US/ICOMOS, 1600 H Street, NW, Washington, DC 20006; or charge your registration to American Express by fax to 1-202-842-1861 and provide all the above information plus the American Express card data (number, name, date of expiration). Requests for refunds will be allowed up to March 13. A $50 cancellation fee will apply.

To qualify for the Saint Anthony Hotel's special conference rate of $99 (single/double), call the hotel at 1-800-355-5153 and identify yourself as an ICOMOS Conference participant.

Edwin C. Bearss Retires from NPS

Edwin C. Bearss, former Chief Historian of the National Park Service, retired from federal service on September 30, 1995, after 40 years with the National Park Service and almost 50 years of federal service.

Ed joined the United States Marine Corps in 1942. During World War II, he was with the Third Marine Raider Battalion and the First Marine Division in the invasion of Guadalcanal and New Britain.

Ed began to work for the National Park Service in 1955 as a park historian at Vicksburg National Military Park, MS. As park historian he initiated a research project that led to the finding and salvage of the Civil War gunboat *Cairo*. The restored *Cairo* and its associated artifacts are now on display at the park.

From 1958 to 1966, Ed was a regional research historian for the Southeast Regional Office. He was a staff historian in Washington. DC, in the Division of History from 1966 to 1970. From 1970 to 1981, He was a staff historian for the Denver Service Center. From 1981 to 1994 he was the Chief Historian of the National Park Service. During his last year of service Ed served as a special assistant for Director Roger Kennedy for military sites.

Bearss received many awards during his career and is a recognized authority in military history with a special emphasis on Civil War history. He has been particularly honored by the Civil War Round Table (CWRT) community, with the highest award given by the founding Civil War Round Table (1940) in Chicago, and other prestigious awards from Round Tables in Kansas City, New York, New Orleans, Little Rock, Houston, and many other cities. He has led battlefield tours for many of the nearly 200 CWRTs around the country, spoken to many of those groups on Civil War history, and led tours for the Civil War Roundtable Associates' national meetings for over two decades, donating his personal time to many of these efforts. Ed also served as an advisor to the Civil War Sites Advisory Commission in 1990-1993.

In 1961, Ed was honored with the Harry S Truman Award for Meritorious Service in the field of Civil War history. He was chosen "Man of the Year" at Vicksburg in 1963. In 1964, Bearss was chosen to become a member of the exclusive Company of Military Historians. He received the Department of the Interior's Distinguished Service Award in 1983—the Department's highest honor award—and a commendation from the Secretary of the Army in 1985.

Ed is the author of *The Vicksburg Campaign* trilogy, *Steele's Retreat From Camden & The Battle of Jenkins Ferry, Rebel Victory at Vicksburg, Decision in Mississippi, Sinking of an Ironclad,* and numerous other Civil War books and publications.

During his National Park Service career Ed Bearss was respected by all who had the pleasure of working with him. Ed has been called a "national treasure" by *Smithsonian* magazine for his work over the years in the preservation and interpretation of Civil War sites and history.

His knowledge of Civil War and military history is legendary among his peers and friends. He is a tough Marine, respected historian and friend to generations of National Park Service employees and visitors. Over the course of his career Ed always found time to meet with the public, consult with his colleagues and help other historians with their questions and projects. All of his friends and colleagues wish Ed well in his retirement and look forward to seeing him in the future during his battlefield tours.