

COLLECTION MANAGEMENT

Museums have only recently employed the term "collection management." Used in its broad sense it refers not to a new aspect of museum work but spotlights a traditional one: the care and use of collections.

Holding its collections in public trust, a museum stands accountable for faithful stewardship of the objects it accepts. The title of curator assigned long ago to the occupation most typical of museums doubtless signaled realization of this fundamental responsibility. Curating collections involves a range of unending tasks, many behind the scenes where neglect or failure may escape immediate notice. Calling basic collection care a management function helps museum authorities avoid the risks of slighting it.

The National Park Service *Museum Handbook* in 1967 defined what would later be called a well-managed collection as meeting five criteria: its specimens are selected purposefully, they are readily available for study, they are well preserved, they are accompanied by adequately organized data, and they are used to their potential in the park program. Purposeful selection results from accession policies clearly formulated and firmly applied. Ready accessibility requires systematic specimen housing and thorough indexing. Satisfactory preservation demands safekeeping and a regimen of continual informed care. The permanent linking of objects and supporting data necessitates systematic museum records. Much of the use that justifies a collection does not occur spontaneously but comes through studied development, an area in which park museums have still not done enough. The following sections consider in turn accession policies and procedures, museum records, and specimen protection and routine care with a brief look at collection use. A concluding section discusses problems of curatorial staffing, upon which success in meeting all five criteria hinges.

Accession Policies and Procedures

Accession policies concern what a museum collects and how it acquires or disposes of the specimens. They begin with a clear definition of a museum's purpose. Museums in national parks have had a good start in this regard, for the governmental action establishing each park defines its purpose more or less clearly. A park ordinarily preserves for public benefit and enjoyment an area containing one or more natural or cultural features deemed to have national significance. The museum as an instrument of the park collects what contributes to the preservation, understanding, appreciation, and non-consumptive use of the park's significant resources.

Simple as this may sound, forging effective accession policies proved a step-by-step process. Perhaps Major Bigelow took the first logical step

in 1904 when he ordered that plants for the Yosemite arboretum come from within park boundaries (Chapter One). As formal policy developed, geographical limitation on museum collections continued as a rule. Specimens would come from within park boundaries except when park needs clearly justified a wider scope. Secretary Franklin K. Lane set such a limit in his 1918 instructions to the new National Park Service. Director Stephen T. Mather underlined it in his 1925 annual report, in which he also restricted the subject matter of park museum collections to the park story.¹

The next step took a sharper look at what should constitute the park story. The Committee on Study of Educational Problems in National Parks, a spinoff from the Laura Spelman Rockefeller Memorial grants that first professionalized museum work in the parks, brought the clear thinking of Hermon C. Bumpus, John C. Merriam, and their committee colleagues to bear on what national parks should interpret. Their study led in January 1929 to the recommendation that interpretation should concentrate on those primary features for which the parks were established. A document approved by the director five months later tempered the committee proposal appreciably: instead of calling for the minimum of interpretation to do full justice to the prime features, it specified interpreting both primary and secondary aspects in proportion to their significance.² By retaining significance as a broad criterion, however, it excluded commonplace features of natural history or local culture exemplified elsewhere.

A decade of rapid museum expansion followed during which these precepts served as the basic guideline for museum collecting. After 1935 the new Museum Division saw the need to define more precisely what specimens to acquire. A policy memorandum issued in 1939 established the scope of museum exhibits for Park Service areas. It reaffirmed the primacy of a park's nationally significant natural and historical features, which determined the content of the park story to be told by museum exhibits. The park museum would acquire the specimens needed to tell this story. The memorandum acknowledged the need on occasion to go beyond park boundaries in telling the story and called for allotting exhibit space in proportion to significance. At the same time, it cautioned that extraneous factors such as popular interest or the intrinsic value of specimens should not justify exhibits in park museums. The memorandum's contents were incorporated in a general museum policy and procedure directive issued March 13, 1940.³

Thereafter the policy continued to evolve in form but remained constant in principle. The *Field Manual for Museums* in 1941 condensed the statement of general policy on what to collect while making clear that it applied to the study series as well as the exhibit series. Further abbreviated in the 1967 *Museum Handbook* and the 1976 *Manual for Museums*, it held

firm in its purpose of keeping museum collections centered on the park and focused on the park's nationally significant aspects.⁴

The general principle required expression in terms of the significant features of individual parks. At their second Service-wide conference in 1940, the park naturalists recommended that each park in its approved museum plans prepare and maintain lists of objects required "to develop and improve its reference and study collections as well as its public exhibits." As the *Field Manual* put it the next year, every park should define the scope of its own collection consistent with the general policy.⁵ Such a definition would tell the superintendent what specimens from the park or related to its story and purpose should be collected and preserved in the museum. Several pages of suggestions followed to help the parks set locally specific goals and limits in collecting natural history, historical, and anthropological objects.

Achievement of approved scope of collection statements for all parks took more than forty years. At first the Museum Branch sought a proper vehicle for them—one giving them official status from authoritative approval after expert review, plus continued visibility. They had direct relevance in three planning documents, although none afforded a really good fit. For a time the statements tended to be fragmented among the three.

The park master plan offered the most direct link to general accession policy and carried the maximum potency, but it was a document easily overburdened with detail. In the early 1940s the master plan contained an introductory statement of the park's significant themes and an interpretive statement spelling out concisely the park's significance. These statements took the initial step in defining the collection scope, but the plan's format did not accommodate fuller development of the definition. Efforts to require scope of collection statements in master plans in the 1960s did not bear fruit.⁶ When the general management plan superseded the master plan in the 1970s, it continued to supply the baseline information on significance needed for developing a scope definition without including the definition.

Meanwhile the Museum Branch sought to use the other two documentary vehicles in which it had more direct involvement: the museum prospectus and the exhibit plan. At the request of southwestern park naturalists, Ned Burns drafted a suggested outline for museum prospectuses in 1953.⁷ It supplemented the general instructions in the *Field Manual* and was incorporated into Volume 25 of the Service's *Administrative Manual*. One item in the outline covered the scope and use of study collections. The 1954 prospectus for the Museum of North Carolina Minerals on the Blue Ridge Parkway contained an early example of the definitions of scope that resulted. Although only a paragraph in length, the statement justified the need for a study collection of minerals and accompanying reference

materials, carefully estimated the numbers of specimens the series should contain and the cabinets to house them properly, and noted the equipment users of the collection would require.⁸ The scope definitions produced in other museum prospectuses tended to a corresponding degree of utility but seldom achieved sufficient depth and detail in analyzing collection needs.

For the scope of the exhibit series, the counterpart of the prospectus was the exhibit plan. The Museum Branch had responsibility for preparing exhibit plans, which received thorough review before approval by the director. Each included in some form a want list of objects for the exhibit units specified. A scope of collection definition could hardly be more precise, which is why the scope statement in the prospectus was limited to the study series. The restriction was perhaps shortsighted, because exhibits normally require refinement. Consequently the *Museum Handbook* (1967) recommended that scope of collection definitions comprehend both study and exhibit series.

About 1960 a new planning document, the interpretive prospectus, replaced the museum prospectus. The draft Interpretive Planning Handbook issued in 1965 called for a scope of collection section, and interpretive prospectuses thereafter quite commonly contained brief statements of collection scope. Activity standards issued by the Service in 1971 placed the collection scope statement in the interpretive prospectus and listed the approved scope as the first standard under curatorial activities.⁹

The Division of Museum Services took the next forward step following its organization in 1974. Observing that the verbal efforts of its predecessors had failed to get most parks to delimit adequately the scope of their museum collections, division chief Arthur Allen called the regional curators into conference that May and won their agreement to strive for an approved statement of scope in every park. Marc Sagan, Harpers Ferry Center's manager, released the conference recommendations a few months later but without endorsement. Continued prodding from the division prompted Sagan to write the regional chiefs of interpretation on the subject almost a year after the conference. Blaming confusion over what planning document should incorporate statements of collection scope for the failure of many parks to prepare them, he suggested that regional curators be made responsible for writing them. Park superintendents would then recommend them to the regional director for approval and filing in the parks. This succeeded in divorcing the scope statement from existing documents and letting it stand alone. Sagan concluded that he did not consider preparation of the statements as urgent business, an assessment the division did not accept.¹⁰

At this point the Division of Museum Services initiated the preparation of collection management plans (Chapter Five). Work on the prototype plan required the team to draft a much-needed scope of collection statement for

Hubbell Trading Post National Historic Site. It became apparent that a sound collection management plan had to build from a clear definition of collection scope. Perhaps as a result, the Service's *Management Policies* of 1978 stated that "a scope of collection statement, in which the limits of museum collection are detailed, must be prepared and approved for every park."¹¹ The first Service-wide conference of museum curators later that year resolved that "curators have the responsibility to keep their collections in accordance with an approved Scope of Collections Statement."¹²

The policy moved nearer fulfillment in 1979. In response to an investigative report from staff of the House Committee on Interior and Insular Affairs, the director convened a conference to reexamine how the Service should manage its cultural resources. Acting on the recommendations of the conference, he approved establishment of a new position of chief curator on his staff. The new chief curator gave high priority to instructions for writing scope of collection statements and to ensuring that each park had one. Completion of this task extended beyond the period of the present study.¹³

Policies on how to collect and dispose of specimens were a necessary complement. During the formative years of Service policy on what they should acquire, park museums continued to collect—not always wisely. In 1920-22 Ansel Hall scored conspicuous success in soliciting gifts and loans of objects to start a museum for Yosemite National Park. Convinced that this was the way to promote museum development in the parks, he urged the practice on the western park interpreters whose work he supervised for a dozen years. In 1934 Director Arno Cammerer gave similar advice for Great Smoky Mountains National Park. Parks of archeological significance, facing an early struggle to prevent their artifacts from going legally to distant museums or illegally into private collections, pressed the need to build up their own collections. Carl Russell, the Service's first staff expert on museums, set an example in gathering specimens with energy and skill. When he transferred to Washington in 1935 to lead museum development in the eastern national parks, he began a sustained effort to persuade the new breed of park historians that they should collect historic objects.

Ned Burns, who succeeded Russell as chief of the Museum Division on an acting basis in August 1936, viewed widespread encouragement of collecting from a different angle. With years of practical museum experience, he understood the sticky problems that often accompanied museum acceptance of gifts and loans. Such acquisitions had gotten many well-intentioned curators into trouble and sometimes had crippled their institutions. Fearing that park museums might become swamped with useless objects, Burns proposed to the director in September a policy to prevent the acceptance of specimens without due deliberation.

The only law he had found applicable to the subject was the Sundry Civil Act of June 5, 1920, which authorized the secretary of the interior to accept donated property within park boundaries or money for the purposes of the national parks. Having failed to find any delegation of this authority to Service officials, he concluded that only the secretary could accept gifts. He therefore proposed that parks be required to submit any offers of museum donations to the director for referral to the secretary. This would give the director the opportunity to have the Museum Division evaluate the authenticity and appropriateness of the material offered, the capability of the Service to care for it, and the possibility of any hidden disadvantages. The policy would also discourage park museums from accepting most loans.¹⁴

Burns redrafted his proposal as a memorandum from the director. Quoting the law, his draft memorandum bluntly stated that no Service employee could accept gifts for park museums, described procedures for obtaining secretarial approval, and stated reasons for the policy.¹⁵ Evidently some found the policy too strict, for rather than approving the draft Burns' superiors brought the matter before the Advisory Board on National Parks, Historic Sites, Buildings, and Monuments at its next meeting in March 1937. The board recommended that parks should not be authorized to accept restricted gifts or loans.

A much-revised memorandum to the field on the subject received secretarial clearance that July. It stated that superintendents should reject all offers of gifts or loans of museum material not obviously suited for display or study in a national park. This limited prohibition allowed a superintendent to accept objects inappropriate to his park but relevant to another. The directive permitted acceptance of specimens if they were significant only to one park, would require no excessive amount of museum space, and were free of restrictions on their use, display, or disposal. Offers not meeting all these criteria would be referred to the director. Superintendents were to report receipt of all museum gifts and loans immediately to the director. They were also to document each gift or loan with a form letter to the donor or lender, who would be asked to sign and return an enclosed copy.¹⁶

On October 9, 1937, the director sent out a supplementary memorandum warning superintendents not to confirm a lender's claims about an object's identity or association with some historic person or event.¹⁷ With this amendment the gifts and loans policy was incorporated in the general museum policy memorandum of March 13, 1940. The *Field Manual for Museums* restated it the next year, and it remained relatively stable throughout the period of this study.

Such modifications as did occur tended to follow organizational changes. After regionalization of the field service in 1937, correspondence

regarding museum gifts and loans that formerly went straight to the director would clear through the regional director. This intermediate supervision of policy execution brought to the surface an inherent problem. Whether a gift or loan had local or more than local significance could determine whether a park acted directly on an offer or referred it to higher authority. Yosemite promptly disagreed with its regional office on a specific case. The park considered John Muir's oak desk of local importance because of Muir's role at Yosemite. The regional director believed Muir's wide role in conservation made the desk of more than local significance and thus a matter for the director's consideration.¹⁸

Further postwar decentralization produced delegations of authority that set monetary limits on the value of museum gifts park superintendents might accept. At least by July 1967 superintendents in Grade GS-11 or above could accept donations valued at \$10,000 or less. Superintendents below GS-11 could accept donations up to \$5,000.¹⁹

The Service intended the form letter of acknowledgement to act as a legally binding agreement as well as an expression of thanks. The 1940 museum policy memorandum combined the gift and loan forms issued in 1937 into a single model with alternative terms such as gift/loan, donor/lender, specimen/collection, and park/monument. Some parks mimeographed exact copies and sent them to donors or lenders striking out the inapplicable words, creating a cold, bureaucratic impression. Late in 1944 the director issued a new sample with more graceful phrasing, but it remained a form letter. A 1953 field order urged superintendents to draft individual acknowledgements. Letters for gifts were to include a statement to be signed by the donor: "I hereby give unqualifiedly to the National Park Service the article(s) listed above."²⁰ This was intended to ensure that the donor understood the nature of the transaction and also to clarify that the Service rather than the individual park acquired ownership, a concept important to the free interchange of specimens among park museums when justified by interpretive, scholarly, or curatorial needs.

The order included a model letter that aimed at sincerity and warmth, but it did not prove as effective as hoped. When the regional curators conferred on museum problems in 1964, they reported that the letters of acceptance still often sounded impersonal and unfriendly. They proposed another model, which included a reminder that the gift was tax-deductible.²¹ Their version with slight changes was the one used in the *Museum Handbook* in 1967. It remained the official guideline until November 1977, when the Service adopted a deed of gift form as a more direct and businesslike way to ensure the transfer of clear title.

The 1953 order also called for superintendents to cap completed transactions with certificates—a small one for most gifts, a letter-sized one for especially noteworthy donations. Handsomely engraved on fine paper

by the Treasury Department's Bureau of Engraving and Printing, both included the Interior Department seal but the larger had it embossed in gold.²² The Museum Branch doled out both sizes to the parks on request. Supplies lasted into the 1970s, when the Service obtained less costly replacements through the Government Printing Office. The dignified appearance of the certificates was often compromised by amateur calligraphy in filling in their blanks, and their design required giving more prominence to the objects than to the donors. The certificates nevertheless served their purpose.

Postwar delegations of authority canceled the prewar requirement that offers bearing conditions be referred to the director. To compensate, the 1953 field order and subsequent statements of gift and loan policy reiterated the objections to restricted gifts, quoting the American Association of Museums' strong 1945 resolution on this subject. Guidance in the *Museum Handbook* aimed at gracious rejection of offers if donors could not be persuaded to drop conditions.

In response to a recommendation at a 1939 superintendents' conference, the director appointed a committee to address museum acquisition problems under Ned Burns' chairmanship in April 1940. National defense preparations intervened before the committee could carry out its assignment, but its initial efforts reflected Burns' concern about disposal of the numerous extraneous specimens in park collections. His thoughts toward solutions were shaped in part by the *Clearing House for Southwestern Museums*, a newsletter developed by museum anthropologists in five southwestern states to share information about their collections and research.

Burns described his plan for a Park Service museum clearinghouse at a park naturalists' conference in November 1940. It would collect from all parks lists of specimens their museums sought and objects they had acquired but did not need. Circulation of the lists would enable parks to make transfers. Reliable data on museum methods, bibliographies and other references helpful to isolated curators, and queries from research workers seeking to consult park collections would circulate as well. Burns saw the clearinghouse operating primarily as a newsletter appended to the Branch of Research and Interpretation monthly report. As an interim step, he got the director to issue a memorandum in January 1941 setting a referral and review procedure parks should follow when a gift offered to one seemed more appropriate to another.²³

Under existing law objects acquired by park museums became federal property that could not readily be divested by the parks or the Park Service. In contrast, non-federal museums could often exchange or sell unneeded specimens. Burns recognized that an adequate solution to the excess museum property problem would require similar authority and thus new legislation. After the war he and his colleagues gave much attention to this

matter. The right to exchange specimens with other museums and educational institutions probably dominated their initial thinking. Authorization for exchanges with private collectors and dealers was also desirable, even though barter with them might strain curatorial sagacity. They evidently decided against seeking authority to sell unneeded specimens. This would surely have been opposed by officials guarding the sale of government property, and sales by non-government museums had been fraught with difficulties.

Those drafting the needed legislation took the opportunity to address other park museum issues. Park museums were hampered in borrowing objects for exhibition or study because they could not use appropriated funds to insure them, customarily the responsibility of the borrowing institution. An embarrassing incident involving the insured shipment of a painting to Independence National Historical Park probably contributed to the inclusion of loan provisions in the bill.²⁴ On a more general level, the drafters of the bill aimed to establish beyond question the legal basis for the Park Service to acquire, hold, and manage museum collections.

Following the bill's introduction in Congress, Senate subcommittee hearings led to two amendments. A departmental witness proposed one to allay concerns that the proposed law would authorize appropriations to buy museum specimens rather than merely allowing donations of funds for this purpose. The subcommittee inserted the second change, a seriously restrictive section requiring notification of the committee and a donor or his heirs before a park could dispose of donated specimens. Fortunately this amendment did not survive final passage of what became the Management of Museum Properties Act, approved July 1, 1955.²⁵ Ned Burns did not live to see its enactment, but park museums reaped the fruits of his efforts.

The 1955 act helped materially to weed out excess museum specimens. Progress in this direction proved slower than hoped because relatively uncommon opportunities to acquire particularly wanted objects were usually required to prompt exchanges.²⁶ For the law to attain maximum success, park museums needed sustained efforts to refine their collections systematically through continual transactions aimed at upgrading overall quality and usefulness. This demanded knowledgeable curators in the parks, a rare management investment. By the end of the period covered in this review the legislation clearly required amendment. Chief Curator Ann Hitchcock had her staff develop proposed changes to speed the deaccessioning and refining processes.

Meanwhile the 1955 act did create valuable flexibility in such undertakings, as illustrated at Hopewell Village (now Hopewell Furnace) National Historic Site. Early in the park's development the Brooke family, who had owned the site and whose ancestors had operated the furnace, offered to sell the park its 19 carriages and considerable related gear. When

the Service failed to act, Hopewell's well-meaning historian bought the collection for the park out of his own pocket. Although the Service reimbursed him a few years later, there were continuing doubts about the relevance of the collection, which reflected the fashionable life of a well-to-do manufacturer during a period after Hopewell Furnace had ceased production. It also occupied a large barn on the site needed for proper interpretation of the park story.

Finally in 1963 the Museum Branch aided the park in working out a rather complex solution. With the assistance of an expert carriage consultant, the park loaned the collection to the Staten Island Historical Society, which was initiating a carriage museum. The agreement provided that the park would transfer ownership of the collection piece by piece as the society located, acquired, and exchanged older work vehicles of equivalent value appropriate to furnace operations.²⁷ The 1955 act facilitated both loan and exchange aspects, including transportation and insurance. Without it the Brooke collection would doubtless have become a nagging clearinghouse problem.

The clearinghouse issue resurfaced in 1959, when the Museum Branch brought together curators temporarily appointed in the regional offices to upgrade museum records. The conference agenda looked ahead toward tasks that would justify retaining the curatorial positions in the regions. Because work on park records had given the curators a better grasp of the status of the collections than previously available, they were asked if the collections appeared to need clearinghouse help and how and where it should be provided.²⁸

The conferees drafted a strong clearinghouse justification based in part on the increased specimen exchange opportunities and risks created by the 1955 act. They proposed that parks supply the same data on wanted and surplus specimens called for in the 1940 Burns proposal but that clearinghouse functions be based principally in the regional offices. With the steadily improving records, parks could provide the information on surplus specimens by submitting duplicate catalog cards for them. The regional curators would match want lists with surplus specimens within the park system, initiate negotiations outside the Service to exchange excess material for needed objects, and propose suitable long-term loans for items with educational potential not otherwise disposable. When superintendents approved tentative arrangements made by the curators, the specimens would move directly from collection to collection.

After the crash records improvement funding ended, a field order of April 3, 1961, activated the regional clearinghouse scheme. *Museum News* carried an announcement to alert outside museums to the new specimen exchange opportunities Park Service museums afforded them. Although park museums put the new procedure to considerable use, they tended to

have more interest in acquiring specimens than in clearing collections of unneeded material, hampering effective application of the process. For example, Region Two had received few records of surplus specimens by 1962 when it found itself heavily pressed by the Jefferson National Expansion Memorial to obtain many specimens by exchange for its large planned museum.²⁹ Regional clearinghouse activity, which continued during the remaining two decades covered in this study, may also have been impeded by some parochial reluctance among parks or regions to share lists of prime trading stock. Certainly increased clearinghouse activity in the central offices of the museum program encroached on the regional scheme.

At the central level the clearinghouse concept became entangled with the idea of central specimen repositories. Two of these, the southeastern and southwestern archeological centers, existed at the time of the 1959 regional curators' conference. The latter occupied the Gila Pueblo research facility at Globe, Arizona, where it served a valuable secondary purpose of safely housing collections from small national monuments lacking space and staff to care for them. While the curators supported these facilities, they generally did not favor central repositories for park collections.³⁰ This conclusion reflected the basic principle that park museums and their collections are site-related. Because these collections achieve their fullest utility in helping to preserve and interpret specific places, locating them elsewhere should be no more than a temporary expedient. The Museum Branch at the time reminded management and the Mission 66 planners repeatedly of this.

Central repositories also tended to become clearinghouse way stations, as happened in the Division of Museums. When the temporary move of the central museum staff to Springfield, Virginia, in 1966 gave it access to some additional storage space, the Branch of Museum Operations was able to house for Cape Hatteras National Seashore a surfboat awaiting restoration. Evidently the rumor of free storage space for bulky museum objects spread rapidly. Yellowstone National Park sent temporarily displaced historic army furnishings from Fort Yellowstone. Several parks followed with cannon tubes. Historic paneling came from Independence National Historical Park. Two more surfboats arrived.

The pending move to Harpers Ferry, where it would have scant facilities to store specimens, found the newly reorganized Division of Museums with a sizable central repository. Partly to solve this dilemma the division set up a Branch of Curatorial Services under Chief Curator Harold Peterson to remain in Springfield (Chapter Five). The repository became known as the Museum Clearing House, reflecting Peterson's important role in specimen acquisition, authentication, and care on a Service-wide basis. Under his supervision the stored material found use in transfers and exchanges as appropriate.

When the repository/clearing house was transferred to Harpers Ferry in 1978 under the Division of Museum Services, the emphasis was initially on getting the several thousand objects recorded and accountable, placing them in secure and orderly storage, and developing a clearinghouse procedural manual. As attention shifted to clearinghouse operations, the ambivalent nature of the affair became more apparent. The Division of Museum Services, aiming to help park museums dispose of unneeded specimens and get needed ones through responsible transfers and exchanges, would virtually eliminate the repository function in due time. Other Harpers Ferry Center divisions involved in museum development, viewing the clearinghouse collection as a pool of specimens for new exhibits, would welcome more objects available for use where needed. Friction between these concepts led to a 17-page set of guidelines that divided clearinghouse functions between Museum Services and Reference Services. In 1981 HFC's manager proposed turning the clearinghouse over to the Branch of Historic Furnishings, a principal user of it as a specimen pool, but was dissuaded.³¹

The situation changed in 1982, when reorganization at Harpers Ferry placed the Museum Clearing House among the responsibilities assigned the new chief curator in the Washington Office. Ann Hitchcock halted acceptance of surplus objects and set a goal of terminating its role as a repository.

Museum Records

Curatorial training and experience emphasize the importance of records, for a museum specimen unaccompanied by supporting information has limited usefulness. Recording demands so much thoughtful attention, however, that curators have too often postponed or slighted the time-consuming task. In consequence, museums have commonly suffered from incomplete or missing records except where enlightened management has applied the resources and pressures to assure full, accurate, and continual record-keeping.

When park museums first appeared, no widely accepted museum record system or guidance existed. Glimpses of how parks responded to the situation in the early years reveal faltering starts. Mesa Verde National Park accumulated artifacts without supporting records at least until 1915, when Stephen Mather wrote a stern letter to the superintendent requesting assurance that the park could catalog specimens accurately before venturing to exhibit them publicly (Chapter One). Six years later a new, knowledgeable superintendent had still not recaptured all the missing data that would make the specimens usable.

Yosemite National Park began keeping systematic museum records in 1920. The first entry, Accession No. 1 in a bound blank book, reported an Indian burden basket received July 1. Presumably Ansel Hall set up the record book to keep track of the material he was collecting for the park museum he hoped to get established. It continued in use until full, and a second book followed. Containing a total of 8,263 entries, these comprised the basic museum records for Yosemite until about 1960 although worked over and extensively supplemented by additional forms and data.

The original book showed promise but had serious flaws in concept and execution. Each double page was laid out under nine column headings designed to record the details of transactions, but the entries promptly confused this intention by assigning each object a consecutive accession number. The record thus became a specimen list accompanied by acquisition data but scant catalog information. Such an imbalanced mixture of transaction and specimen data made both sets of data awkward to use. The first 22 entries, for example, constituted a single gift from one individual and the next ten a separate donation from another person under the same date. Entries soon began to violate chronological sequence, suggesting that the recorder made them when time permitted rather than as a first priority duty—the single problem that perhaps most jeopardized the integrity of park museum records for many years. Apparent haste led to designating donors and lenders only by initials and surnames with little or no indication of address, a practice sure to create trouble for later curators. Other entries implied gifts of money enabling the park staff to buy the objects listed.

Responsibility for the Yosemite museum records passed to Carl Russell in September 1923. Russell started quickly to compensate for some inadequacies in the system, using the volunteer assistance of his wife to prepare a typewritten card index of the collection. Russell's deeper roots in museum work as well as a predilection for careful record-keeping sustained his concern for the Yosemite records beyond his employment on the park staff. His monthly report for October 1929, for instance, showed seven days in the park spent at such curatorial tasks as recording and storing all museum accessions not currently on exhibit while training the park naturalist to maintain the system.³²

The First Park Naturalists' Training Conference in November 1929 briefly considered museum records. As at Yosemite, the conferees thought in terms of an accession number assigned to each specimen acquired, an accession book in which to record how and when each was obtained, a catalog of the collection in the form of a card file arranged alphabetically by subject with the cards containing both object data and location, and secondarily an alphabetical card file of donors. They understood that the accession and catalog records had permanent importance and recommended storing a duplicate set of catalog cards in a fireproof vault. On the other

hand, no speaker seemed to realize that acquisition transactions required one set of data while specimen identification and study called for another. No suggestions emerged regarding what sort of book or cards to use or what information to record in what format, nor were subject classifications proposed for indexing. Continued diversity in park museum records would surely result. The principal paper on museum records made the all-too-realistic observation: "Clerical work must assume secondary importance for obviously the matters of prime consideration must be taken care of first."³³

Laurence Vail Coleman's *Manual for Small Museums* contained a chapter on museum records that provided an unofficial standard for park museums during the next decade. Coleman pointed out that museums indeed require two sets of recorded data, one of accessions and the other of specimens, each calling for a series of numbers. Accession numbers designated each successive transaction by which a museum accepted custody of specimens. A catalog number distinguished each individual specimen and should be permanently affixed to it. He advocated keeping accession records in a bound volume to minimize the risk of losing data. To promote complete and consistent transaction records he proposed column headings for the accession book. He also suggested adding the accession number to documents related to the transaction and filing these together. While less specific on the form of the catalog, Coleman noted that most museums used cards in preference to bound or loose-leaf books. He recommended desirable catalog entries. Finally he described four useful auxiliary records a museum could derive from the basic accession book and catalog.

Nudged by Carl Russell as museum advisor, park museums began moving toward these practices in the early 1930s as park museum development accelerated. Attention centered on exhibit planning, preparation, and installation, however, and exhibit work absorbed most of Russell's time. Opportunities to promote or demonstrate the importance of maintaining the records came only sporadically, principally during his extended assignments at Yellowstone.³⁴

About 1932 the Park Service issued its first standard museum record forms. They consisted of two printed 5x8-inch cards: an accession record on buff stock (Form 10-253) and a catalog record on white (Form 10-254). Russell, if he originated them, probably intended them to supplement rather than replace accession and catalog books. The accession cards would provide an auxiliary donor file and the catalog cards an index to the collection. Unfortunately, several of the spaces on the cards were inadequate for the data they were intended to accommodate.

Russell did not lose sight of museum records concerns when he moved to Washington in 1935 to organize and become chief of the Service's Museum Division (Chapter Three). Impressed by the size and value of

collections in several of the new eastern park units, he realized the urgency of recording them. When he stationed curator John Sachse at Morristown National Historical Park that April, he evidently included in Sachse's assignment preparation of a records procedure for the park collection. The curator promptly drafted a report, "The Museum Records for Morristown Museum," which the superintendent approved without delay.³⁵

Sachse's proposal conformed closely to what Russell had in mind for Service-wide application. Following Coleman's manual it specified the two basic records: a bound accession book and a loose-leaf catalog. The loose-leaf format enabled the catalog to be typed with carbon copies for daily use with the collection while the original remained secure. Sachse's report also called for typing exact copies of the accession book and catalog entries on the official accession and catalog cards, which would be filed to produce a donor index and a collection index. Additional copies of the catalog cards could be used to establish an auxiliary loan record and extra copies would permit essential cross-indexing of the classified catalog file.

Russell had the report mimeographed and distributed to the parks with instructions to adopt the system it contained. The system was reaffirmed in the March 13, 1940, general museum policy memorandum and the 1941 *Field Manual for Museums*, which clarified the instructions. The *Field Manual* mandated use of the standard accession and catalog cards and told how to requisition them. It made standard compliance easier by specifying that the accession record should be chronological, the accession book a ruled record book of high-quality paper, and the entries written in permanent carbon ink. It prescribed that the catalog book and cards should be typed except for changeable data such as specimen location (to be entered in pencil) and called for more detailed descriptions on the cards. It also looked more closely at the matter of classification.

For natural history collections, standard references in botany, zoology, and geology already provided widely accepted taxonomic classifications. At least in the Southwest archeologists and ethnologists seemed to have settled on workable object classifications. That left the growing collections of historic objects. A two-level outline of cultural materials reprinted from Coleman's manual provided a fairly comprehensive list of larger categories parks might use. It was assumed that the smallest categories would become self-evident as indexing progressed. For the intermediate categories that would contribute most to a useful index, the *Field Manual* merely suggested that each park select its own. The state of material culture scholarship at the time precluded uniformity among the park catalogs in this regard.

By this time the Museum Division realized that the specimen records necessary for an archeologist studying excavated material differed somewhat from those a curator required. The *Field Manual* began an effort to reconcile the divergent needs by pointing out the apparently satisfactory

modification adopted at Ocmulgee National Monument. The monument simply added a third set of the catalog cards and filed them by archeological site. Archeologists also needed on the catalog card the exact location an object had occupied in the site as well as a field number to link the specimen to other field records.

When National Capital Parks undertook to catalog the White House furnishings after the war, Museum Division/Branch staff became sufficiently involved to gain valuable experience (Chapter Six). Ralph Lewis studied the problem, proposed recording procedures and forms, helped apply catalog numbers to most of the collection, and cataloged a considerable number of items. Convinced that the Park Service had a basically sound museum record system, he adopted it in principle. A top-quality accession book, printed and bound to order, drew on National Museum practice and provided a fresh standard for park museums. A redesigned catalog card kept the size and important data location features of the parks' Form 10-254 but revised and rearranged a number of the headings for clarity and ease of typing.

In 1950 the Museum Branch made available to the parks a new catalog card reflecting the improved layout developed for the White House.³⁶ Because management then saw other operational problems as more urgent than museum record-keeping, its use was limited. During the same period the branch began training park staff in the recommended records practices as part of the Museum Methods course, but this effort reached only a fraction of those responsible for performing the work. Satisfactory progress on the records would require a stronger incentive.

A forewarning of the nature this stimulus would take had come in 1940, when an Interior Department investigator observed that Petrified Forest National Monument lacked adequate accountability for its museum collection. The monument made a complete inventory and began including the more obviously valuable specimens in its accountable property records under property management regulation. About 15 years later inspectors made a similar discovery about the Lincoln Museum collection in the old Ford's Theatre building, which Congress was interested in restoring. This prompted a Service-wide survey of the status of park museum records, which disclosed that few if any parks had kept these records to a satisfactory standard. Existing records were often incomplete and backlogs of unrecorded material had accumulated. As a result, early in 1956 management directed the Museum Branch to plan and execute a project that would bring the records up to date by June 30, 1960.³⁷

The existing records system, judged to have a sound basis in principles, required improvement rather than replacement. As revised it should become mandatory. It should ensure the material permanence and security of the primary records. Users of the system should receive clearer, more detailed

written instructions. Record keepers in the parks would also need expert supervision and assistance to complete the updating in the allotted time. The project therefore had two aspects. The branch would have to refine the system, define the standards, and prepare the guidelines without delay. A field staff would then have to provide on-site guidance and help.

Suzanne Fox, formerly a registrar at the Brooklyn Museum, brought particular competence to the initial stage of the project. Joining the branch in May 1956 and remaining until the following March, she helped decide what features of the existing system to retain and which ones to change, then worked out the necessary details of forms, materials, and procedures for the revised system.³⁸ After writing specifications and initiating procurement she set out to draft the essential users' guide.

The revised system kept the basic distinction between accession record and catalog and retained the separate, strictly linear sequences of accession and catalog numbers.³⁹ It held to the concept of the accession book but specified a new standard book that the branch would supply to the parks. Printed and bound, the book would contain permanent all-rag ledger paper laid out under seven column headings. Fox also established the practicability of replacing the loose-leaf catalog book and index card by a new Form 10-254. A higher standard of permanence for the original catalog record was sought by having this copy of the form printed on archival paper, by instructing that it be typed using a ribbon of known durability, and by having it bound in a special post binder kept in a fire-resistant vault separate from the other copies. The layout of the form facilitated more complete and systematic entries. A second or working copy was printed on blue bond paper of slightly lighter weight and a third on strong white card stock suitable for filing. The Government Printing Office supplied the forms in pads assembled in the proper order so that all three copies could be completed simultaneously using carbon paper.

Vera Craig transferred from Morristown National Historical Park to the position vacated by Fox in May 1957. She put the finishing touches on the instructions and sent them to the regional directors for comment in June. The approved instructions went out to the parks in November as the *Museum Records Handbook*.⁴⁰

With funds supplied by the project, the regional offices recruited curators to supervise the crash program in the field. Region One (Southeast) chose Elizabeth Albro, who had studied anthropology at the University of Arizona and worked at the Buffalo Museum of Science. Newell F. Joyner, a former park naturalist, left the University of Nebraska State Museum to take the Region Two (Midwest) position. For Region Three (Southwest) Franklin G. Smith, who had university training in anthropology and field experience in three southwestern parks, left his post in Washington as management assistant to the Service's chief archeologist. Region

Four (Western) picked a Service archeologist, Leland J. Abel, also with solid field experience. Horace Willcox, trained in anthropology at Princeton and the University of Pennsylvania, transferred to the Region Five (Northeast) position from a regional archeological survey. All entered on duty by January 1958. Craig gave each a thorough introduction to the new forms, prescribed materials, and procedures. The director announced their mission in a memorandum to all field offices underlining the urgency of the project.

The regional curators visited the parks, helped analyze their existing records, and worked with their recorders until they had mastered the new procedures. Thereafter they had to spur continued progress and monitor the quality of records being produced. They did not encounter entirely smooth sailing. The massive workload posed by the 135 parks with museum collections kept them under continuous pressure. Existing accession records often presented problems requiring detailed solution before recording in the new permanent books could begin. Normal staff mobility shifted some of the freshly trained recorders to new assignments, making it necessary to go back and train their replacements. Some managers failed to sustain the sense of urgency the project's schedule demanded or to realize how much work the records required.⁴¹ Every region had at least one large collection that might have monopolized its curator's attention.⁴²

Vera Craig provided central support and guidance. In January 1958 she helped Willcox set up the new accession records for Independence National Historical Park. The following month she trained a full-time curator National Capital Parks had hired to catalog the Lincoln Museum collection. In April she went out to Region Three to assist with records problems. A series of progress reports she initiated in July helped to monitor the project as a whole. Much detailed work in planning and conducting the first regional curators' conference in February 1959 and in carrying out its recommendations fell to her. She spent much of two months during 1960 inspecting and helping with specific museum records situations in Regions Two, Three, and Four.

Craig also held continuing responsibility for the *Museum Records Handbook* as it evolved with the project. Having tested the handbook in the field, the regional curators brought to their first conference several matters that appeared to need attention. Their discussions resulted in Amendment No. 1 issued in June 1959. It explained better the distinction between books, manuscripts, and photographs to catalog as museum specimens and those to treat as library material, and it added details to the instructions on required reports to the finance office. Its principal component was a new chapter setting forth a standard classification system for park museum collections. In drafting the scheme Craig and her Museum Branch colleagues had consulted extensively with National Museum curators to

obtain recognized classifications and references in the various subject fields. They had also examined a wide range of published classifications, particularly in the area of material culture. The regional curators debated the draft at length and contributed especially to the archeological and ethnological categories. Because the system as added to the handbook could not avoid complexity, catalogers in the parks failed to apply it consistently.

The records project secured an extension of funding until June 30, 1961, after it became evident that at least four large collections could not be fully cataloged within the initial period and several other collections seemed doubtful of completion. As the extended deadline approached, field reports indicated that most parks—those with collections of moderate size—had brought their museum records up to date in accordance with the revised instructions.⁴³ Permanent, systematic, essentially uniform museum records had become the norm, even though the quality of data still often fell below the standards desired. Management throughout the Service had a heightened awareness of responsibility for recording museum collections. The project had accomplished much.

In mid-1963 the Museum Branch requested a second conference of regional curators, primarily "to maintain the museum records program in high gear."⁴⁴ Postponed until September 1964 by the reorganization that created the Branch of Museum Operations, the conference took place at the Mather Training Center in Harpers Ferry. The curators brought information showing how much the program had already slipped. They reported 36 Park Service units with museum records seriously in arrears, including several where large collections remained partially uncataloged. Other parks had acquired quantities of additional specimens from archeological projects or other sources for which they had failed to program adequate recording funds. A few newly established parks brought collections in need of recording. The remaining backlogs occurred in parks without trained staff to do the job. The curators also acknowledged their general dissatisfaction with the quality of data they had been able to get the parks to enter in the museum records.

To deal with the cataloging backlogs the curators proposed to develop individual action plans for their delinquent parks. The plans would recommend the temporary assignment of existing park staff to the tasks, set realistic target dates for completion, and estimate probable costs. If management would authorize the proposed work, it should get done. The regional curators expected to lend assistance particularly through hands-on training of the assigned workers. They blamed the poor quality of data in the records so far produced under their supervision to the inadequate training they had been able to provide. Management response to these conference recommendations underlined the travel restrictions still in force.⁴⁵

The conferees also recommended some changes in the handbook. One specified the accessioning of objects received on approval, for which a park became accountable even though it might retain them only briefly. Another refinement made mandatory the source of accessions file, a useful auxiliary record. A third change resulted from thorough discussion of a vexing question in recording archeological collections. When an archeologist delivered a collection to a park museum before having culled fragmentary duplicate material no longer considered useful for research, the museum would accession the collection as a whole and defer cataloging the specimens until the archeologist had removed the excess items.⁴⁶

After the 1964 conference the new Branch of Museum Operations continued central staff supervision of the museum records program as well as its technical support. The branch functioned as the supply base for forms and materials the parks required for museum record-keeping. It monitored progress through continued reports from the regional curators. It also maintained the handbook of instructions up to date while incorporating it into the expanding *Museum Handbook*. In 1965 the branch staff set up an internal procedure it hoped would help raise cataloging standards in the parks. Specimens sent to the central museum branches for preservative treatment or inclusion in exhibits would go back to the park accompanied by new or revised records that aspired to be "a model of completeness, consistency, accuracy and scholarship in cataloguing practice."⁴⁷

Establishment in 1956 of the Service-wide museum records system anticipated a union catalog of all park museum collections. The Museum Branch could not then document a demand for a central catalog, but David Wallace brought supportive evidence when he joined the Branch of Museum Operations in 1968. During his curatorship at Independence National Historical Park he had "fielded many queries which were of broad enough scope to warrant general search of Service museum records."⁴⁸ He drafted a justification for a general catalog of Park Service museum collections in connection with an abortive issue paper prepared by the Division of Museums in 1970 (Chapter Five). Wallace and Arthur Allen, his successor in responsibility for museum records, continued to request funding for a central catalog. Their persistence succeeded in 1977 with the establishment of the National Catalog, whose subsequent development led to important changes in the records system as a whole.

From the mid-1960s the Branch of Museum Operations watched closely the developing applications of automatic data processing in museums. Most early efforts concerned specialized types of collections, whereas the Service would need a system matching the wide aggregate scope of its scattered collections. Increased value would result from a system that could also link park collections to those in museums outside the Service. Computer specialists in the Washington Office showed an interest in the museum

catalogs at least as early as 1969, but in 1973 Wallace needed to dampen their interest by pointing out that the existing catalog records required much preliminary work.⁴⁹ Four years later establishment of the National Catalog led the Division of Museum Services to take a fresh look at computers in museum cataloging, which became usual in the next decade.

Specimen Protection and Routine Care

Museum specimens, like all material objects, deteriorate toward eventual destruction. The process may be slow and barely perceptible or swift and obvious. Agents present in the environment or within the specimens themselves cause the damage. Environmental factors include common forms of energy such as light and heat; air as a mixture of chemically active gases and as a bearer of abrasive or reactive dust; water in all its forms; and biological agents such as insects, fungi, bacteria, small mammals, and humans whose careless hands often accelerate injury. Museums can never completely win the war against deterioration but must wage it without surrender. Knowing that with proper care they can greatly prolong the life of specimens, curators must forever take measures to protect them from the agents of deterioration, mitigate the effects of these agents, and compensate for the damage that nevertheless occurs.

The interminable campaign involves both operational and logistical problems, the preferred solutions to which changed during the years covered in this study. Knowledge about the precise nature of the destructive agents, their modes of attack, and their complex interrelationships expanded and deepened. Methods of detecting dangerous conditions and protecting specimens from them developed correspondingly. Procedures and equipment became more sophisticated. An auxiliary profession of conservators emerged as a strong ally (Chapter Nine). Expanded concern for health hazards associated with some protective measures led to changes that improved specimen care at increased costs. Protective space in buildings, proper storage equipment, environmental controls, and informed care were recognized as fundamental requirements.

Before the 1890s museums generally gave little thought to storerooms for specimens, because everything they collected typically went on display. Museologists then began to recognize that some specimens were more valuable for study than exhibit. A study series needed space in which its specimens could be filed safely and kept readily accessible for examination. Long-established institutions found it difficult to allocate space for study storage, however, and when national parks started constructing museums in the 1920s, guidelines for including collection storerooms were not yet well established.

Some respected museums built in that decade removed study series from the exhibit cases and stored them in drawers set into the case bases. Although this saved the expense of providing separate storerooms, curators and visiting scholars consulting the study specimens and the public who had come to view the exhibits got in each other's way. Storage rooms dedicated to the preservation and use of study collections were clearly the right answer, but they increased the size and cost of museum buildings, and the more public features claimed higher priority.

These factors appeared to operate frequently in the case of park museums. The prototype Yosemite Museum built in 1925 under the auspices of the American Association of Museums seems not to have provided for the park's study collection, for in 1929 Carl Russell installed 15 mouse-proof and light-tight compartments in its attic for collection storage.⁵⁰ Superintendent Jesse Nusbaum of Mesa Verde apparently planned to include collection storage space in the museum he was building in the mid-1920s, but construction funds did not extend that far down his list of needs.

Museums built under Depression emergency programs during the next decade fared little better in this regard. The Morristown museum, designed by experienced museum architects, did include a modest collection room with attached vault. Ocmulgee's museum also contained a collection storeroom within the symbolic earth mound on which it appeared to stand; it proved too damp for the purpose although used of necessity for some years. The architectural constraints associated with patterning most of the museum/administration buildings at the military parks after period houses in their vicinities made it hard enough to create effective exhibit rooms and evidently more difficult to include storage for study collections.

The Museum Division noted the omission of such space with concern. Its 1949 *Field Manual* declared study collection rooms equal in importance to exhibit rooms in park museums. It recommend dividing the study collection space into two parts, one for protective storage and an adjacent room in which to study and work on the specimens. It suggested that the study collection in most parks would need at least as much floor space as the exhibits. It should remain close to staff offices and exhibit rooms for access and surveillance. It did not belong in the basement.

Park Service architects had little occasion to consider these guidelines until after World War II, when Lyle Bennett, an architect in the Region Three (Southwest) office, compiled a thorough and thoughtful supplement to the Museum Division statement of building requirements. His Check List for Museum Planning gave due attention to facilities for collection care. It clearly distinguished between the collection storeroom and study rooms or laboratories. For the collection room it considered uses, general requirements, and location. It also noted storage vaults. First issued in 1948, the

checklist continued to aid museum architectural planning as Bennett refined it.⁵¹

The Service architect who designed the museum building for Custer Battlefield National Monument no doubt referred to it. Constructed in the early 1950s, this museum contained a good-sized vault for collection storage with a workroom adjacent. Its basement location disagreed with the guidelines, but the museum site on a sagebrush hill appeared to minimize risks of high humidity or flooding.

Collections also received careful consideration in the museums built in 1957. That designed by Service architect Cecil Doty for Grand Canyon National Park had a large room on the main floor for the study collection adjoined by a relatively spacious work and study room for the seasonal naturalists and visiting scientists who would use it. Staff offices, library, and exhibit rooms were conveniently close. Unfortunately, other managerial needs for the work and study room soon caused its functions to be shifted into the storeroom with the collection. The extensive Jamestown and Yorktown study collections at Colonial National Historical Park were brought together for curatorial efficiency in the basement of the new visitor center at Jamestown. One end of the basement opened at grade level, where a glazed wall gave well-lighted space for curatorial operations. Events in this case showed why the guidelines advised against basements for storage functions: within a few years hurricane-driven flood waters of the James River invaded the collection store.

The 1957 structures set course for the hundred or so visitor centers erected under Mission 66 that housed park museums. In mid-1960 the Museum Branch declared that the new buildings had provided improved study collection space in most instances. Evidently this observation came from plan reviews rather than inspection of the actual buildings. By the end of the year, following visits to several of the parks involved, the branch revised its position. The most common and serious faults discovered in collection storage provisions included inadequate size, basement location, shared occupancy or access, and lack of environmental controls. Adverse effects on the collections and their use became increasingly apparent as time passed.⁵² By the 1970s some kind of corrective action seemed urgent, at least to central and regional curatorial staffs.

As a first step the Museum Services Division led by Arthur Allen began preparation of collection management plans in 1975 (Chapter Five). These undertook to devise and recommend practicable solutions for proper collection storage that would largely overcome the deficiencies of existing museums. In especially critical cases the division prepared briefer collection storage plans that concentrated on this aspect. Both plans depended on park management for execution. In a few instances, as at Antietam National Battlefield in 1981 and Nez Perce National Historical

Park in 1982, the division in collaboration with the regional curator took a work crew to the park to physically upgrade storage conditions as proposed in the plan. Such measures, continuing beyond the period of this study, alerted Service management and created momentum toward bringing collection space up to acceptable standards.

Proper specimen care also depended on furnishings for the storerooms. Specimen containers needed to achieve three objectives: to protect the specimens and attached data from agents of deterioration, to facilitate systematic arrangement of the stored objects so items could be located readily for inspection or study, and to use the available volume of storage space efficiently.

By the time museums became a matter of concern in national parks, natural history curators elsewhere had worked out practical cabinets for filing study skins, herbarium sheets, and pinned insects. A few manufacturers marketed specialized equipment for these contents, although many museums continued to build their own. For other kinds of natural history specimens and material culture objects that ranged more widely in size, shape, and vulnerability, individual museums often devised their own solutions. In park museums adoption of collection storage equipment went through four fairly distinct stages.

The first stage consisted of local ad hoc actions. Yosemite must have enclosed its 1922 museum collections in some manner because Carl Russell reported carrying out an overdue fumigation of them the next year. In 1929 he improvised study collection storage in the attic of the newer Yosemite Museum, as noted above. A few weeks later discussions at the First Park Naturalists' Training Conference showed that the conferees had some familiarity with natural history specimen storage, probably as practiced at the universities where they had studied.⁵³ Coleman's *Manual for Small Museums*, to which they referred during the conference, described and illustrated a simple cabinet with drawers a museum might build for storing a variety of specimens.

More substantive help marked the second stage, which came in the mid-1930s as a byproduct of the Depression. The Field Division of Education and its successor Western Museum Laboratories, employing a considerable number of emergency relief workers, produced a variety of supplies and equipment that parks could order for not more than the cost of materials and shipment (Chapter Three). In April 1938 the Western Museum Laboratories sent each park an illustrated catalog of the various products it could supply under this program, including study skin, herbarium, geology, and insect cabinets.⁵⁴ Park museums across the country welcomed the chance to acquire these sturdy, practical cases at bargain prices although the total number of cabinets produced may not have been large.

This second-stage storage equipment represented good functional design. The shop probably patterned the study skin cabinet after the type used by the Museum of Vertebrate Zoology at the University of California, which Joseph Grinnell had made a model of well-organized storage. The case had a wood frame sheathed in galvanized iron, held a single tier of shallow drawers with wood sides and composition board bottoms, and opened by a removable front held against a rubber gasket. Its counter-high top provided a convenient work surface. The exterior construction of the herbarium cabinet resembled the study skin case but the interior contained two double tiers of fixed rectangular compartments to hold dried plants mounted on herbarium sheets and assembled in systematic folders. The geology case replaced the metal sheathing with plywood and held two tiers of smaller, sturdier drawers to carry the heavier specimens involved. The metal-sheathed insect cabinet, designed in consultation with university entomologists for park museum use, aimed to store a relatively small collection.

The Museum Division in Washington addressed the proper storage of park museum collections in the 1941 *Field Manual for Museums*. Recognizing what the Western Laboratories called a study skin case as a preferred container for most kinds of relatively small objects, the manual termed it the standard study collection cabinet. Because some items in most collections would not fit in one of these or required special protection, the manual also recommended herbarium cabinets, the Western Laboratories' insect cabinet, commercial map files for large flat paper artifacts, and wire screens for hanging framed pictures. It advised placing specimens singly in trays when filing them in the standard cabinet drawers to minimize damage from handling and from the objects jostling against one another.⁵⁵

The postwar Museum Branch moved slowly toward the third stage, adoption of a standard system for storing park study collections. Several advantages were envisioned: all parks would use equipment of high quality specifically designed to accomplish the three objectives cited above; disseminating professional advice and instruction in its efficient use would become practicable; centralized procurement would help ensure quality and economy; personnel moving from park to park would transfer their familiarity with the equipment; and any surplus of standard equipment could find ready use in another park. The branch detailed its proposals for a uniform system of storage equipment in a 1956 amendment to the Service's *Administrative Manual*.⁵⁶

Its recommendations stemmed from considerable study. The basic cabinet prescribed for park storage was based on the "quarter section" units used by the Smithsonian's National Museum but was of all-steel rather than steel-and-wood construction. Established manufacturers in the field helped the branch develop the necessary specifications using the inside drawer

dimensions of the National Museum prototype as the starting point. Other components of the system needed less modification in stock items. Compartment size in herbarium cabinets had become standardized, so all-steel counter-high ones from several manufacturers required only the removable door and polyurethane foam gasket prescribed for the basic cabinet to meet branch specifications.⁵⁷ The new standard for herbarium cabinets called for one double tier of compartments rather than two as formerly. Such a unit would hold up to nine hundred herbarium sheets so one might suffice for some parks. Manufacturers also offered counter-high steel insect cabinets holding twelve glass-covered drawers, which differed in size and construction. The branch favored the more tightly closing National Museum drawer, but because several parks had already acquired cabinets and drawers of the Cornell type, the latter became the Service standard.

The 1956 standard storage system included a few other items. Because no product then on the market offered museum standards of protection for large flat paper specimens such as maps, architectural plans, and newspapers, the branch specified ordinary map file cabinets. Their large shallow drawers did not close tightly enough to keep out dust or insect pests, so parks were advised to enclose each stored sheet in an individual folder. The National Archives had developed document boxes lined inside and out with aluminum foil for smaller papers; while neither insect- nor dust-tight, they gave surprisingly good protection from fire. For document boxes and specimens too large to fit in the standard cabinets, the branch identified the most suitable steel shelving available from Federal Prison Industries, the required source of government procurement. For storing framed pictures the branch suggested the metal-framed screens made for building partitions. As a final item the 1956 system described a gun rack parks could make, suggested how to adapt it for swords and scabbards, and noted that it could be fitted into a stock utility cabinet.⁵⁸

Putting the system into effect required procurement funds. For new museums, storage equipment was supposed to be programmed as part of the construction costs, but this rarely happened. For existing museums, parks were to provide for needed equipment in their annual maintenance and rehabilitation program. This helped but seldom sufficed. The Museum Branch tried to fill the gap by reserving part of its annual allotment for the preservation of collections to aid parks in acquiring storage equipment. Parks would submit lists of their unfunded storage needs, the regional curators would review and rank them, and the branch would issue year-end purchase orders to the limit of available money. Meanwhile the branch tried to keep on hand stocks of specimen trays and document boxes for distribution to park museums on request.

The third-stage specimen storage system of 1956 remained the Service standard for about twenty years while undergoing some refinement. Following discussions at the first regional curators' conference in 1959, the branch recommended and stocked a small supply of the Solander-type print boxes used by many art museums to store unframed works of art on paper. It also included as a regular part of the system the steel utility cabinet from the Federal Supply Schedule previously suggested for housing the gun rack. This inexpensive unit gave at least visual protection to several kinds of museum objects that did not require or fit well in the standard cabinets. Part I of the *Museum Handbook* released in July 1967 presented a rational description of the third-stage storage equipment with illustrations and included revised specifications for the principal cabinets. It referred to a double-width version of the standard specimen cabinet for larger animal skins, elaborated on uses for the utility cabinet including a new revolving sword rack, and added expanded aluminum panels as an alternative to wire mesh for storing framed pictures.

Users of the equipment in the parks required more than verbal instructions. The Museum Branch in its annual methods course made a point of showing trainees how curators at the National Museum and elsewhere carefully filed specimens in similar cabinets. Russell Grater provided standard cabinets for demonstration and practice when he set up the first courses for park interpreters at the Mather Training Center in 1963-64. When a 1972 flood prompted Harpers Ferry National Historical Park to move its study collection to higher ground, David Wallace and his Branch of Museum Operations staff helped make the new installation a model of the Service's study collection storage policy. For the rest of the decade and beyond curatorial methods trainees used it as a resource to observe how the system worked in practice.

The change to a more flexible fourth stage during the 1970s and early 1980s came as conservation scientists significantly expanded knowledge about the agents that cause specimens to deteriorate, the processes involved, and ways to counteract them, and as suppliers responded with new protective products. The Division of Museum Services under Arthur Allen moved promptly to help parks keep abreast of the rising standards and product availability.

The division added a number of new acid-free boxes and folders to the established system to upgrade the storage of paper and textile artifacts. Standard specimen trays were converted to fully acid-free construction. With additional manufacturers supplying steel storage cabinets, the division reviewed and adjusted its standard specifications to allow removable doors with special hinges and improved closing mechanisms. The availability of more specialized cabinets for costume storage or visible storage of objects frequently consulted in comparative studies, for example, led it to acquire

and test samples for park museum use. Released from mandatory purchase of steel shelving from Prison Industries, it adopted a more flexible type although it used plywood shelves requiring compensation for increased fire and outgassing hazards. Continuing beyond the period of this study, such additions and changes perhaps eroded to some extent the advantages previously attained by narrower standardization.

The ongoing search for ideal specimen storage was paralleled by efforts to control environmental conditions. Curators long knew that they affected the preservation of collections but knew less about practical ways of controlling them. Although the 1941 *Field Manual for Museums* revealed some familiarity with the injurious effects of light, especially sunlight, it gave no advice on how to measure the light reaching specimens or on how much to tolerate. Ultraviolet filters received bare mention. The *Field Manual* pointed out in several connections the damage caused by too much or too little moisture in the air, but its index did not include relative humidity and only a reference in the library chapter recommended the use of sling psychrometers to measure it. The manual suggested setting out pans of water to add moisture and pans of calcium chloride to remove it. Silica gel, a newer alternative desiccant, was noted. So was air conditioning, although Service architects questioned its practicality in park situations. No level of relative humidity was recommended beyond a single statement that air at 50% relative humidity and 70° F would protect against mold.

Park museums like many others made slow progress in achieving climate control for collections. In 1955 the museum laboratory fabricated evaporating pans for George Washington Birthplace National Monument to help raise winter moisture levels in the memorial mansion, where antique furnishings evidently needed such protection. The laboratory itself relied on pans of water, towel wicks, and electric fans to humidify its collection storeroom during winter months. Probably late in the 1950s curators at Independence National Historical Park used more sophisticated commercial humidifiers to help protect the important portrait collection in temporary storage during the restoration of Independence Hall.

In 1962 the Museum Branch consulted an international expert in the expanding field of museum climatology and upon his advice assembled two kits for measuring relative humidity. Each contained three instruments packed in a fitted shipping case. The basic component, a battery-powered aspirated psychrometer, measured the relative humidity in a room and served to calibrate the other two instruments—a spring-driven hygrothermograph and a dial hygrometer. The former could measure and record on a chart both temperature and relative humidity inside an exhibit case or storage cabinet continuously for a week. The dial instrument could hang on a wall or inside an exhibit case to be read periodically. Circulated to the parks from the Museum Branch office and the western laboratory,

both kits received extensive use. In 1964 Regional Curator Elizabeth Albro reported that none of six park museums where readings were taken showed acceptable standards of environmental control even though some had air conditioning or humidifiers/dehumidifiers. The branch issued her report with a definition of desired relative humidity as between 50% and 65% and a warning that levels below 45% or above 70% courted serious specimen deterioration.⁵⁹

Preliminary conclusions drawn from this sample of park museums called for a wider study. In the spring of 1965 all parks were requested to examine the conditions under which they maintained valuable museum objects. The standard of 50-65% relative humidity was accompanied by advice to avoid rapid changes within those limits. Light meters were added to the traveling kits and a standard of no more than 15 footcandles with the ultraviolet component removed by filters was set for light on exhibited specimens. Study collections were to be stored in darkness. Parks failing to meet the standards were to report the shortcomings to the new Branch of Museum Operations by the end of the year. Resulting information helped the branch formulate the climate control section of the 1967 *Museum Handbook*. It altered the relative humidity recommendation to 45-65% and added a temperature goal of 60-75' F.⁶⁰

The work of conservation scientists continually expanded and refined knowledge about the environmental needs of specimens, making further changes in park museum practice necessary. During the period under review these changes principally involved guidelines, equipment, and training. The *Manual for Museums* of 1976 lowered the recommended range of relative humidity for collections to 40-60% and gave more specific advice on the detection and control of air pollutants. More park museums and greater sensitivity to environmental hazards called for monitoring far beyond the capacity of the original kits. Under Arthur Allen the Branch/Division of Museum Services responded by trying out a much wider range of available instruments and, looking toward a time when every park museum would have its own set, managed to multiply the amount of monitoring equipment on hand for tracking conditions in park collections. Through emphasis in curatorial methods courses and other instructional opportunities, more and more parks came to have employees concerned about and capable of measuring environmental conditions in museum storerooms and exhibit cases.

Protecting vulnerable specimens from insect infestation was another aspect of collection care that responded to advances in conservation research. Periodic fumigation having long been recognized as the surest form of protection, park museums with well-informed staff followed this practice from the start, normally using carbon disulfide during the 1920s and 1930s. After experts rated this highly flammable substance extremely

dangerous to those much exposed to its fumes, the 1941 *Field Manual for Museums* recommended instead fumigating with a mixture of three parts ethylene dichloride and one part carbon tetrachloride. This fumigant, used in treating stored grain, was marketed in 55-gallon drums. Because a park museum might reasonably use a gallon a year, the Museum Branch stocked a drum so it could dispense gallon lots to requesting parks. (The scheme encountered trouble with shipping regulations for hazardous materials.)

Through the 1950s and 1960s the branch continued to use and advocate this fumigant based on consultations with Agriculture Department experts in the control of insect pests, but it made a change in the mode of application. The 1967 *Museum Handbook* emphasized the importance of fumigating organic specimens before placing them in a park collection and offered detailed instructions for doing so. Initial rather than periodic fumigation became the primary use for ethylene dichloride-carbon tetrachloride in park museums. Recognizing that parks could not afford sophisticated fumigation chambers or the space to house them, the handbook proposed using a standard specimen storage cabinet as the chamber and described how to do so. This limited the size of specimens that could be treated.⁶¹ The instructions pointed out the deadly nature of carbon tetrachloride, but the fumigant mixture continued in park museum use until the 1970s.

Because the Environmental Protection Agency had not yet registered this pesticide for museum application, the 1976 *Manual for Museums* proposed that park museums use paradichlorobenzene as the fumigant. The 1941 *Field Manual* had regarded this volatile crystalline chemical more as a deterrent than an insecticide but recommended it for situations where carbon disulfide fumigation had been common. Although warning against inhaling its fumes, it advocated keeping a liberal supply in every cabinet drawer containing vulnerable specimens. In 1967 the *Museum Handbook* recommended refilling small trays of paradichlorobenzene crystals in each drawer or exhibit case housing organic material every three months. This amounted to continuous rather than periodic fumigation following initial disinfestation. The change in the *Manual for Museums* consisted of adopting paradichlorobenzene for initial fumigation, after which much smaller measured amounts would suffice for continuous fumigation.

The Division of Museum Services remained concerned that active collection care exposed workers to an unhealthy level of paradichlorobenzene, and questions persisted about the legality of using it in museums under EPA regulations.⁶² A critical policy change followed in the early 1980s when the Service adopted integrated pest management. Monitoring for evidence of infestation then became the first line of defense. Only as a last resort and with official permission could a properly registered pesticide be applied.

Because national parks developed museums on a firm belief in their utility, collection care presupposed collection use. Exhibit specimens hardly had to prove the point. They remained important tools in park interpretation even though they lost their prime narrative role during the last 15 or so years under review (Chapter Five).

Perceiving that park interpreters generally let the exhibits perform their functions passively, the central staff of museum professionals long sought to stimulate their use. The 1941 *Field Manual* in its chapter on the museum in use and both the 1967 *Museum Handbook* and the 1976 *Manual for Museums* in their chapters on using collections described ways to increase the effective use of exhibit specimens through planned interpretive activities. The Museum Methods training course also emphasized such programs through field trips to illustrative museums, discussions, and reading assignments. Resulting applications in park museums were only occasionally documented, however.⁶³

Study collections have also had important uses, both actual and potential. Because use of the study series is typically inconspicuous and because they often hear more about the costs than the profits of maintaining study specimens, park managers have sometimes questioned the value of these accumulating objects for which they stand accountable. Park study collections in fact have served three principal uses.

First, these collections have provided park interpreters with ready reference libraries composed of actual objects accompanied by data. Their familiarity with the specimens in their custody has undoubtedly increased the accuracy and incisiveness of the interpretation visitors have received. Seasonal interpreters have necessarily depended in many instances on the collections for first-hand knowledge. Resource specialists need to verify the identification of involved organisms before safely recommending management actions. Park visitors with special interests have made significant reference use of park collections.

Research use draws more notice. Study collections in park museums provide raw material for fruitful investigations. The published flora of numerous parks rest on the herbarium collections in park museums. Most archeological collections in park museums represent research either published or accessible in report form. Park collections hold specimens that have formed the basis for uncounted articles, books, and theses. Even so, the potential of park collections for serious study has not been fully realized.

Several factors have hindered such use. Research constituted a recognized part of the workload park interpreters once carried, but their aptitude for it varied, and as park visitation increased they found less time for it. Research specialists added to park staffs, detailed from central offices, or engaged under contract became responsible for most of the

investigations carried on in the parks. They normally worked on specific problems currently important for the preservation or management of a park and tended to make little use of collections. By the mid-1960s emphasis placed on interpretive skills led park management to frown on interpreters doing research. Efforts of park staffs to circulate information about collections available for study or otherwise promote their research use scored some success, but not enough to realize the potential of Service collections in this regard.

Beyond the period under review, two factors pointed toward significant growth in the research use of park collections. Computerized records would make them readily available to scholars in many fields. The inclusion of parks in the international biosphere reserve and world heritage sites networks obligated the Service to continually monitor changes by comparison with baseline collections. These collections illustrate the third kind of use. Constituting irreplaceable documents verifying research results, they must remain to the fullest possible extent available for restudy. Their retention constitutes a basic museum function and a fundamentally important use of park collections even if seldom exercised.

Curatorial Staffing

The Park Service museum program required curators to perform two distinct but inseparably connected functions. One group of curators focused on the museum policies, standards, and specialized skills necessary to meet Service goals and obligations. The other operated and maintained park museums. Neither exercised line authority over the other, and progress demanded mutual cooperation. The dichotomy arose because small park museums could not justify operating staffs with all the skills necessary to achieve and maintain the professional standards proper to a national park. Local staffs would have to be supplemented with the wide range of expert assistance called for on occasion.

Hermon Bumpus put his finger on the problem in 1929. Observing the experimental museum developments he had initiated at Yellowstone, he concluded that the park naturalists might operate the museums successfully if they received guidance and support from experts such as he had assembled to help plan, prepare, and install exhibits. Specialists also assisted in setting up proper care for the collections. The collaboration Bumpus tried out at Yellowstone led to the curatorial staffing pattern that came to typify park museums.

Preceding chapters have traced the evolving central staff of curators and specialists from the 1935 formation of the Museum Division in Washington to the reestablishment of curatorial services as a Washington Office function in 1980. In the 1935-64 period the staff curators concen-

trated on the exhibit aspects of park museums, but their production of the *Field Manual* and *Museum Handbook* demonstrated that they did not entirely neglect the collections. During the next 16 years a growing segment of the central staff focused on collection management. Even so the gap seemed to widen between Service museum standards and what park museums could actually achieve in consequence of both collections and visitation growing much faster than local staffing.

Staff curators stationed in the regional offices helped bridge the gap by bringing professional leadership closer to the parks. As noted above, the first regional curators held temporary appointments funded from a special museum records program. Their work showed the valuable role curatorial expertise could play at the regional level, and eventually all regions would establish and fill such positions. Among the original group Elizabeth Albro served the Southeast Region until 1966, then became regional curator for the National Capital Region. Newell Joyner manned the Midwest Region post until his death in 1965. In the Southwest Region Franklin Smith held the job until becoming a park superintendent in 1965. The Western Region temporarily gave up the position in 1959 when Leland Abel transferred to the Western Museum Laboratory. Horace Willcox met the difficult problems of the Northeast Region until 1966 when he transferred to a curatorship for New York State.

Their successors also made their mark. In 1966 Jean Rodeck Swearingen followed Frank Smith as Southwest regional curator. She had been nurtured in a museum environment and had worked for the Florida State Museum as well as the Western Museum Laboratory. When she transferred to the Denver Service Center in 1973, the region promptly secured Gordon V. Gay, the curator at Carl Sandburg Home National Historic Site. After two years of service in Santa Fe he accepted a transfer to become curator for the National Capital Region and was replaced by David M. Brugge, whose strong anthropological background had served him well as curator at Hubbell Trading Post National Historic Site. Brugge continued to provide expert guidance to the park museums of the area until his retirement in 1989.

The Western Region took longer to respond to corresponding needs. The position vacated by Leland Abel was not filled until Edward D. Jahns transferred from the Western Museum Laboratory in 1967. Jahns revitalized it until 1974 when he moved to the newly established curatorship of the Rocky Mountain Region. The Western Region again lapsed the position, not bringing in David Forgang, curator for the Southern Arizona Group, until 1978. Forgang left in 1983 to become Yosemite's museum curator and was followed by Diane Nicholson, formerly curator at Golden Gate National Recreation Area.

In the Northeast Region a briefer break in curatorial succession occurred. William J. Jedlick, assistant director of the Chicago Historical Society, brought historical museum experience the region particularly needed when he filled its vacancy in 1971. After reorganization created a North Atlantic Region in 1974, Jedlick remained as curator of the realigned Mid-Atlantic Region through and beyond the period under review. In 1975 the new North Atlantic Region selected Edward L. Kallop, Jr., from the museum curatorship at the Statue of Liberty National Monument, which included the American Museum of Immigration. He provided the region professional leadership in its critical museum problems until his retirement after the limits of this study.

The Midwest and Rocky Mountain regions had meanwhile selected staff curators who would serve them well into the 1980s. The Midwest Region chose John E. Hunter, curator of the Infantry Museum at Fort Benning. Entering on duty in 1973, he became a recognized expert in the protection and security aspects of collection care. As noted above, Edward Jahns transferred to the Rocky Mountain Region the next year.

Other regions experienced longer lapses. The Pacific Northwest Region, split from the Western Region in 1970, waited until 1980 to appoint Kent M. Bush, an experienced curator who had succeeded David Brugge at Hubbell Trading Post National Historic Site. The Southeast Region apparently did not fill the position Elizabeth Albro left in 1966 until appointing William K. Kay, a historian versed in the Civil War and military material culture, in 1979. When health forced Kay's retirement, H. Dale Durham from the Division of Museum Services staff followed him as regional curator in 1981. Gordon Gay's appointment ended a six-year lapse in the National Capital Region. He achieved a consolidation of the scattered collections before accepting responsibility for the National Catalog in 1978. Michael J. Vice filled the National Capital position from 1979 to 1982, bringing experience from the Army's museum system. When he rejoined the military museums, the talented and energetic deputy regional curator, Pamela West, succeeded him. The Alaska Region, split from the Pacific Northwest Region in 1980, hired Jean Swearingen as regional curator in 1984.

Because federal civil service requirements demand more detailed analysis and definition of jobs than common in most museums, the title of curator has a more explicit meaning in the federal context. Federal classification standards for a museum curator series existed at least from 1949, but they fitted positions in the Smithsonian's big museums rather than those for park museums. Revised standards in 1962 incorporated Park Service concerns. They restricted the title to positions whose duties included all four "conceptual cornerstones of modern public museums—research, collection, exhibits, and education"64 Museum employees

who specialized in fewer of these functions either fitted other professional classifications or belonged in the museum specialist and technician series. The 1962 standards recognized the two categories of museum curator and staff curator, the latter then unique to the Park Service. Most of those on the central staff and the regional curators were classified as staff curators (museum management). Curatorial members of the exhibit planning teams were staff curators (museum design). Curators of park museums fitted the museum curator category, which allowed for subject specializations.

When Hermon Bumpus decided that park interpreters should be able to manage park museum collections with occasional expert oversight and help on call, no alternative seemed financially practicable or professionally acceptable. Nearly all the interpreters then had degrees in natural sciences or anthropology and field experience in the techniques of collecting, preparing, and studying specimens. They found less time to care for collections as demands for visitor services multiplied, however, and changing emphases in the academic fields that supplied their ranks meant that their successors often came with less knowledge and concern about collections. Shifting more of the museum duties to seasonal interpreters did not overcome mounting neglect. Two solutions that developed in time involved hiring museum staff specifically assigned to work with collections.

The first consisted of engaging professional museum curators to manage park collections. Few of the natural parks had collections of a size that seemed to justify this approach. A 1965 survey led to recommending the retention of the curator position then at Grand Canyon National Park and the filling of ones at Yellowstone and Yosemite.⁶⁵ Yosemite did subsequently employ a capable full-time curator, Jack Gyer, but as much for its historical as its scientific collections.

When Carl Russell set out in 1935 to apply the Bumpus staffing formula to eastern problems, he discovered a complication in the historical park category. Unlike naturalists and archeologists, the historians assigned to interpret parks had virtually no academic training or field experience in assembling, managing, or using collections. In struggling to build his central museum staff, Russell also found few curators qualified for professional work in historical parks. The difficulty was deep-seated. Whereas natural scientists and archeologists possessed established techniques for collecting, preparing, labeling, recording, and storing specimens, historians lacked a corresponding body of recognized procedures. Because historians as a rule failed to see a scholarly use in collecting cultural artifacts, a tradition of systematic research to analyze and classify them hardly existed.

Morristown used emergency relief funds to employ Alfred F. Hopkins, an antiquarian with some museum experience in and outside the parks, as a temporary curator in 1938. The park moved promptly to set up the

curatorship as a permanent civil service position, the first such in any national park. Quite likely no register of eligible historical curators existed. Paul Hudson, a member of the Museum Division's still-temporary staff with some historical park museum experience who may have obtained civil service certification on a park naturalist register, secured the appointment in 1940 (Chapter Three). After World War II Ned Burns sent Albert McClure to Vanderbilt Mansion National Historic Site and James Mulcahy to Independence National Historical Park to care for their collections (Chapter Four). Neither had professional training as a curator but provided skilled hands and familiarity with Park Service museum policies. By 1964 there were full-time curatorial positions in twelve parks, ten of them historical.⁶⁶ In four of the latter the curators, devoted to the objects in their care but with limited background in museum requirements, had come with the collections. Some of the others came by transfer from other parks and disciplines. Few had as much curatorial training or experience as desirable.

One incentive toward higher qualification standards began in the mid-1950s when the Branch of Museums raised its sights regarding the role and quality of furnished historic structure museums (Chapter Six). Its search for curators possessing the requisite combination of historical and museological capacities led it to enlist such talents as those of Vera Craig, Worth Bailey, Sally Johnson (Ketcham), Nan Carson (Rickey), and Agnes Downey (Mullins). David Wallace as curator at Independence, facing a similar need around 1960, built his staff largely from graduates of the Winterthur program. Other parks began to follow his example in seeking curators from professional training sources. By the early 1980s more than forty professional curators worked in parks, a majority on historical collections. They represented the first developing solution to the problem of providing proper collection management in parks whose interpreters lacked the time or expertise. It was a viable solution for collections requiring the full-time attention of trained curators. At the same time it raised both professional and administrative questions.

Curators trained in the several graduate programs that developed in the 1950s through the 1970s leaned to the more scholarly aspects of the profession. Park museums, whose collections and interpretive missions were centered on their sites, offered narrower opportunities for scholarship than did museums of wider scope. Broader studies comparing objects in a park collection to others of the kind might enhance the collection as an interpretive tool, but the exercise of critical connoisseurship to determine artifacts of "museum quality" was foreign to park purposes. Other pressing collection management duties had higher priority. Understandably the curators at times felt frustrated.

John Milley voiced such concern when he succeeded David Wallace at Independence in 1969. Wallace responded with a clear-sighted analysis of the situation:

As you probably are aware I am inclined to see the Park Service curator's functions as somewhat more "technical" than "professional" in contrast to those of a scholar-curator at the Smithsonian or the American Museum of Natural History. As you have pointed out, the collections are not the park's reason for being; the park story is the collection's reason for being. . . . In this sense the Service does not and never will, I think, provide quite the same satisfactions to a curator (opportunities for on-the-job scholarship, professional prestige) that a major museum offers. The park curator's main job is to physically care for collections and he must be judged by the way he carries out this function. If he has the talent and energy to be a publishing scholar as well, so much the better, but if that is his main interest, he must give up his own time to it or get a job in a museum like the Smithsonian where the advancement of knowledge is the primary function.⁶⁷

Nine years later curators in the North Atlantic Region, under Edward Kallop's direction, addressed the question from an organizational standpoint and produced a seminal report. The report proclaimed "a widely shared dissatisfaction among our curators regarding their place in an organization which, on the whole, has a fundamental lack of understanding of what constitutes curatorial activity . . ." It noted that park curators faced a daunting backlog and accumulating burden of museum records, which large museums outside the Service assigned to specialists called registrars who were becoming collateral to rather than part of the curatorial profession. They were charged with routine collection care, which could be performed more economically by supervised sub-professionals. They had little time or encouragement for research to advance collection use, which demanded their professional skills and justified the collection management effort. "Out of curatorial research come perceptions that benefit interpretation," the report stated. "Exhibit ideas develop. Publications are inspired. Educational programs are generated. All add to the dissemination of knowledge, ideas, and interpretive insights about a collection and the site of which it is a part that are very much in the public interest."⁶⁸ As a park museum curator who achieved such professional goals, John Dryfhout at Saint-Gaudens National Historic Site set an example with the scholarly catalog for the National Portrait Gallery's exhibition of Saint-Gaudens portrait reliefs, handsomely published by the Smithsonian Institution. Dryfhout also earned promotion to the superintendency of the park.

The curators asked for a larger role in interpretive and exhibit planning based on collection research. They also asked for help with their sub-professional responsibilities. This request encompassed the second solution to the problem of providing adequate collection management at the park level. It involved using another series of civil service museum positions.

Classification standards for a museum specialist and technician series were issued in 1961 "to provide the technical back-up, support, and assistance necessary to managerial, scientific, and curatorial activities in museums."⁶⁹ Museum aids classified in grades 2, 3, and 4 would perform specialized tasks as helpers in the routine care of collections. They might assist with accessioning and cataloging, monitor environmental conditions and make necessary equipment adjustments, and carefully handle specimens in periodic cleaning or preservative treatment. Museum technicians in grades 5, 7, and 9 might do much of the work of collection registration and maintenance for their supervising interpreters or professional curators and serve as technical assistants for scholars researching the collection. Museum specialists in grades 9-12 included those in the new profession of conservator (treated in the following chapter), managers of large collections, and apprentice curators.

Parks began to establish positions in this series at least by 1969, when Harpers Ferry National Historical Park obtained a museum technician. Hilda E. Staubs, who had helped with the collection while a clerical assistant to the park interpreter, mastered the requirements of accessioning and cataloging, safe and secure specimen storage, preventive maintenance, and the other aspects of good collection management. By the early 1980s parks had more than sixty positions in the series. Among the incumbents, museum specialist Kathleen L. Manscill managed the collections for Great Smoky Mountains, museum specialist Allen Bohnert became collection manager and later curator at Mesa Verde, and museum technician Barbara Berosa served as registrar for Yosemite while also in demand as a collection management planner for other parks.⁷⁰

The Service correctly estimated that these positions would double before the end of the decade and focused curatorial methods training on the incumbents. The growth in this skilled category, together with the increase in professional park museum curators, promised to solve the problem Bumpus could not foresee when he expected that park interpreters could maintain and operate their museums without specialized in-park help. Growth beyond conception at his time had made such help essential if the museums were to achieve Service curatorial standards.

NOTES

1. Lane's letter of May 13, 1918 (drafted by Horace M. Albright), called for "museums containing specimens of wild flowers, shrubs, and trees, and mounted animals, birds, and fish native to the parks . . ." (U.S. Department of the Interior, *Report of the Director of the National Park Service to the Secretary of the Interior for the Fiscal Year Ending June 30, 1918* [Washington: Government Printing Office, 1918], p. 274; hereinafter cited as *Report of the Director for [year]*). Mather described park museums as "places to stimulate the interest of visitors . . . by the presentation of exhibits telling in a clear, consecutive way, the story of the

park *from* its geological beginnings through all branches of history up to and including the coming of man and his works. . . . The national parks themselves are the real museums of nature, and the park museums in each will simply serve as an index to the wonders that may be studied and enjoyed on the ground . . ." (*Report of the Director for 1925*, p. 12).

2. Merriam et al., *Reports with Recommendations from the Committee on Study of Educational Problems in National Parks, January 9, 1929, and November 27, 1929* (Washington: Department of the Interior, n.d.); "General Plan of Administration for the Educational Division," Philosophy of Interpretation 1917-47 folder, History of Interpretation to 1935 box, NPS History Collection.
3. Memorandum, Acting Director to All Field Offices, Feb. 27, 1939, Museum Policies binder, NPS History Collection; memorandum, Director to Washington and All Field Offices, Mar. 13, 1940, *ibid.*
4. Ned J. Burns, *Field Manual for Museums* (Washington: National Park Service, 1941), p. 102; *Museum Handbook* (Release No. 1, July 1967), Part I, ch. 1, p. 2.
5. "Proceedings of the Second Park Naturalists Conference Held at Grand Canyon National Park, November 13-17, 1940," p. 350, NPS History Collection; Burns, *Field Manual*, p. 102.
6. *NPS Administrative Manual*, Vol. IV, Interpretation, Part 5, ch. 5, p. 1; memorandum, Chief, Branch of Museums, to Chief, Master Plan Coordination, Mar. 23, 1962, Branch of Museums Dailies 1959-62 storage box, NPS History Collection.
7. Field Order 71-53, Director to All Field Offices, July 13, 1953, Exhibit History 1943-59 box, NPS History Collection.
8. Museum Prospectus, Mineral Museum, Blue Ridge Parkway, pp. 40-41, Blue Ridge Parkway box, *ibid.*
9. "Activity Standards, Environmental Interpretation and Supporting Activities," July 26, 1971, pp. 2-4, Museum History 1970-79 box, *ibid.*
10. Memorandum, Manager, HFC, to All Regional Directors, Aug. 5, 1974, Conference-Regional Curators 1974 folder, Curatorial Services Division files, Harpers Ferry; memorandum, Manager, HFC, to Regional Chiefs of Interpretation, Apr. 10, 1975, Scope of Collections folder, *ibid.* A June 18, 1975, memorandum from the Midwest regional director in the latter folder contains a contrary evaluation of the need. It is likely that the intellectual effort required to prepare effective scope statements in the absence of active managerial interest rather than confusion over where to place them is what delayed work on them so long.
11. Ch. V, p. 11.
12. Regional Curators Conference 1978 folder, Curatorial Services Division files, Harpers Ferry.
13. Memorandum, Director to Regional Directors and Managers, DSC and HFC, Mar. 12, 1979, Cultural Resources Conference 1979 folder, *ibid.*; memorandum, Director to Directorate and Field Directorate, Mar. 1, 1985, Museum History 1980- box, NPS History Collection. The directive set a deadline of December 31, 1985, for the completion of scope of collection statements and required their annual review with revision as necessary.

14. Loan and Gift Policy 1936-37 folder, Exhibit History before 1938 box, NPS History Collection.
15. 1936 Museums folder, Annual Reports, Branch of Interpretation box, *ibid.*
16. Loan and Gift Policy 1936-37 folder, Exhibit History before 1938 box, *ibid.*
17. Museum Policy binder, NPS History Collection.
18. Memorandum, Director to Regional Directors, Dec. 2, 1942, and subsequent memoranda, Museum Policy binder, NPS History Collection.
19. *Museum Handbook*, Part I, ch. 2, p. 4 (1967).
20. Memorandum, Acting Director to Regional Directors, Nov. 23, 1944, Museum Policy binder, NPS History Collection; memorandum, Director to Washington Office and All Field Offices, June 17, 1953, Field Orders 1950-69 storage box, *ibid.*
21. Report, Conference of Regional Museum Curators, Sept. 13-18, 1964, Regional Curators Conference 1964 folder, Curatorial Services Division files, Harpers Ferry.
22. Illustrations in *Museum Handbook*, Part I, Appendix C, pp. 1-2 (1967).
23. "Proceedings of the Second Park Naturalists Conference," pp. 148-49; memorandum, Director to All Field Offices, Jan. 31, 1941, Museum Memos 1941-42 folder, Exhibit History 1939-42 box, NPS History Collection.
24. The painting of Benjamin Franklin, donated by ex-president Harry S Truman, was shipped via Railway Express insured for \$20,000. The Service scurried to obtain a donation from Eastern National Park and Monument Association to reimburse the shipper. Accession File folder, Acc. #77, Independence National Historical Park.
25. *U.S. Code Congressional and Administrative News* (St. Paul: West Publishing Co., 1955), pp. 2307-08; Public Law 84-127, U.S. *Statutes at Large* 69: 242.
26. An example was the multi-specimen swap triggered by the availability of a rare set of gauges used in manufacturing the Model 1841 Harpers Ferry rifle, ideal for exhibiting in the Master Armorer's House at Harpers Ferry National Historical Park.
27. Memorandum, Chief, Branch of Museums, to Regional Director, Northeast Region, Jan. 7, 1964, with copies of agreement and inventory, Branch of Museums/Museum Operations Dailies August 1962-December 1966 storage box, NPS History Collection. The consultant had a stake in the sound development of both projects.
28. Report, Conference of Regional Museum Curators, Feb. 9-20, 1959, pp. 8-11, Regional Curators Conference 1964 folder, Curatorial Services Division files, Harpers Ferry. Regional Curator Newell Joyner contributed particularly to the clearinghouse discussion.

29. Field Order 2-61, Acting Director to All Field Offices, Apr. 3, 1961, Field Orders 1950-69 storage box, NPS History Collection; *Museum News* 39, no. 9 (June 1961): 5; memorandum, Acting Regional Director, Region Two, to Director, June 5, 1962, Midwest Region folder, Branch of Museums General Files storage box, NPS History Collection.
30. Report, Conference of Regional Museum Curators, 1959, pp. 5-8.
31. Memorandum, Chief, Museum Services, to Manager, HFC, May 15, 1978, Clearinghouse folder, Curatorial Services Division files, Harpers Ferry; memorandum, Deputy Manager, HFC, to Chiefs, Museum Services and Reference Services, July 9, 1980, *ibid.*; Manager, Chief, Museum Services, to Manager, HFC, July 23, 1981, *ibid.*
32. Reports of Field Naturalist folder, Russell Museum Planning 1929-35 box, Richard W. Russell Personal Files.
33. "Proceedings of the First Park Naturalists' Training Conference Held at Educational Headquarters, Berkeley, California, November 1 to 30, 1929," p. 88, Interpretive Conferences 1929-58 box, NPS History Collection.
34. Reports of Field Naturalist 1929-31 and Fall 1932 folders, Russell Museum Planning 1928-33 box, Richard W. Russell Personal Files.
35. Copy in Museum Policies binder, NPS History Collection.
36. Region One Circular, Feb. 14, 1950, Supply and Equipment Program files, Curatorial Services Division files, Harpers Ferry.
37. Museum Division monthly report, November 1940, and Museum Branch monthly report, December 1955, Monthly Reports, Museum Division box, NPS History Collection; memorandum, Chief, Division of Interpretation, to Chief, Branch of Personnel, Jan. 19, 1956, Reclassification of Chief, Museum Branch folder, Exhibit History 1943-59 box, *ibid.*
38. Fox's availability was fortuitous. She had moved to Washington with her husband, a State Department employee. Charles Nagel, former director of the Brooklyn Museum and Park Service collaborator on the Independence Hall furnishings committee, had also come to Washington as founding director of the National Portrait Gallery. When she sought a job, he commended her to the Museum Branch. She resigned to accompany her husband to his new post in London.
39. Having worked with the combined accession-catalog numbers frequently used in art museums, Fox concurred somewhat reluctantly in the separate numbers. *Museum Registration Methods*, then awaiting publication by the American Association of Museums, would recommend use of the three-part combination accession-catalog number, so the Service's decision to keep its simpler numbering required justification.
40. The *Museum Records Handbook* later became Part II of the *Museum Handbook*.
41. When Yosemite hired a full-time curator in 1959 to make a late start on its museum records, for example, Region Four let Abel transfer to the Western Museum Laboratory and did not refill the position.

42. In Region One the million-specimen collection at Ocmulgee, cataloged to older standards, seemed safe to postpone until other collections at greater risk were properly recorded. At Fort Laramie in Region Two the staff faced years of work to catch up on record backlogs without addressing imminent large accessions from additional excavations. The contract archeologist in charge of the Wetherill Mesa project at Mesa Verde declined to record the massive new collections under the new system despite the Region Three curator's request, leaving a major task for later park curators. In Region Four Yosemite's new park curator, Coyt Hackett, enlisted park wives for a cataloging team, but progress declined when hiring them proved contrary to regulations. The Edison sites presented a formidable challenge in Region Five.

43. Memorandum, Acting Chief, Division of Interpretation, to Regional Directors and Superintendent, NCP, Dec. 9, 1959, Branch of Museums Dailies 1959-62 storage box, NPS History Collection; memorandum, Chief, Division of Interpretation, to Regional Directors and Superintendent, NCP, May 24, 1961, *ibid.*

44. Memorandum, Chief, Branch of Museums, to Director, July 22, 1963, *ibid.*

45. Report, Conference of Regional Museum Curators, 1964, Part 1 and Attachment 2.

46. *Ibid.*, Attachment 3. Later developments in archeological practice away from culling would require further changes in recording.

47. Memorandum, Chief, Branch of Museum Operations, to Chief Curator et al., May 19, 1965, Branch of Museums/Museum Operations Dailies August 1962-December 1966 storage box, NPS History Collection.

48. Memorandum, Assistant Chief, Branch of Museum Operations, to Chief, Branch of Museum Operations, Feb. 12, 1969, Harpers Ferry Museum Support Facility June 1968-June 1969 binder, *ibid.*

49. Memorandum, Chief, Branch of Museum Operations, to Chief, Division of Property Management and General Services, Apr. 19, 1973, NPS Archives Ace. No. 31 storage box, *ibid.*

50. Report of Field Naturalist-Museum Advisor for October 1929, Russell Museum Planning 1928-33 box, Richard W. Russell Personal Files.

51. Check List for Museum Planning folder, Exhibit History 1943-49 box, NPS History Collection.

52. Ralph H. Lewis, "Reexamination of the Museum Phases of Mission 66," June 22, 1960, draft in Museum History 1960-69 box, *ibid.*; memorandum, Chief, Branch of Museums, to Chief, Division of Design and Construction, Nov. 7, 1960, Branch of Museums Dailies 1959-62 storage box, *ibid.*; memorandum, Chief, Division of Interpretation, to Regional Directors et al., Dec. 30, 1960, *ibid.*; Report, Conference of Regional Museum Curators, 1964, p. 4.

53. "Proceedings of the First Park Naturalists' Training Conference," pp. 73-75.

54. "Miscellaneous Products Available to National Parks and Monuments from Western Museum Laboratories," WML WPA Prop. Products Cat. box, NPS History Collection.

55. *Field Manual for Museums*, pp. 95-100.
56. Appendix G, Museum Specimen Storage Equipment, Amendment No. 7 to Vol. 25, Information and Interpretation in the Field.
57. All-steel construction was chosen out of consideration for long-term availability, even though heat would penetrate it more rapidly in case of fire. The branch decided to accept the risk and warn parks to compensate for it in fire protection planning. The polyurethane gaskets, supposedly more durable and environmentally safe than rubber, deteriorated after a few years. By 1981 Donald Cumberland secured manufacture of a synthetic rubber gasket as a replacement.
58. Between closure of the Western Museum Laboratory in 1968 and activation of the Harpers Ferry Center laboratory in 1970, employees transferred from San Francisco to Harpers Ferry built and crated a modest stock of gun and sword racks for park museums.
59. Letter, Chief, Branch of Museums, to Nathan Stolow, Aug. 15, 1962, Branch of Museums/Museum Operations Dailies August 1962-December 1966 storage box, NPS History Collection; memorandum, Chief, Branch of Museums, to All Regional Directors, Mar. 22, 1963, *ibid.*; Report, Conference of Regional Museum Curators, 1964, Attachment 5.
60. Memorandum, Assistant Director, Operations, to All Regional Directors, Apr. 9, 1965, Branch of Museums/Museum Operations Dailies August 1962-December 1966 storage box, NPS History Collection; *Museum Handbook* Part I, ch. 4, pp. 11-19 (1967). Later in 1967 Ralph Lewis participated in a conference of the International Institute for Conservation of Historic and Artistic Works focusing on museum climatology, bringing the branch into touch with current developments.
61. When the Museum Branch needed to fumigate larger objects such as furniture it secured the cooperation of the National Archives, which had a large vacuum fumigation chamber and would add Park Service artifacts to a partial load of documents being treated. The vacuum enabled the gas to penetrate deeply into internal spaces where pests might lurk. The branch encouraged park museums to seek similar arrangements with nearby hospitals or other operations performing vacuum fumigation. In the mid-1970s the Division of Museum Services designed and built a small chamber, possibly adaptable to park museum use, permitting fumigation under vacuum or elevated pressure and temperature.
62. R. L. Ruke, "Hazard Evaluation and Technical Assistance Report, Harpers Ferry Center Museum Laboratory," 1977, Curatorial Services Division files, Harpers Ferry.
63. The living history programs enthusiastically adopted by many parks during the 1960s and 1970s proceeded largely apart from their museum exhibits, tended to lack curatorial input, and sometimes used original objects in damaging ways. Protests led by the Division of Museum Services resulted in requirements that reproductions be used for virtually all utensils, tools, furnishings, and costumes in such programs.
64. U.S. Civil Service Commission, *Position Classification Standards, Museum Curator Series, GS-1015*, February 1962. Treva Burd, a Park Service personnel officer, contributed particularly to the inclusion of park museum considerations.

65. Memorandum, Chief, Branch of Museum Operations, to Chief, Division of Interpretation and Visitor Services, Dec. 30, 1965, Branch of Museums/Museum Operations August 1962-December 1966 storage box, NPS History Collection.
66. Report, Conference of Regional Museum Curators, 1964, Attachment 18.
67. Letter, Wallace to Milley, June 27, 1969, Harpers Ferry Museum Support Facility Daily File 1968-69 binder, Museum Dailies storage box, NPS History Collection.
68. "Evaluation of the North Atlantic Region's Curatorial Activity and Personnel Needs," June 1978, pp. 1, 11, North Atlantic Region folder, Curatorial Services Division files, Harpers Ferry.
69. U.S. Civil Service Commission, *Position Classification Standards, Museum Specialist and Technician Series, GS-1016*, December 1961.
70. Bohnert, professionally trained in the Texas Tech University museum program and at the Carnegie Museum of Natural History, later succeeded Edward Jahns as Rocky Mountain regional curator.