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Abstract
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Tyler O. Walters, in association with Ivan E. Hanthorn

Abstract

This article reports and interprets data collected from a 1995 survey of special collections repositories at Association of Research Libraries institutions. It covers part one of the survey—current practices in preservation management. One hundred thirteen institutions represented by 170 archives/manuscripts repositories were asked to participate, of which 143 institutions, or 84.1%, did so. This is the second largest sample of archives' preservation activities ever gathered in the United States. The goals of the study were, first, to create a base of data on the development of archival preservation programs in research institutions and interpret that data and, second, to understand the extent to which the archives and library preservation departments interact in their common mission to ensure the availability of research materials to present and future generations. The study is unique in its investigation of the interrelationships between the archival repository's and the library's operational functions. This article recognizes that there is potential for a certain amount of preservation program development and integration between libraries and archives.

Introduction

The concept of preservation management has evolved to a point where it is immersed in every facet of the management of libraries and archives. This process began in the 1970s when librarians broadened preservation: The totality of processes and operations involved in the stabilization and protection of documents against damage and deterioration and in the treatment of damaged or deteriorated documents.

The author thanks Ivan Hanthorn, Head of the Preservation Department at the Iowa State Library, for his early collaborations on this research project, as well as Paul Conway for initial assistance on the research design and for years of encouragement. This research was conducted as an independent study project through The University of Arizona School of Library Science with the support of the Iowa State University Library.
their concepts of preservation to understand and promote its library-wide impact. By the 1980s archivists were following suit, adapting the concept for specific application to their field. The major perspective developing in both archives and library preservation management was each field’s de-emphasis of ad hoc reactions to materials already in an advanced stage of deterioration, along with a new emphasis on planned and coordinated preservation programs featuring preventive measures. Today preservation management as a component of management in libraries and archives involves planning and implementing policies and procedures that either prevent further deterioration or restore accessibility to the research materials. Common elements of preservation programs in archives and libraries encompass environmental monitoring and management, storage, selection for preservation, condition assessment, format-specific care and use requirements, collections housing, handling and use of materials, micro-reproduction and reformatting, exhibition, disaster preparedness, security, and conservation treatment. Contemporary preservation management recognizes that preservation is an integral part of all functions involved in the identification, acquisition, preservation, access, and promotion of valuable research materials.2

documents. Preservation may also include the transfer of information to another medium.” Lewis J. Bellardo and Lynn Lady Bellardo, comps., A Glossary for Archivists, Manuscript Curators, and Records Managers (Chicago: Society of American Archivists, 1992), 26-27. The 1974 SAA definition for “preservation” is as follows: “(1) The basic responsibility to provide adequate facilities for the protection, care, and maintenance of archives, records, and manuscripts. (2) Specific measures, individual and collective, undertaken for the repair, maintenance, restoration, or protection of documents.” Frank B. Evans, Donald F. Harrison, and Edwin A. Thompson, comps., William L. Rofes, ed., “A Basic Glossary for Archivists, Manuscript Curators, and Records Managers,” American Archivist 37 (July 1974): 427. Note the great emphasis on physical treatment of already damaged documents in definition (2) in 1974, as opposed to the 1992 definition which emphasizes “the totality of processes and operations” and “the stabilization and protection of documents” over “the treatment of damaged or deteriorated documents.” The 1983 ALA Glossary definition of “preservation” also emphasizes physical treatment over preventive measures. In it, the glossary authors state that preservation is distinct from conservation because, while the latter focuses on physical and chemical treatments to damaged documents, the former, preservation, includes these treatments plus reformatting activities. There is no mention of establishing a preservation environment including the elements of a preservation management program as it is conceived of today. See The ALA Glossary of Library and Information Science (Chicago: American Library Association, 1983), 175.

The author conducted an extensive survey of preservation planning and program implementation to, first, measure the application of modern preservation management in archives. Second, the survey project aspired to discover the extent of integration between archives and library preservation management programs that belong to the same institution, given the parallel and sometimes overlapping development of preservation management between these two cultural institutions. To do so, an institutional setting conducive to archives/library cooperation needed to be identified. The institutional setting decided upon was the research institution, specifically those with libraries that are members of the Association of Research Libraries (ARL). The survey population is comprised of archives and manuscript repositories, of which about 80% are administratively placed in the research institution’s library. One of the most frequently offered reasons for why these two organizations are placed together is the notion that both have similar preservation missions and functions. But are they really one organization, or is it a case of the larger library dominating the smaller archives, isolating the latter within the complex library organization? More can be learned about how libraries and archives are interacting through an examination of archival preservation planning and operations. This research survey project measures the development of archival preservation management programs in particular institutional settings and reveals whether archives are benefitting from their organizational placement by collaborating with the libraries’ preservation departments.

The broader perspective on the issues above involves concepts of what research libraries collect and to which materials they provide access. When research libraries were contacted about the possibility of holding archives and manuscript material, virtually every ARL-member library indicated that they operate an archives, manuscripts, or special collections unit that collects, preserves, and provides access to archival materials. This overwhelming response substantiates the fact that modern research libraries are much more than traditional libraries managing collections of published material. They are even more comprehensive than libraries that have updated themselves to include collecting published electronic resources. Today, research libraries also include paper-based archival records and manuscript collections, film archives and libraries, media collections, photographic materials, cartographic materials, audio/visual collections, recorded sound collections, elec-

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9 There is a second part of the survey addressing the same archival repositories' automated access practices. The findings for this portion of the survey are presented in "Automated Access Practices at Special Collection Repositories of Association of Research Libraries Institutions," *Archival Issues* 22 (Fall 1997): forthcoming. Together these two articles provide an extensive view of the nature of archival collections management practices as well as their interactions with library collections management practices in the research institutional setting.
tronic records, and more. The modern research library has become a melting pot where new "centers of information management" are cast. Surely the potential exists for this to be true, but are research libraries recognizing this new dynamic? Are they making changes in workflow and internal operations accordingly, or are they becoming segregated battlegrounds where isolated programs fight over limited resources? This article will delve into the shared aspect of preservation to see in which direction research libraries are moving. But first, a brief overview is given of the findings of some major predecessor preservation surveys conducted in archives to provide some context and perspective on the current study. The overview will be followed by a review of the current research project, its methodology and interpretations of the data gathered, and conclude with some general observations.

Review of Past Archival Preservation Survey Studies

The previously conducted major archives preservation surveys were performed by the National Association of Government Archives and Records Administrators (NAGARA) and the Society of American Archivists (SAA). Preservation Needs in State Archives (1986), conducted by Howard P. Lowell under contract to NAGARA, focused on the fifty state government archives in the United States, and included the National Archives and Records Administration as well. The report’s introduction states that it will “discuss and document the nature and dimensions of the preservation problem in state archival agencies, explore alternatives for meeting it, and provide an estimate of resources required.” Forty-three state archives participated in the NAGARA survey. Ten state archives were selected for follow-up site visits “to study specific preservation problems and program efforts; to estimate collective resources available and needed; and to define program approaches that might begin to meet state archives preservation requirements.” The NAGARA survey studied state archives’ budgets, FTE of staff dedicated to preservation activity, the existence of environmental controls, disaster plans, fire detection and suppression systems, security systems, shelving space, amount of holdings, formats of holdings, volume of records that had been treated through encapsulation, lamination, deacidification and/or fumigation, and information about micro-reproduction programs.


5 Preservation Needs in State Archives, ii.

6 Preservation Needs in State Archives, ii.
The NAGARA study concludes that "no state archives approaches the goal of providing total preservation care." Therefore, the study calls for nationwide funding and advocates a national strategy to address the state archives' common preservation challenges. While the purpose of the NAGARA study was to dramatize the nationwide problem and instigate funding initiatives, it does give us some data on a number of preservation program elements. It specifically points to weaknesses in facility controls, holdings maintenance, and conservation treatments. The study recommends improved preservation planning, staff enhancements, the development of regional conservation centers, and further research and development in preservation.

There are some noteworthy statistics reported by NAGARA in support of these findings. For instance, 37.2% of holdings were housed in acid-free boxes. But four of the reporting state archives indicated that while 80% of their holdings were in acid-free boxes, only 14% of this material was housed in acid-free folders. The study's consultant estimated that "more than 80% of the records accessioned into state archives each year...will never receive adequate preservation attention." Only 9 (21%) of the 43 archives reported that they had developed preservation policy statements, and only 23 archives (53%) had conducted holdings condition surveys. The NAGARA study indicates a general lack of budgetary resources, adequate facilities, staffing and staff expertise, planning and policy development, and collection information gathering activities necessary to conduct preservation activity in state archives.

The comprehensive 1986 Lowell/NAGARA study has been partially updated in two studies conducted for the Council of State Historical Records Coordinators (COSHRC). The first, Recognizing Leadership and Partnership: A Report on the Condition of Historical Records in the States and Efforts to Ensure Their Preservation and Use (April 1993), reports on preservation practices in "Preservation and Conservation," in section 12 of the study. The most recent NHPRC-funded COSHRC study (1995) was released in April 1996, the same year as the study presented in this article. Maintaining State Records in an Era of Change: A National Challenge reports on state archives' preservation policies and services in the areas of preservation planning, staffing, disaster preparedness, conservation treatment services, and the completion of NEH-supported statewide preservation plans. These two studies document essentially the same preservation management inadequacies as described in the 1986 Lowell/NAGARA study. Neither the 1993 nor the 1996 COSHRC study discovered any trends in preservation management that were a radical departure from what Lowell found in 1986. However, due to the timely nature of the second study printed in April 1996, data from it will be presented in other

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7 Preservation Needs in State Archives, 7.
8 Preservation Needs in State Archives, 23.
areas of this article to draw comparisons with the current study of archives
and manuscript repositories of ARL institutions.

The SAA study, conducted by former SAA preservation officer, Paul Con-
way, yielded more detailed information about the nature of preservation plan-
ning and practice in archives. Data from the SAA study will also be compared
to the findings of the study presented in this article in an attempt to detect
trends in preservation practice. In 1989 Conway conducted a survey of the
participants in the SAA Basic Conservation workshops which took place be-
tween 1980 and 1987. The survey was sent to the 400 repositories that en-
rolled 544 participants in the workshops, resulting in 320 completed surveys
for a response rate of 80%. This preservation survey covered a diverse group
of institutional settings, including academic, local government, religious, mu-
seum, state government, corporate, and federal government. The academic
archives group comprised 40% (129 respondents) of the institutions sur-
veyed. Conway developed indices to evaluate the data. These are the Intensity
of Care Index (volume of holdings per FTE of staff), Environmental Care
Index (temperature stability, monitoring equipment, fire protection, and dis-
aster planning) and the Care of Collections Index (holdings maintenance,
conservation treatments, and reformatting). Other aspects of the reported
data are the size of the archival unit in terms of FTEs, volume of holdings,
and institutions with specific budgets for conservation supplies and services.

One of the purposes of Conway's research was to find any direct corre-
lation between the training provided in the Basic Conservation Workshops
and the nature of subsequent preservation program development. On this
topic, Conway writes, "although archivists now understand the significance
of their preservation efforts and have absorbed information on basic preven-
tion and treatment techniques, they have only partially integrated into their
professional practice the set of innovative approaches that together have
come to be defined as archival preservation management." Thus there was
not as much of a positive correlation between training and program devel-
opment as was hoped. From his analysis of the data on archival preservation
program development, Conway concludes that "archivists take a piecemeal
approach to preservation, picking and choosing from among the possible
activities, instead of working through a planning process that sets priorities
for the unit and for the parent organization." He cites such troubling find-
ings as: of the archives surveyed about their collections storage areas, 56% could
not control the relative humidity, 73% did not have at least one re-
cording hygrothermograph and 62% did not have fire detection equipment
in place and could not suppress fires after business hours.

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Another issue addressed by Conway provides some direction for this current study of preservation in archival repositories at Association of Research Libraries institutions. Conway states that “archival units are isolated from the organizations of which they are a part, playing a far more limited role in supporting the institution's mission and purpose than they should. Archivists need to integrate their programs more fully into the institutions that support them.”\textsuperscript{13} In at least one specific institutional setting, archivists share the mission of preserving research collections with another unit, the institution’s research library. Many research libraries operate a preservation unit charged with ensuring the availability of the collections for present and future use. As mentioned earlier, many archival repositories are also administratively part of the research library organization. These circumstances present an obvious opportunity for collaborative practices in library and archival preservation between these two units. Even for the university-based archives outside of the library, the same potential exists for them to communicate with the library's preservation department on a wide range of relevant issues. But are archives benefitting from being part of the library and are they sharing preservation resources and expertise? Along with an analysis of preservation program development in archives and manuscripts repositories of research institutions, this article, stemming from a comprehensive survey project, will seek to answer these questions.

Research Project Description and Review of Methodology

This study of archival preservation management utilized sound survey research techniques to query 170 archival repositories about the extent of preservation program development and integration in research libraries. The goals of the preservation study were: 1) to create a base of data regarding the development of archival preservation programs in North American research institutions and interpret that data, and 2) to understand the extent to which the archives and library preservation departments interact in their common mission to ensure the availability of research materials to present and future generations. The study is unique in its investigation of the interrelationships between the archival repository’s and the library’s operational functions. This interrelationship was not within the scope of previous archival preservation surveys nor any published interinstitutional library preservation surveys.\textsuperscript{14}

\textsuperscript{13} Conway, “Archival Preservation Practice in a Nationwide Context,” 222.

The target group of this study was institutions whose libraries were members of the Association of Research Libraries (ARL) and were responsible for collecting, preserving, and providing access to archival materials. The target group was not restricted to those archival repositories administratively placed within the library. Archival units reporting to offices such as college or university president, provost, dean, or the director of a nonprofit cultural institution are included. The only requirement was that the surveyed institution or institution’s library was a member of ARL. Of the 120 ARL members, 113 institutions representing 170 archives and manuscript repositories were asked to participate. No archival repositories were found in seven of the ARL institutions. The 170 archival repositories are representative of those at ARL institutions, they are not to be construed as the comprehensive total.

The survey instrument, methodology, and procedures were designed following the standard volume by Don Dillman, *Mail and Telephone Surveys: The Total Design Method* (1979). Dillman recommends a tiered approach to gathering survey data, using three to four follow-up mailings to achieve a minimum 80% response rate. He also suggests that the survey instrument be pretested and then revised. The author of this article followed the “Dillman Method” closely, revising the survey several times before and after the pretesting process. A master list was made of archival repositories being solicited for participation. Each repository was assigned a number. This number was placed on the survey instrument and was used to check in the receipt of surveys so the responding repository would not be included in the follow-up mailings. In this way, confidentiality of the data was ensured along with the identity of the specific repository.

Letters inviting the repositories to participate, along with an instruction sheet, copy of the survey instrument, and an addressed, stamped return envelope were included in the first two rounds of mailings. The first mailing to the 170 institutions was conducted on March 23, 1995. The second mailing was conducted on April 28, 1995. The first mailing resulted in a 39% response rate (67 surveys). The second mailing brought the total response rate to 66% (112 surveys). In the third week of May, 58 archival repositories had not responded. Thirty-four of the 58 were contacted via e-mail and asked if they intended to participate in the survey project. Nineteen responded that they intended to return the completed survey, 3 indicated they would not participate, and 12 did not respond to the e-mail inquiry. For the 12 who did not respond to the e-mail message, and the 24 for whom no e-mail addresses were found, a brief letter asking for their participation was sent on May 24, 1995. The 19 who stated they intended to participate, but did not return a survey as of June 2, 1995, were sent the same letter on June 3rd. These last two mailings informed the remaining archival repositories that June 15th was the final deadline for participation. By the time the deadline passed, the
survey project had gathered responses from 143 archival repositories on 138 completed survey forms, resulting in an 84.1% response rate. Three repositories returned the survey indicating it did not apply to their operation, while four communicated that they would not participate. Only 20 repositories did not respond in any way. The survey instrument and the tabulated results are included in the appendix to this article.

Preservation Planning, Information Gathering and Implementation in Archival Repositories

Paul Conway asserts that "archival preservation management, when most effective, requires that planning precede implementation." Fundamental to planning for preservation and sound policy decision making is the need to gather pertinent information. Mary Lynn Ritzenthaler recommends that "mechanisms must be established to facilitate information gathering, communication, and decision making...within the archives." Stemming from Ritzenthaler’s observation, the survey was designed to gather data on common types of mechanisms used to acquire the information necessary for maintaining continual and effective preservation planning within the participating archives. The survey focused on four areas that indicate whether or not repositories engage in information-gathering activities for preservation planning purposes: utilization of environmental monitoring equipment; existence of disaster preparedness and recovery plans; completion of holdings condition surveys; and implementation of policies and procedures regarding the selection of conservation treatments. The responses in each area indicate that the majority of repositories are deficient in preservation planning and information gathering.

Perhaps the most important preservation function is to provide an optimal physical environment to house the archival collections. The physical facility should maintain acceptable temperature, relative humidity, light, and air quality levels, as well as protect against fire and water damage, and other forms of man-made and natural disasters. Among the most basic methods for gathering information on a repository’s preservation environment is conducting an environmental monitoring program. The importance of such programs is illustrated by the survey results on the number of archival

15 Five archival repositories completed surveys which provided combined responses for more than one archival repository within an institution. This typically occurred in the case of a library’s special collections division, where a number of archival units were solicited for participation, and the division head responded on one survey form for all the archival units.


A STUDY OF CURRENT PRACTICES IN PRESERVATION MANAGEMENT

Table 1: (n=133). Control of Temperature and Relative Humidity (within $\pm 3^\circ$ F and $\pm 5\%$ RH)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature:</td>
<td>93 (70%)</td>
<td>40 (30%)</td>
</tr>
<tr>
<td>Relative Humidity:</td>
<td>78 (59%)</td>
<td>55 (41%)</td>
</tr>
</tbody>
</table>

Table 2: (n=135). Use of Environmental Monitoring Equipment

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermometer:</td>
<td>63 (47%)</td>
<td>72 (53%)</td>
</tr>
<tr>
<td>Hygrometer:</td>
<td>38 (28%)</td>
<td>97 (72%)</td>
</tr>
<tr>
<td>Recording</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygrothermograph:</td>
<td>84 (62%)</td>
<td>51 (38%)</td>
</tr>
<tr>
<td>Sling Psychrometer:</td>
<td>38 (28%)</td>
<td>97 (72%)</td>
</tr>
<tr>
<td>Temperature/Humidity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Datalogger:</td>
<td>33 (24%)</td>
<td>102 (76%)</td>
</tr>
</tbody>
</table>

repositories that can control their storage areas' temperature and relative humidity.

Not everyone is able to maintain optimal environmental conditions. Ninety-three (70%) archives stated that their storage areas are equipped to control temperature with a variation of $\pm 3^\circ$ degrees Fahrenheit. A lower number of archives (59%) can control relative humidity levels with a $\pm 5\%$ variation range (Table 1). The 1989 Conway/SAA survey found that 56% controlled temperature and 44% controlled relative humidity levels within these variation ranges. The 1995 COSHRC survey reported that 75% of state archives controlled temperature while a lower 62.5% of them controlled relative humidity. More archives appear to have gained environmental control of their storage areas between the period 1989-1995, however, control of relative humidity, although improved, remains a nagging problem for about 40% of archives. Many archives need to monitor their environmental conditions to better understand when problems occur and how to correct them.

The majority of repositories (62%) are using recording hygrothermographs to monitor temperature and relative humidity levels (Table 2). This is quite an improvement over the Conway/SAA study population which reported only 27% of archives were using this piece of equipment. However, further evidence from the current study suggests a lower level of environmental monitoring activity than initially perceived. For instance, additional monitoring equipment is recommended in order to calibrate recording hygrothermographs and verify their measurements.Traditionally, this has

18 Ritzenthaler, Preserving Archives and Manuscripts, 57-58.
Table 3: (n=134) Archives with Disaster Preparedness and Recovery Plan

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>In Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>77 (57%)</td>
<td>31 (23%)</td>
<td>26 (19%)</td>
</tr>
</tbody>
</table>

Table 4: (n=135) Use of Fire Detection and Suppression Systems

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoke Detectors:</td>
<td>111 (82%)</td>
<td>24 (18%)</td>
</tr>
<tr>
<td>Fire Detectors:</td>
<td>74 (55%)</td>
<td>61 (45%)</td>
</tr>
<tr>
<td>Fire Extinguishers:</td>
<td>123 (91%)</td>
<td>12 (9%)</td>
</tr>
<tr>
<td>Wet Pipe Sprinkler System:</td>
<td>42 (31%)</td>
<td>93 (69%)</td>
</tr>
<tr>
<td>Dry Pipe Sprinkler System:</td>
<td>14 (10%)</td>
<td>121 (90%)</td>
</tr>
<tr>
<td>Halon Gas System:</td>
<td>23 (17%)</td>
<td>112 (83%)</td>
</tr>
</tbody>
</table>

been performed through using a sling psychrometer, yet 72% do not use one. Also, 53% are not using thermometers, 72% are not using hygrometers, and 76% are not using the latest technology in monitoring equipment, data-loggers. In fact, a large minority of archival repositories, 51 or 38%, do not use any recording hygrothermographs at all, which have become the de facto “standard” environmental monitoring equipment in use today. While the news is improving, it is still mixed on the environmental control and monitoring front.

Disaster planning is also representative of a repository’s ability to gather information on and plan for collections preservation. But when asked if the repository had composed a disaster preparedness and recovery plan, only a slight majority, 77 of the 134 respondents (57%), stated that a plan exists (Table 3). The percentages of archives with disaster plans in the Conway/SAA study and the COSHRC study (April 1996) were 56% and 60%, respectively. These numbers are virtually the same as the 57% reported in this ARL archives/manuscripts study. Clearly, more institutions need to conduct disaster planning.

The need for more disaster planning is confirmed by the ARL archives/manuscripts survey results on fire detection and suppression systems (Table 4). Although 91% (123) of the repositories indicated that they possess a fire extinguisher, only 31% (42) have a wet pipe sprinkler and a very low 10% (14) have a dry pipe sprinkler system to combat fires. Fire extinguishers are inadequate; they must be discharged by a person. However, sprinkler systems can cover the entire storage area, do not require a person to turn them on, and are in service twenty-four hours a day, every day. The situation with fire detection equipment is similar. Eighty-two percent (111) of the repositories
Table 5: (n=136) Archives Performing A Holdings Survey

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 (28%)</td>
<td>98 (72%)</td>
</tr>
</tbody>
</table>

For Archives Performing A Holdings Survey (n=38)
Survey Findings Resulted in Rehousing/Reformatting Actions: 33 (87%)
No Resulting Rehousing/Reformatting Actions: 5 (13%)

use smoke detectors, but a mere 55% (74) use a fire detector, a superior instrument which senses heat and flame before sensing the presence of smoke. The vast majority of archives are concerned about fire detection, but they are not necessarily making the best choices in detection as well as suppression equipment.

The Conway/SAA and the COSHRC (April 1996) studies support these findings and the conclusions drawn. Sixty-two percent of archives in the Conway/SAA study did not have fire detection equipment and could not suppress fires after business hours. Fifty-two percent had some form of fire detection equipment, but no fire suppression equipment for after business hours occurrences. The COSHRC (April 1996) study reported that all but three state archives possessed fire detection equipment. However, a much lower 52% had fire suppression equipment in place. We must conclude from these three studies that a large majority of archives can detect fires, but if a fire occurs, only 50% or less can suppress it. Environmental monitoring and disaster preparedness/recovery programs are two fundamental elements of preservation planning, yet their lack of widespread development are early indications of a dearth of preservation planning activity.

If the most important aspect of a repository’s preservation function is its ability to support an optimal physical environment, then the next most important aspect is the physical condition of the archival collections themselves. Archivists and librarians typically conduct surveys to inspect collections’ physical condition and physical characteristics to determine the preservation actions required to ensure their availability. As environmental monitoring equipment is inextricably linked to providing an optimal, preservation-minded facility, so are holdings condition surveys inextricably linked to an efficient and productive program of conservation treatments and other preservation actions. Conducting holdings surveys is absolutely critical to understanding the preservation needs of a repository’s holdings. The survey results found that 72% of the responding repositories had not performed any holdings survey (Table 5). However, of the 28% who had performed holdings surveys, 87% indicated that their holdings survey results led to carrying out specific preservation actions. Here is evidence of the power of planning and

19 The Conway/SAA and COSHRC (April 1996) studies did not collect data on the use of holdings condition surveys.
information gathering. The result of being an informed manager is being a decisive manager. If the 72% of repositories who have not performed holdings condition surveys would do so, they will find that preservation priorities will develop and that indecision and ad hoc preservation activity will begin to subside.

Utilizing information on the condition of collections gathered during the holdings survey should lead to prioritizing collections for preservation action and creating policies and procedures for the pertinent actions. This is the next step along the preservation planning continuum. The preservation survey instrument reflects this step by inquiring about policies and procedures for the selection of conservation treatments. When repositories were asked, "Does your archives have written procedures for selecting documents for any of the following conservation processes?," 101 (75%) of the responses indicated that they have no written procedures (Table 6). This begs the question, how do archivists decide which collections are most deserving of the limited resources supporting preservation actions? Apparently there is little or no effort spent on this element of preservation planning—ad hoc activity is dominant.

An excellent example of the absent relationship between preservation planning and implementing preservation actions was uncovered in the survey data. Only 17 (13%) survey respondents indicated that they have written procedures for selecting materials for microfilming activities, yet 97 (72%) state that they have engaged in microfilming within the past two years. There are additional indications of the problems stemming from an imbalance between planning for the selection of preservation actions and the performance of those activities. With regard to encapsulation, only 18 (13%) respondents have procedures for selecting documents for encapsulation, but 71 responded that they are encapsulating. Also, while 71 respondents are encapsulating, only 28 are deacidifying, and only 22 are pH testing for acid levels in their documents (Table 7). These figures suggest that a large number of repositories are encapsulating without deacidifying. This procedure will accelerate the acid-related degradation of documents by capturing them in a tight, sealed environment, which does not allow the acid to escape. Conservation treatments are being completed in a piecemeal, haphazard fashion. They are not resulting from careful information gathering and planning to determine which collections are in need of preservation attention and which are the most important to preserve given a finite amount of preservation resources. Paul Conway pointed to this haphazardness as well. In the Conway/SAA study the mean for use of conservation treatments in academic archives was only 2.4 of the five possible treatments inquired about in his survey.

Ritzenthaler, Preserving Archives and Manuscripts, 151, 189.

Table 6: (n=134) Archives With Written Procedures for Selecting Documents for Conservation Processes

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reformating on Microfilm:</td>
<td>17</td>
<td>13%</td>
</tr>
<tr>
<td>Replacing Deteriorated Originals:</td>
<td>14</td>
<td>10%</td>
</tr>
<tr>
<td>Deacidifying Paper Documents:</td>
<td>7</td>
<td>5%</td>
</tr>
<tr>
<td>Encapsulation:</td>
<td>18</td>
<td>13%</td>
</tr>
<tr>
<td>Dry Clean Surface of Documents:</td>
<td>14</td>
<td>10%</td>
</tr>
<tr>
<td>Lamination of Paper Documents:</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Other Conservation Treatments:</td>
<td>12</td>
<td>9%</td>
</tr>
<tr>
<td>None of the Above:</td>
<td>101</td>
<td>75%</td>
</tr>
</tbody>
</table>

Table 7: (n=136) Routine Performance of Conservation Processes

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry Clean Surface of Documents:</td>
<td>51</td>
<td>38%</td>
</tr>
<tr>
<td>Basic Mending and Minor Repairs:</td>
<td>65</td>
<td>48%</td>
</tr>
<tr>
<td>pH Testing:</td>
<td>22</td>
<td>16%</td>
</tr>
<tr>
<td>Deacidifying Paper Documents:</td>
<td>28</td>
<td>21%</td>
</tr>
<tr>
<td>Encapsulation:</td>
<td>71</td>
<td>52%</td>
</tr>
<tr>
<td>Lamination:</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>Other Conservation Treatments:</td>
<td>24</td>
<td>18%</td>
</tr>
<tr>
<td>None of the Above:</td>
<td>40</td>
<td>29%</td>
</tr>
</tbody>
</table>

Another very telling and unanticipated indicator of the lack of information-gathering being performed was discovered with the completed surveys. Questions #22 and #23 asked for each repository’s cubic or linear feet of paper-based archival collections, the number of collections, and the total reels of microfilm and total sheets of microfiche. Forty-two (30%) respondents did not supply information about the number of microfilm reels held, and 72 (50%) did not supply the number of microfiche held. The omission of a microfilm count from nearly one-third of the surveys suggests that a large number of archival administrators are simply unfamiliar with the nature of the collections under their care. Microfilm is known to be present because 72% of the respondents indicated that they have engaged in microfilming in the past two years. Conway also found that 51% of the academic archives in his survey produced microfilm in 1988 alone. The high nonresponse rate to question #23 illustrates the inadequacy of planning and information-gathering activities in repositories for archival management in general, and preservation management in particular.

Level of Collaboration Between Archival Repositories and Library Preservation Programs

Included in the survey instrument were several questions relating to areas where the archival repository and the library’s preservation department could potentially collaborate. This aspect of the survey was based on the assumption...
that these two units have many opportunities to interact. They share similar elements in their missions, perform similar preservation operations in specific areas, and in the majority of cases, are both administratively placed within the library organization. Part of the reason for conducting the survey project was to learn if, in fact, archives are benefitting from preservation services internal to the library. Moreover, the study sought to ascertain whether or not research libraries view archival materials as a major subset of their research collections and have organized their library’s work so the preservation department actively engages in the preservation of all manner of research materials. The major program elements identified for gathering data on archives/library preservation collaborations are holdings maintenance, conservation processes and microfilming, and preservation planning and monitoring responsibilities. A composite view of the relevant data leads to the conclusion that there is a very low amount of collaboration between archival repositories and library preservation programs.

Holdings maintenance activities are a preservation program element with great potential for cooperative workflows between archives and library preservation programs. In the survey, repositories were asked if they routinely carry out “replacing holdings in acid-free folders or containers, remove, copy, or segregate newsprint or highly acidic papers, remove or segregate photographic media, remove or replace rusted or damaged fasteners, and photocopy deteriorated items.” These are representative of the realm of collection maintenance activities performed to ensure the physical preservation of archival collections. Library preservation departments also perform similar activities in regards to published material to serve the same end. When asked who is responsible for carrying out these holdings maintenance activities for the archival repository, 121 respondents (90%) stated that archives staff perform them without any input from the library preservation department (Table 8). On the opposite end of the spectrum, one respondent stated that the holdings maintenance activities for the archives were routinely carried out by the library preservation department. When asked if the archives and library preservation staff collaborated, or if the preservation department offered training in this area, seven respondents (5%) gave positive answers.

<table>
<thead>
<tr>
<th>Table 8: (n=135) Library/Archives Integration: Responsibility for the Performance of Holdings Maintenance Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Preservation Dept.: 1 (1%)</td>
</tr>
<tr>
<td>Performed Internally By Archives Staff: 121 (90%)</td>
</tr>
<tr>
<td>Archives Staff Trained By Library Preservation Dept.: 7 (5%)</td>
</tr>
<tr>
<td>Contracted, External Preservation Service Vendor: 0</td>
</tr>
<tr>
<td>Other: 6 (4%)</td>
</tr>
</tbody>
</table>
It may be that, simply, these holdings maintenance activities are essentially routine curatorial functions that are carried out by the archives staff. It does appear that this is the case since over 90% of the respondents perform these activities (Table 9) and archives staff performs them 90% of the time. In the Conway/SAA study, the 129 academic archives surveyed performed four of the six holdings maintenance procedures inquired about. The archives surveyed in this current study do appear to be doing a better job on holdings maintenance than the state archives in the NAGARA survey. However, the current survey did not ask for percentages of holdings rehoused into acid-free containers. Nonetheless, holdings maintenance is an area of potential collaboration in ARL institutions that is experiencing negligible activity.

Collaboration in performing conservation treatments occurs at a much higher rate than holdings maintenance, but there are still some disappointing results. Library preservation staff consist of preservation administrators, preservation librarians, conservators, conservation assistants, and other technical staff. There is a wealth of expertise and knowledge residing in the library's preservation department. Yet, when conservation treatments are conducted for archives, the archives staff performs them 50% of the time and the library preservation departments perform conservation treatments for the archival repository only 28% of the time (Table 10). Of course, there is nothing inherently bad about the archives staff performing conservation treatments. This finding is further evidence that library preservation departments are not assisting the archival repositories. Disappointingly, a mere four respondents (3%) indicated that this assistance is occurring. Staff in both of the archives and library preservation units share interests in the use of conservation treat-
Table 11: Library/Archives Integration: Microfilming

<table>
<thead>
<tr>
<th>Responsibility for Performing Microfilming (n=97)</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Microfilm Service Vendor:</td>
<td>67 (69%)</td>
<td>18 (19%)</td>
</tr>
<tr>
<td>Library Preservation Dept.:</td>
<td>18 (19%)</td>
<td>14 (14%)</td>
</tr>
<tr>
<td>Archives Dept.:</td>
<td>18 (19%)</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

While the numbers indicate a higher amount of library preservation involvement in this most traditional of library preservation functions (higher than holdings maintenance activities), the very low number of archives drawing upon the knowledge and skills resident in the library preservation department for training purposes is unfortunate. It once again indicates a lost opportunity for the two units to share resources and benefit from one another.

Another traditional area of activity for library preservation operations is microfilming. Here is the one area where the archival repositories do not necessarily engage in preservation activity from within, cooperate with, or outsource to the library preservation department. Instead, the majority of repositories, 67 (69%), report working directly with external microfilm service vendors (Table 11). Nineteen percent stated that the library preservation department carries out microfilming procedures and 14 (14%) of the archival repositories reported that they complete this function in-house, a relatively equivalent split between the two units. The high incidence of relationships between archival repositories and external vendors raises the issue about who oversees quality control and negotiates contract specifications. Previously reported survey data found that approximately 87% of the repositories reported that they have no written procedures for selecting materials for microfilming (see Table 6). This also raises concerns over whether or not quality control checks such as post-film inspections of the microfilm for accuracy are being conducted and whether or not technical preservation microfilming specifications are being adhered to and verified once the work is done. While these specific questions were not part of the survey instrument, one must wonder how much effort goes into these concerns if repositories do not set criteria for determining which collections will and will not be microfilmed. These are the kinds of activities library preservation departments do during preservation microfilming of published materials and could presumably perform on behalf of the archival repository. There is no evidence of this type of collaboration in microfilming processes.

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After inquiring about specific preservation program elements and the nature of archives/library preservation interactions, a general inquiry was made about the overall responsibility for maintaining preservation planning and monitoring of conditions in the archival repository. The purpose was to test the perspective that library preservation departments are responsible for all preservation programs in the library, including any archival programs, and if not, to learn how the archival repositories are delegating this duty among their staffs (Table 12). There are only eight cases (6%) where a library preservation department representative possesses this overarching responsibility. In 103 (76%) cases, it is the archival repository that maintains the total preservation program oversight for the facility or unit. Of the 103 repositories, 58 retain overall program responsibility with the archives department head, 22 of them have designated a preservation officer from within the archives staff, and 23 spread preservation program responsibilities among other archives staff. This is not to say that one arrangement should take precedence over the other, but the responses do once again indicate a very low level of interaction between the two units. Only in the fewest of instances does a library preservation department representative play a major role in the archives' preservation program.

There is further evidence of the lack of involvement with the library preservation department on the part of the archival repository. Question #17a asked for information regarding the array of staffing in the library preservation department. Thirty-four percent of the responding repositories did not answer this question. This one-third nonresponse rate is significant. Supplying this information required only a little amount of effort. An archives staff member could have simply placed a phone call to the preservation department asking for the staffing numbers. The archives staff member could have also consulted the annual published ARL Preservation Statistics which supplies these numbers. In only one case did a respondent write in the margin that the responses to question #17a came from the recent ARL Preservation Statistics volume.

Question #17 asked the archival repository if their library has a preservation department, a preservation staff but not an organized department, or if there are some other arrangements. Twenty-two percent of the respondents
stated that their library does not engage in preservation functions at all. This is at odds with the ARL preservation statistics which show that all member libraries perform some array of preservation functions. Apparently, 22% of the archival repositories responding are uninformed or not sufficiently connected to the preservation functions in their institution's library. They may not know of the ARL volume's existence and that their library has preservation staff functions. Clearly, there is a lack of communication between these two units and their professionals who share several common agendas. The survey instrument did not provide any information on the lack of communication directly. A better understanding of this condition must be left to future inquiries.

Conclusions

Given the results of the survey, we are left with some general impressions. Certain aspects of preservation practice are improving. This is confirmed when comparing the data from the 1989 Conway/SAA study with the surveys of 1995 on state archives from COSHRC and the survey that is the subject of this article. Even though selective improvement exists, still only a little more than half of the responding repositories possess the capability to control both temperature and relative humidity levels. While environmental monitoring is occurring in more archives than not, it is being done in an improper or inadequate fashion. The vast majority of archives do not have sprinkler systems in place to protect collections on a repository-wide basis. Planning activities are very low. Archives generally are not benefitting from the expertise found in library preservation departments, even though about 80% of the reporting archives reside within the library organization.

Two questions that required subjective answers were included in the survey to gauge archivists' perceptions of these existing conditions. When asked in question #18, "How serious are the preservation problems that you confront in your daily work?" on a scale from 1 (minimal) to 5 (severe), the composite repository response measured 3.19, slightly above the moderate problems level. As a follow-up, question #19 asked, "How successful and satisfied are you with the preservation management and activities in your archives?" On a scale from 1 (poor) to 5 (great), the composite repository response was 2.92, just below the moderate satisfaction level. In juxtaposition to the relatively mild composite scores of the subjective question responses, the objective survey results confirm basic, systemic inadequacies throughout the majority of archival preservation programs that will lead to compromising the archival holdings' existence.

Something must be done to improve the areas in which there are disappointing preservation practices and to foster mature, complete archival
A STUDY OF CURRENT PRACTICES IN PRESERVATION MANAGEMENT

Table 13: (n=124) Education of Person(s) Responsible for the Archives' Preservation Management and Implementation

<table>
<thead>
<tr>
<th>Education of Person(s)</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized Graduate Preservation Degree</td>
<td>8 (6%)</td>
<td></td>
</tr>
<tr>
<td>Graduate-Level Preservation Courses within Graduate Degree Program</td>
<td>31 (23%)</td>
<td></td>
</tr>
<tr>
<td>Workshops/Seminars</td>
<td>100 (75%)</td>
<td></td>
</tr>
<tr>
<td>Internship</td>
<td>12 (9%)</td>
<td></td>
</tr>
<tr>
<td>Other Training</td>
<td>23 (17%)</td>
<td></td>
</tr>
<tr>
<td>None of the Above</td>
<td>14 (10%)</td>
<td></td>
</tr>
</tbody>
</table>

preservation management programs. One step toward improvement is the use of educational programs to create preservation expertise and encourage collaborations between library preservation programs and archives/manuscripts repositories. In question #21 of the survey, respondents were asked "has the person(s) responsible for overseeing preservation management and implementation in your archives received any specialized preservation training?" (Table 13). The results show that 100 (75%) respondents have received specialized preservation training through workshops and seminars, 12 (9%) have received such training through internships, 31 (23%) received graduate level preservation courses within their graduate degree program, eight (6%) employ staff with specialized graduate preservation degrees, 23 (17%) have received training through other arrangements, and 14 (10%) have received no training at all. This compares favorably to Conway's data on availability of conservation expertise. The two sets of data may not be directly comparable, but it would appear that training and education is on the rise. For instance, in the current study 75% of archives claimed to have received specialized preservation training through workshops and seminars, while 54% of archives in Conway's study claimed to have no access to conservation expertise at all. However, when data from the COSHRC (April 1996) study is factored in, the improving trend of staff expertise in preservation is not so clear: only 48% of state archives had the position of preservation officer and an even lower 37.5% had the position of conservator. Perhaps limited, short-term continuing education offerings are more readily available, but all this activity has not translated into additional preservation and conservation positions in archives and their parent institutions.

Professional demographics show that the trend for individuals entering the archival profession is through graduate archival education programs.23 Ensuring that these programs are adequately addressing archival preservation management knowledge is one long-term way to improve the situation for the generations of archivists to come. However, when the workshops, seminars, and internships are combined into one category called "continuing

23 Of the 819 archivists surveyed who had attended SAA continuing education programs, 56% had a master's degree that included coursework in archives. SAA Newsletter (Chicago: Society of American Archivists, July 1993): 16.
education," then we learn that 84% of the responses indicate that archives staff have received some sort of specialized preservation training through continuing education programs. Clearly archivists are attending preservation-related continuing education offerings. Perhaps this form of education can be better utilized to draw the connections between library preservation and archival management closer together.24

The professional education of archivists, library preservation professionals, and library administrators must address several issues to foster collaborations in preservation management. For instance, archivists need to learn how to function in the larger worlds of modern research library administration generally, and library preservation specifically. Library preservation professionals need to learn about archival preservation management and its similarities to and differences from library preservation. They also need to learn how and when they can appropriately integrate archival preservation concerns into the total library preservation program. Library administrators must understand that integrating their archival and library preservation programs will save valuable resources. Duplicate functions will be eradicated, preservation policies and procedures will be made similar whenever possible, and the library will produce better preservation management solutions with more expert staff collaborations. The result will be more research materials receiving professional attention with the same base of resources under the new and improved umbrella of preservation management.

There are several areas of similarity between library preservation and archival preservation management. The primary concern of any preservation program is program planning and evaluation. Formal continuing education offerings as well as in-house library training should focus on how to make library planning processes inclusive of library-wide preservation management (including archives), and bringing library and archival preservation management together. Next, collaborating in the basic program elements of preservation management should be the focus. Elements such as environmental management and monitoring, pest management, disaster preparedness and recovery, and reformatting and conservation treatment for the archives/manuscripts repository can easily be incorporated into a mature library preservation program. Other program aspects lend themselves well to a shared, cooperative approach to management, such as collections housing and storage systems, exhibition and loan policies, and staff training in collections care and handling. Examples of preservation elements best handled by archives/

manuscript repositories are use policies, staff training in specific areas, workspace design, preservation considerations in appraisal decisions, and overall policy development. In any case, there are sufficient grounds for collaboration that should be addressed by libraries and providers of relevant continuing education.

Once archivists and library preservation professionals have learned more about their shared concerns and program elements, they will be ready to work together more closely. The priority item on their agenda should be identifying opportunities to improve library processes and administrators' perceptions so that collaborative preservation management is supported and encouraged. Opportunities abound in modern library management to provide input on its policies, procedures, and services. Academic libraries are frequently subject to strategic planning, internal self-studies, accreditation reviews, and external program reviews. These planning exercises can be turned into vehicles carrying arguments for integrated library/archives preservation management. Other occasions can be used to assert preservation needs and the benefits of collaboration such as annual and project-based reporting, through committees, and during personnel changes. Archivists and library preservation professionals must find ways to educate their resource allocators on the benefits, savings, and improved services of integrated preservation programs. Cooperation and resource sharing is more obtainable than professional staffing additions in either library unit. In the end, the library preservation professional can be a great ally in collaborating on archival objectives within the library.

This article began with a view of research libraries as functional organizations that carry out processes in relation to a great diversity of research materials. Research libraries manage much more than just books, yet the survey results demonstrate that library preservation departments focus almost exclusively on the needs of published materials, and spend little, if any, time and resources on unpublished, archival materials. While there are many areas of program similarity, the respective preservation programs appear to be moving along parallel tracks, rarely touching. In the realm of preservation management, archives, by and large, are not benefitting from their association with the research library. This is unfortunate given the range of benefits to be derived from closer collaboration.

### Appendix: ARL Archives & Manuscripts Repositories

#### Preservation Activities Survey—Tabulated Results

1. Is the storage area of your archives equipped to provide controlled temperature and humidity (+/− 3°F and +/- 5% relative humidity)?

   - Temperature
     - Yes: 93
     - No: 40

   - Relative Humidity
     - Yes: 78
     - No: 55

N=133

2. Have any of the following types of equipment been used in the past year to monitor the environment of the storage areas of your archives?

   - Thermometer
     - Yes: 63
     - No: 72

   - Hygrometer
     - Yes: 38
     - No: 97

   - Recording Hygrothermograph
     - Yes: 84
     - No: 51

   - Sling Psychrometer
     - Yes: 38
     - No: 97

   - Temperature/Humidity Data Logger
     - Yes: 33
     - No: 102

   - Other
     - No: 6

N=135

3. Within the past two years have you conducted a holdings survey of the majority of your archives to identify potential preservation problems?

   - Yes: 38
   - No: 98

N=136

3a. If yes, have any of the findings from the survey resulted in actions such as re-housing or reformatting deteriorated items?

   - Yes: 33
   - No: 5

N=38
4. Please indicate which of the following holdings maintenance actions are *routinely* carried out (Circle all that apply).
\[N=136\]

- 133 Place holdings in acid-free folders or containers
- 118 Remove, copy, or segregate newsprint or highly acidic papers
- 117 Remove or segregate photographic media
- 127 Remove or replace rusted or damaged fasteners
- 119 Copy deteriorated items
- 35 Other action

5. Please indicate which ONE of the following selections best describes which unit is principally responsible for carrying out the holdings maintenance actions mentioned in question 4.
\[N=135\]

- 1 Library preservation dept.
- 121 Performed internally by archives staff
- 7 Archives staff trained by library preservation dept.
- 0 Contracted, external preservation service vendor
- 6 Other

6. Does your archives have a written disaster preparedness and recovery plan in case of fire, flood, or other disaster?
\[N=134\]

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>In Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>31</td>
<td>26</td>
</tr>
</tbody>
</table>

7. Please indicate which fire detection/suppression systems are present in your main storage areas.
\[N=135\]

<table>
<thead>
<tr>
<th>System</th>
<th>Yes</th>
<th>No</th>
<th>In Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Smoke Detectors</td>
<td>111</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>2. Fire Detectors</td>
<td>74</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>3. Fire Extinguishers</td>
<td>123</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>4. Wet Pipe Sprinkler System</td>
<td>42</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>5. Dry Pipe Sprinkler System</td>
<td>14</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>6. Halon Gas System</td>
<td>23</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>7. Other</td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Does your archives have written policies and procedures regarding any of the follow-
ing? (Circle all that apply).
N=123
95 Document handling procedures
98 Photocopying procedures
96 Reading room monitoring
94 User identification procedures
13 Other

9. How is any instruction in handling documents given to users of your archives? (Circle all that apply).
N=136
59 Briefly during use
118 Briefly before use
25 In workshops/classes
30 Other
4 None of the above

10. Does your archives have written procedures for selecting documents for any of the following conservation processes? (Circle all that apply).
N=134
17 Reformatting on microforms
14 Replacing deteriorated originals
7 Deacidifying paper documents
18 Encapsulation
14 Dry clean surface of documents
3 Lamination of paper documents
12 Other conservation treatments
101 None of the above
11. Please indicate which of the following conservation processes are *routinely* carried out (Circle all that apply).

N=136

51 Dry clean surface of documents
65 Basic mending and minor repairs
22 pH testing
28 Deacidifying paper documents
71 Encapsulation
3 Lamination
24 Other conservation treatments
40 None of the above

12. Please indicate which ONE of the following selections best describes which unit is principally responsible for carrying out the conservation processes listed in question 11.

N=124

35 Library preservation dept.
62 Archives dept.
4 Archives staff trained by library preservation dept.
4 Contracted, external preservation service vendor
19 Other

13. During the past two years has your archives reproduced any holdings on microformats?

N=135

97 yes 38 no

13a. If yes, please indicate which of the following units carry out reformatting procedures onto microforms.

N=97

67 External microforms service vendor
18 Library preservation dept.
14 Archives dept.
18 Other

14. Does your archives have a specific annual budget for the purchase of preservation supplies/services?

N=133

69 yes 64 no
15. Please indicate which ONE of the following persons are principally responsible for maintaining preservation planning and monitoring in your archives.
N=135

8  Library preservation dept. representative
22  Designated preservation officer from archives staff
58  Archives dept. head
23  Other archives staff
24  Other

16. Please indicate the administrative placement of your archives within your university (who do you report to).
N=136

16  University administration (president, vice president, provost)
36  Library director
38  Assistant library director
26  Library dept. head
19  Other

17. Does your university library include a department or individual staff dedicated to managing and implementing a library preservation program?
N=133

Preservation dept.  84  yes  49  no
Preservation staff, but not organized into separate dept.  20  yes  113  no
10  Other

17a. If yes to any portion of Question 17, what is the total full-time equivalent (FTE) of the following classifications of staff in the library preservation department/unit?
N=69

1. Preservation professionals  235.58
2. Paraprofessionals  380.68
3. Clericals  112.50
4. Student assistants  132.45
5. Volunteers  10.3
6. Other  112
18. How serious are the preservation problems that you confront in your daily work? On the scale below, please circle the number that best expresses your personal judgement. 
N=135

<table>
<thead>
<tr>
<th>Minimal</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

(3.19 average response)

19. How successful and satisfied are you with the preservation management and activities in your archives? On the scale below, please circle the number that best expresses your personal judgement. 
N=138

<table>
<thead>
<tr>
<th>Poor</th>
<th>Moderate</th>
<th>Great</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

(2.92 average response)

20. What is the total full-time equivalent (FTE) of the following classifications of staff in your archives? 
N=129

1. Archivists 485.71  
2. Paraprofessionals 243.26  
3. Clericals 124.20  
4. Student assistants 264.55  
5. Volunteers 80.87  
6. Other 40.30

21. Has the person(s) responsible for overseeing preservation management and implementation in your archives received any specialized preservation training? (Circle all that apply). 
N=134

8 Specialized graduate preservation degree  
31 Graduate level preservation courses within graduate degree program  
100 Workshops/seminars  
12 Internship  
23 Other training  
14 None of the above
22. Please indicate the total volume and number of paper-based archival and manuscript collections in your archives. For reporting purposes, one cubic foot equals one linear foot. Please estimate the requested figures if you are not sure.

1,995,744 Cubic/Linear feet (N=120)
157,572 Collections (N=109)

23. Please indicate the total volume of microfilm and microfiche holdings in your archives.

252,063 Reels of microfilm (N=101)
888,809 Microfiche sheets (N=71)