This report proposes a preservation program assuming a model of a university library serving 5,000 or fewer students and 350 or fewer faculty members. The model program is not for a comprehensive university or research institution, and the library's collection is one developed and used as a curriculum-support collection. The goal of the preservation program is the maintenance of all library materials that are essential to the collection in good, usable condition. The program considers the environment in which materials are stored and used as well as the collection itself. It involves both preventive measures designed to keep library materials from deteriorating, and conservation measures designed to return damaged materials to usable condition through repair or restoration. It also includes a plan for dealing with disasters. The program consists of a wide range of plans, policies, and procedures necessitating the allocation of jobs and resources. It also calls for the cooperation of all departments in developing a new awareness of preservation concerns and in carrying out the procedures outlined in the program. (SD)
MODEL PRESERVATION PROGRAM
FOR A SMALL UNIVERSITY LIBRARY

Louise S. Robbins
Assistant Librarian
East Central University
Ada, Oklahoma 74820

December, 1988
MODEL PRESERVATION PROGRAM
FOR A SMALL UNIVERSITY LIBRARY

DEFINITION

The university for which this ideal or model preservation program is defined is a university serving 5000 or fewer students and 350 or fewer faculty members. The library has 200,000 to 500,000 volumes and between 1500 and 2000 periodical subscriptions. The university offers a full range of degrees in the arts and sciences as well as offering education and business degrees. It offers masters degrees in a few subjects, but it could not be accurately described as a comprehensive university or a research institution. The library's collection is developed and used as a curriculum-support collection.

PROGRAM STATEMENT

Responsible librarianship today mandates not only the building of a collection of library materials to meet the needs of those whom the library serves; it also mandates the preservation of those materials in which the library has invested in the past and in which it is currently investing. Large expenditures of resources in collection development can hardly be justified if the collection is subsequently allowed to deteriorate past the point of usefulness through ignorance or neglect.

The goal of the preservation program is the maintenance of all library materials which are essential to the collection in good, usable condition, both now and into the future. The preservation program must consider the environment in which materials are stored and used and the collection itself. It involves both preventive measures, designed to keep library materials from deteriorating, and conservation measures, designed to return damaged materials to usable condition through repair or restoration. It also includes a plan for dealing with disasters.

The preservation program is comprised of a wide range of
plans, policies, and procedures necessitating the allocation of jobs and resources.\textsuperscript{2} It also calls for the cooperation of all departments in developing a new awareness of preservation concerns and in carrying out the procedures outlined in the program.

**ADMINISTRATION**

The Preservation Program will be administered by a designated Preservation Officer working at least one-third time at preservation activities. The Preservation Officer will

1. Develop and evaluate the library's preservation policies, including a disaster plan.
2. Prepare, justify, and manage budgets for preservation activities.
3. Survey and evaluate the condition of the collection and propose policies based on the findings of the surveys.
4. Develop and implement programs to preserve materials through improved environment and handling, including developing manuals and conducting in-service training for library staff.
5. Develop guidelines for the handling of damaged or deteriorating materials, including such options as withdrawal, replacement, limiting access, rebinding, or in-house conservation treatment.
6. Coordinate and monitor all preservation efforts throughout the library.
7. Communicate with library staff, administration, faculty, students, and other patrons concerning problems of preservation of library materials and the ways in which staff and patrons can assist in the preservation effort.
8. Supervise the in-house repair unit.
9. Act as the library's resource and liaison person on matters relating to preservation, including participating in regional preservation organizations and efforts.\textsuperscript{3}

The budget of the Preservation Program will equal 5% of the library materials budget.
THE ENVIRONMENT

Temperature and Humidity

The single most important step which can be taken to lengthen the life of library materials is to provide the proper physical environment for their storage. Although not all materials have identical storage needs, all need a stable environment with temperature and humidity control.

Although the common wisdom has for some time been that books and people do best in the same temperature and humidity ranges—about 72 degrees F. and 50% R.H.—it is now evident, according to Paul Banks, that "the speed of most chemical reactions approximately doubles with an increase of temperature of 10 degrees C." If possible, then, books should be stored at an even lower temperature. If it is possible to separate book storage from reading areas, books should be stored at 60 degrees F. with 50% R.H. If it is necessary to combine book and people areas, the temperature should be kept at 68 degrees F. In each case the temperature should fluctuate no more than 3 degrees in either direction.

Humidity, too, should be kept constant. Paper requires a certain amount of humidity to remain flexible; too much humidity causes books to swell and fosters the growth of fungi and accelerates the acid deterioration of books. A relative humidity of 50% + or - 5% is optimum for paper. Fluctuations in temperature and humidity are especially harmful, since shrinking and swelling put stress on the fibers in paper and hasten paper's deterioration.

The academic library, as part of a larger institution, frequently does not have a separate heating and cooling system. This means that the library may have periods of time when its cooling system is completely shut down, unless an understanding is achieved with the administration concerning the importance of maintaining a constant cool temperature. Ideally, the library should have a separate heating and air conditioning system.

Maintenance of the heating and cooling systems is also cru-
cial. According to Robert and GraceAnne DeCandido, the systems should have at least an annual check, a semi-annual check if the two systems are integrated.¹⁰

Since all materials do not have identical requirements, consideration must be given to providing appropriate conditions for various materials. Photographic materials generally prefer lower temperatures and humidities than books require.¹¹ Some additional provisions should be made for these and other special materials.

An effective monitoring system should be in place. Several different types of measuring devices are available. A hygrothermograph which continuously records temperature and humidity is recommended.¹²

Air Quality

Air pollution poses a threat to library materials. According to Banks, sulfur dioxide is the most harmful gaseous pollutant, but nitrogen oxides and ozone are also harmful.¹³ These pollutants combine with the moisture in the air and in the books themselves forming acids which break down the paper fibers. Particulate matter abrades books as they are handled, adding additional wear. Air conditioning and heating systems should be provided with filtering systems which will remove pollutants from the air.

Light

Although all wavelengths of light are damaging to library materials, ultraviolet light is the most harmful.¹⁴ Books should be protected from sunlight, which has a strong UV component, with the installation of blinds or UV filters on the windows. Attention should also be given to the amount and type of artificial light. If fluorescent lamps, which are higher in UV than incandescent lamps, are used, care should be taken to place UV filters on the light tubes or to select those lights which are rated low in UV emissions.¹⁵ According to SOLINET's recommendations, lights should be turned off in the stacks whenever they are not needed.¹⁶
New motion-sensing switches are ideal for stack areas, turning on when a patron enters the area and turning off when he or she leaves.

**Shelving and Housekeeping**

The shelving on which books are stored should be well-designed and constructed of suitable materials. Metal shelves are preferable to wooden shelves. The acidity of wood can hasten the deterioration of the books. If shelves must be of wood, they should be sealed with an inert sealer to prevent migration of the acid. Bookends should be carefully selected so that they support the books adequately on the shelves and do not damage books during the reshelving process.

The shelves and the books should be kept free of dust and dirt. Abrasive particulate matter should be gently vacuumed from the books at regular intervals, using a cheesecloth filter and soft bristle brush. Care should be taken to keep food and drink out of the stack areas. Damage can be minimized or prevented by frequent and regular, preferably daily, visual inspection of the stack areas.

**THE COLLECTION**

Because a preservation program cuts across all departments of a library, all departments need to become aware of the preservation considerations inherent in their work. As the Emory University Preservation Policy states, "Preservation usually involves a trade-off between the protection an item requires and the use it receives. The goal is to achieve a balance between the two needs." Libraries are very much accustomed to working to make library materials easy to use; now it is time to become self-conscious about preservation.

**Technical Services**

**Acquisitions**

In making selection decisions, the book selector must consider such questions as the book's format and potential shelf-
life. When making these considerations, he must understand whether the book is destined for a special collection, a reference collection, a general circulating collection, or whether it is considered ephemeral. In making purchases, the collection manager should make every effort to buy well-made books printed on permanent paper. The collection manager will also participate in decisions concerning the withdrawal, repair, or replacement of unusable materials, and must be familiar with the format options available.

When used books are acquired, the collection manager will need to evaluate which books need immediate conservation treatment or protection through limiting access. These, too, are preservation decisions.

Cataloging

In preparing books for the shelf, cataloging and processing staff sometimes damage books. Library staff will be trained by the Preservation Officer in nondestructive processing and proper handling of materials, using guidelines similar to the "Preservation Guidelines for Processing Staff" published by The General Libraries Preservation Committee of the University of Texas at Austin.

Serials

Decisions about the formats in which to purchase and to keep various types of serials is, at least in part, a preservation decision. The preservation aspect of the decision needs to be kept in mind and balanced with questions of access.

Overseeing commercial binding is "a primary preservation activity," and the responsibility for negotiating a binding contract which is sound from a preservation viewpoint is a responsibility frequently lodged within the Serials Department. The binding contract must be negotiated to allow for appropriate types of binding for different items, rather than all items getting one standard treatment. The individual in charge of bindery preparation must be knowledgeable enough to make the types of preservation decisions involved.
Public Services
Book Handling

All workers who assist in the circulation and reshelving of books must be trained in proper treatment and shelving of books. A handbook, such as the Guidelines and Procedures of Columbia University’s The Preservation of Library Materials: A CUL Handbook should be required reading for all newly-hired personnel. Training and refresher sessions must be held for all staff to impress upon them the importance of following procedures which will lengthen rather than shorten the life of the library’s materials. Individuals should be assigned to specific stack areas which they will be responsible for straightening and cleaning, as well as shelf-reading.

Patron Education

An important aspect of preservation is educating the library’s users in the appropriate treatment of library materials. Through posters and exhibits, as well as through the media and bibliographic instruction, library users can be made aware of the reasons behind the library’s injunction against food and drink, the problems of repairing books with cellophane tape, the proper way to remove a book from the shelf, and how to handle microfiche, among other preservation concerns.

Photocopying

Ideally only photocopiers which minimize damage to those items being copied should be purchased and utilized in the library. However, their greater cost makes it unlikely that they will replace the standard office copiers for some time to come. Posters should be placed at the copying machines to illustrate the least destructive copying practices. Staff members with photocopying responsibilities for interlibrary loan should be trained to do photocopying in such a way that the harm to materials is minimal.

Exhibits

Materials must never remain on exhibit for longer than three
months. All materials should be displayed following preservation guidelines to ensure that they are not harmed by being put on display.

CONSERVATION MEASURES

Assumptions

Because the collection is basically a circulating collection, the goal of conservation measures in our model library is to keep all items necessary to the collection usable for as long as possible. If an item becomes unusable, the decision will be made whether to withdraw the item and replace it with a more current item on the topic or whether to find the same item in a newer edition or another format.

It is not the goal of this program to engage in preservation microfilming or to invest in the services of a professional conservator for any but the most unique of special collections items.

Decision-Making Process

Items will be identified as in need of repair chiefly by patrons and circulation staff. In addition, periodic surveys will be conducted in selected areas to determine repair needs.

When an item is found to be in need of repair, it will go through a multi-step process to determine the appropriate handling of the item. The process outlined will be similar to that found in "Preservation Decisionmaking Options" by the University of Michigan Library, taking into consideration the condition of the paper, the use the book has received, its usefulness in the collection, its value as an artifact, the availability of other copies either in the library, through interlibrary loan, or through purchase. Options for treatment will include withdrawal from the collection, withdrawal and replacement, photocopying, in-house repair, limiting access, making a protective enclosure, sending to the bindery, and sending to a professional conservator. The last will be used rarely, and only for unique items having artifactual value.
Repairs

If a needed book is not brittle and needs minor repairs which can be performed in-house, it will be sent to the repair unit. If it cannot be repaired in-house, but is too brittle or has too little a margin to be sent to the bindery, it will be boxed or wrapped until a replacement can be found in an appropriate format.

The repair unit will perform such operations as tipping in pages, tightening loose hinges, mending torn pages, and, in some instances, replacing loose cases. Some deacidification, especially of single sheets, and encapsulation of fragile materials can also be performed by this unit. Books with artifactual value that are in need of repair will be evaluated for possible treatment by an outside conservator.

Special Collections

All the preservation measures used in the remainder of the library will be used in Special Collections. Important archival papers will be deacidified and encapsulated. Acid free folders and boxes will be used for storage of manuscript and other materials. Preservation copies of photographs will be made for the use of patrons; originals will be encapsulated and stored in acid-free folders and boxes.

DISASTER PREVENTION AND RECOVERY

A plan to deal with recovery from disaster is the first document a Preservation Program should create. Hand-in-hand with that document should go a document outlining measures that can be taken to prevent disasters. This plan must include preventive measures against fire, water damage, natural disasters, theft and mutilation of books, and the problem patron. It should also include provision for risk management and insurance.

Prevention

Survey

The first step in preparing a disaster plan is to inspect
the library for conditions which might lead to the creation of a
disaster. The Northeast Document Conservation Center's "What an
Institution Can Do To Survey Its Conservation Needs" provides
questions which help a library staff to examine its building from
the point of view of preventing disasters.27 The University of
Michigan's "Building Survey Form (A): Freestanding Library Units"
is another helpful questionnaire which enables the Preservation
Officer to look at the building's vulnerability to disaster.28
Best's Underwriting Guide (Libraries)29 and Best's Loss Control
Engineering Manual30 are a third source of revealing questions to
assist the librarian. The National Fire Protection Association
has a "Fire Safety Self-Inspection Form for Libraries" which
provides a very thorough check of a library facility from the
perspective of fire safety.31 The Preservation Officer will use
the results of this inspection to determine priorities for dis-
aster prevention. The survey should be repeated at least semi-
annually to gauge progress and to catch new problems as they
arise.

General Security

The general security of the library building affects every
aspect of disaster prevention. Since disaster--fire, theft,
storm, pest infestation--often enters the building from outside,
the integrity of the building must be assured. Double-cylinder
dead bolt locks and burglar-resistant grills on street-level win-
dows (especially those concealed from view) can help to keep
intruders or would-be arsonists out of the building.32 In addi-
tion, there should be an intrusion alarm system which is con-
nected to a central station.

Although fire safety regulations prohibit the padlocking of
emergency exits, doors to the outside at the very least need to
be alarmed. Doors with magnetic fields which are released
automatically when a fire detection or suppression system is ac-
tivated show promise for improved security.33 Remote areas where
emergency exits may be located may also be observed by closed
circuit television.
For the safety of library personnel as well as of the collection and building, all doors through which patrons may enter or exit need to be in a central location in clear view of a central control station, such as the circulation desk.

An emergency-use-only public address system will be installed to aid evacuation in the event of fire, tornado, or other disaster.

Emergency numbers should be posted at every telephone.

Fire

Between 70 and 85% of all library fires are deliberately set. Electrical problems and heating system malfunctions also are known to be a source of library fires. The Preservation Officer must protect against these sources of fire to the extent possible. The library must have a closing procedure which insures that no one remains in the building after closing, and that the doors are securely locked. This procedure must also include a check of restroom and other wastebaskets to make sure that no incipient fire is smoldering, as well as a check of electrical equipment such as coffeepots. The electrical system must be adequate for the demands placed upon it and must be inspected regularly for early detection of any problems. Makeshift wiring and extension cords over six feet in length are sources of problems and must be eliminated. Book drops are a prime source of incendiary fires, with flaming materials sometimes introduced into the library through the book drop. The book drop, if part of the building, must be have a fire suppression system inside, or it must be replaced with a free-standing book drop.

Since disasters are just that, and can not always be prevented, systems must be in place to both detect and suppress fire. A system of photoelectric smoke alarms, which according to John Morris are the quickest to detect the presence of fire, should be connected directly to the central fire station and to the building's alarm system. The alarm system should be one which can alert both the hearing- and the vision-impaired. Fire exits should be adequate for the size and use of the building and
A sprinkler system should be in place in the library and subject to regular inspections. Although some people fear the water damage which could occur with the accidental or mischievous discharge of a sprinkler system, the value of such a system outweighs the risks, since a sprinkler system can suppress a very small fire in a confined area with a minimum amount of water as compared to the thousands of gallons per minute poured into a burning building by a fire department. The preferred type of system is the "preaction" type of system, in which water only enters the pipes when fire or smoke is detected. This system has the advantage of being less likely to discharge accidentally.

The Special Collections area and any other suitably enclosed area which houses valuable or difficult to replace items should be protected by a Halon 1301 system, which leaves no residue and is extremely effective in suppressing fires in enclosed areas. In addition, small, hand-held fire extinguishers of suitable types should be placed around the building at places where fire might be likely to break out. These extinguishers should be inspected regularly, and the staff should have regular, hands-on training in their use.

A standard routine for dealing with a fire emergency should be written and given to all the staff and accompanied with any necessary training or orientation. All staff members should know exactly what to do and where to go in case of a fire. Fire drills should be held.

Water Damage

Water damage in libraries can come from a number of sources, many of them in the buildings themselves. The careful survey of the library building and an intimate knowledge of the placement of water lines, steam pipes, drains, and other sources of water is the first line of defense. Ideally, pipes will not run directly over book stacks or such items as the card catalog or computer equipment. Roof drains should be checked and cleaned at least twice a year to prevent standing water from the roof from
entering the building. Any damage to windows should be immediately repaired, and window glazing should be checked regularly and replaced if needed. If possible, books should not be shelved close to the floor where they are especially vulnerable to water damage.44

The library should have an automatic 24-hour warning system connected to the central station which would inform the library and security personnel of any unwanted water in the library.45

Pest Infestation, Mold

The best preventive measures against pests include blocking all small entrances from the outside in basement and roof areas where such pests as mice, bats, and insects might enter and making and enforcing rules against food and drink in the library. If pests are discovered, an exterminator should be consulted.

Environmental controls will prevent the growth of molds, which require high relative humidities and generally warm temperatures, both of which are bad for books for other reasons as well. A supply of a 5%-10% solution of thymol in alcohol should be kept on hand for immediate spot treatment of mold.

Tornado, Hurricane, or Other Natural Disaster

As George Cunha says, "The best way to handle disasters is to assume that they can and will happen to you and plan accordingly."46 Certain parts of the country are more likely to suffer the effects of one type of natural disaster than another, and so a library can plan at least for that type of disaster it is most likely to experience.

The most effective time to plan for earthquakes, hurricanes, and tornadoes is during construction, when consideration must be given to the type of design and materials which will withstand the forces of nature. In tornado as well as hurricane country, for example, impact-resistant glazing should be used in all windows which might be hit with flying debris.47

In addition to such measures, the library should have a written routine for anticipating and preparing for storms or other natural disasters to the extent possible. In Oklahoma, for
example, a radio which broadcasts tornado watches and warnings should be available. Library staff need to know when and to what shelter location patrons must be evacuated, and they need to have a set building closing procedure for such an abrupt departure.

Theft and Mutilation of Books and Materials

General security of the library building has been considered above. Additional measures, however, are needed for the security of books and other materials against theft and mutilation.

A security system must be installed at the point of ingress and egress. Targets should be placed in as many books as feasible at the outset, especially in areas known to suffer a high loss rate. All new acquisitions should be targeted. All valuable materials and equipment should be plainly marked with the library’s name and identifying marks.

Although there is a great difference of opinion concerning the advisability of marking Special Collections materials, it is plain that special security measures must prevail in the care of Special Collections materials. Individuals wishing to use Special Collections materials must be identified beyond a shadow of a doubt and must work under observation. They must not take into the area anything but their papers and pencils, and all their belongings must be carefully inspected before they are allowed to leave. Depending upon the value of the collections, certain other regulations may also apply.

Windows which open for ventilation in a library must have screens which do not open to prevent books from being thrown out of windows.

Care must be taken in hiring to try to protect against theft by insiders.

Mutilation is even more difficult than theft to protect against because library staff can not watch every patron using the library. Educating users about the cost of trying to replace missing or mutilated pages, and the "utterly selfish and anti-social nature of mutilation for convenience" may be one of the best defenses and certainly must be done. Faculty members must
be urged to make assignments in such a way that students do not feel compelled to take for their own private use the one copy of the article the class is assigned to read. Library staff should make occasional rounds of the library with an eye to determining if mutilation is occurring. All library staff will be trained to report immediately any signs of mutilation.

Local law enforcement officers will be consulted concerning the enforcement of the law which punishes library theft and mutilation.

The Problem Patron

The small university library is likely to have several different kinds of problem patrons: the fraternity pledges who vandalize the library while assigned to "study hall"; unattended pre-teens who want to experiment with all the library equipment; the abusive faculty member; the individual who is under the influence of drugs or alcohol; the mentally disturbed individual who poses a threat to other patrons or the staff. A procedure must be established for dealing with each of these types of individuals.

Fraternity pledges can be dealt with through normal university disciplinary channels. Youngsters who can not be persuaded to engage in more constructive activities can be invited to leave. The library director or other library faculty member can deal with the difficult faculty member. Clear emergency procedures must be developed, however, for dealing with those individuals who pose a threat to patrons or staff. This procedure needs to be accompanied by role-playing and other types of rehearsal. Emergency numbers must be posted at every telephone.

Risk Management

Most small university libraries, as part of larger units, do not have their own insurance policies. They frequently participate in the self-insurance program of the university.

The library must work with the Risk Management Officer of the campus to be sure he is aware of the peculiar problems of the library. Frequent visits by the Officer must be scheduled. In-
ventories must be updated at least every six months, more often if major equipment or other acquisitions have been added. One copy of the inventory must be deposited in the Risk Management Office. The Risk Management Officer must be made aware of the demands upon the entire university should a disaster strike the library. A contingency plan detailing temporary headquarters for the library, a communication system, and an emergency source of funding for cleanup and rebuilding should be on file in the Risk Management Office along with the library's disaster recovery plan.

**Disaster Recovery**

Several sources should be used in establishing disaster recovery procedures. The Preservation Committee of New York University Libraries' *Disaster Plan Workbook* is a thorough, fill-in-the-blanks planning tool. The *Basic Guidelines for Disaster Planning in Oklahoma*, while not as complete as far as outlining the types of procedures needed, has a complete listing of needed resources and supplies, also in a fill-in-the-blank format. Almost all disaster planning manuals refer to or include Peter Waters' *Procedures for Salvage of Water-Damaged Library Materials*, the Bible for recovery from water disasters.

**The Plan**

The plan should be maintained in a loose-leaf notebook for easy updating. The first sheet should contain a summary of emergency procedures. This sheet, in its most current form, should be duplicated and distributed to all staff. It should also be posted in at least two prominent locations. Copies of the disaster recovery notebook should be kept in the office of the Library Director, the Risk Management Officer, the Preservation Officer, the Head of the Disaster Recovery Team (if different from the Preservation Officer), all the members of the team, and in the homes of at least the Preservation Officer, the Head of the Recovery Team, and the Library Director. All members of the team should have at home copies of their responsibilities and the
information needed to carry them out.

In addition, copies of the library's floor plan, including electrical system and other technical information, should be kept in the homes of the Library Director, the Preservation Officer, and the Head of the Recovery Team.

Each library staff member should have the telephone numbers of the appropriate people to call in case of a library emergency.

The plan should include procedures for dealing with the following emergencies: fire, including a building evacuation plan; water emergency; bomb threats or threats by dangerous patrons; vandalism; pest or mold infestation; natural disasters or structural accidents (shelving collapse); medical emergencies. It may also deal with computer emergencies. The notebook should also include an inventory of on-hand supplies needed for disaster recovery and where they are stored, as well as a list of supplies which will need to be obtained and where they can be found. All negotiations with suppliers must be carried out in advance to save time in a disaster situation. In addition, suppliers must be re-contacted periodically to be sure they are still in position to provide the needed item or service. Resource people who may be of assistance in the recovery operation need to be identified and their telephone numbers included in the notebook.

Individuals who are assigned to the Disaster Recovery Team need to know their responsibilities. Training in salvage procedures needs to be carried out with key staff members before the need for salvage arises. The more planning that is done in advance, the less traumatic a disaster will be and the more quickly library services can be restored.
NOTES


11. Banks, p. 342, in Darling, p. 44.


25. *Darling*, pp. 142-146.


35. *Morris*, p. 3.
36. Morris, p. 29.


38. Morris, pp. 53-54.


41. Morris, p. 33.

42. Morris, p. 38.

43. Morris, p. 39.

44. Morris, p. 58.

45. Morris, p. 58.


47. Morris, p. 81.


49. Morris, p. 20.


51. Toby Murray, Basic Guidelines for Disaster Planning in
Oklahoma (Oklahoma City: Oklahoma Conservation Congress, 1986).


54. Murray, p. 2.