NATIVE LANGUAGE PRESERVATION
A REFERENCE GUIDE
FOR ESTABLISHING ARCHIVES AND REPOSITORIES

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Chapter 4: How to Build Infrastructure to Preserve Native Language Materials

WHAT IS INFRASTRUCTURE?

Infrastructure is the underlying framework of a system. Here, infrastructure means designing the way in which a Native language repository system will function. This includes describing the interrelationships between human resources, physical locations of materials and access points, the hardware needs for various programs and ethical standards for use of cultural properties.

In designing and implementing the repository, the planners must consider the need for processes to be used in sharing materials. Among these will be the need:

- to protect original materials;
- to assure that materials are used for language purposes of the community;
- to regulate outside access to materials; and
- to provide copies of materials, when appropriate, to national, regional, tribal and
    language program repositories.

To implement this planning, the repository will need to develop written standard operating procedures, train staff to use these procedures and approve the necessary administrative forms and enforcement procedures.

The purpose for this planning should be the goal of making language materials, wherever they may be located, accessible where they are most needed -- in Native communities. The repository planners should also recognize that such access will probably increase as the language program increases its use of technology. This will mean training all those who will be using the repository to improve the teaching and learning of the language. This chapter describes a proposed infrastructure to reach the goal of using the language materials to best serve the needs of all those who will benefit from using them to preserve the language.

The Native Languages Archives Repository Project has focused on the need to provide an orderly system of support for accessing language materials by Native language activists in the community and elsewhere. This addresses the human aspect of the system by setting forth ethical considerations, training requirements, non-Native access and regulation, sharing considerations, enforcement of regulatory requirements and the development of a system of standard operating procedures to assure the smooth functioning of the infrastructure.

How Native communities or organizations deal with or develop their own internal administrative systems is not specifically addressed here because of the great diversity that exists, as well as their independent right to adopt their own systems. Instead, the general organizational ideas for an infrastructure are presented in a way that ought to allow for those making decisions about the repository to discuss how to improve access to the materials for all who would benefit from that access.

The overall concept of any infrastructure is of a bridging nature, in the sense of recognizing the separateness of Native communities, organizations and institutions of higher education.

Human Resources

There are many different types of people who should be involved in a language program. Among the most important are those people who already speak the language. Some may be reluctant to participate, for a number of reasons. Those working in the language may need training in the use of materials, instruction on the use of technology and information on learning and teaching methods. In some tribes and language communities with few speakers, care should be taken to try to persuade them to participate. Some may be passive speakers who understand the language, even though they have not spoken it much. Their knowledge is valuable because they may have extensive vocabulary knowledge

and they know how the language is supposed to sound.   Another issue to be taken into consideration is participation by people who have less than their full set of teeth. They may be uneasy about participating because they know that they have a hard time pronouncing the language correctly. There may also be people who are not fluent, but who may have knowledge of specialized vocabulary in areas like crafts. Of course, some of these people may not live on tribal lands, and finding them may be a challenge.

Other people who should be involved are professional educators, who are aware of the many types and systems of teaching and learning models, appropriate techniques for the teaching of different types of languages and methods of testing fluency to evaluate the language program. These educators need the cooperation of the language teachers to do their work effectively, especially if they are participating in the design of the materials.

The program may also wish to consider using specialists as evaluators. Among these would be historians and anthropologists to help find older materials and linguists to help with the design of methods and materials.

Place

The learning place may be on or off tribal, intertribal or community lands. Therefore, tribal, intertribal or community control or support may be different depending on location. Some programs may want to consider the security of materials within their workplace; it may be very difficult to replace stolen materials.

There is much information in other parts of this Reference Guide to assist those planning space for their own repositories. As our Archivists have stated, consider light, humidity and temperature, as these may have a bad effect on the condition of materials. Basements are usually poorly suited for storing archival materials.

The use of technology in the learning place should also be planned for; technology may require extensive remodeling of older structures, often called retro-fitting. Technological change is inevitable and this should be considered in planning and designing space for the repository. New structures should fit the group's cultural ideas of structure as well as provide for newer technology that may be helpful.

Types of Programs

There are many types of language programs, both on or off tribal or community lands. Programs may vary, for example, in the amount of formality, numbers and types of students (Native and non-Native, children or adult, etc.), who is sponsoring the program and length of time students are taught. Some types of programs are described below.

1. Tribally-run or community-run programs. These may be, for example, a part of a tribally-run or community-run Head Start program, after school program, special summer program or a program through a tribal, intertribal or community television, radio or web program. Although the tribal government, intertribal coalition or language community organization may have more control over these kinds of programs, much care must be given to insulating them from politics, as changes in personnel often disrupt the production and safeguarding of materials as well as affect the quality of teaching.

2. Privately-run programs. These programs may be particularly cautious in their dealings with the tribal government or intertribal coalition, as they value their independence. They should be approached in the spirit of cooperation. They may value support from the tribal government or intertribal coalition in the form of assistance in recruiting instructors and resource people, cooperation from the tribal education and cultural programs and, of course, funding.

3. Elementary and secondary school programs. These may be run by a public school district, a tribe, an intertribal coalition, a language community, the BIA or a private institution. These schools may all be impacted by the need to comply with state certification standards for language instructors. These standards can often be negotiated through agreements between the tribe and the state's education department, for example. Such an agreement is usually called a Memorandum of Understanding (MOU) or a Memorandum of Agreement (MOA).

4. College and university programs. These programs are especially valuable as they may provide instructors for the other programs. Although some of these people may seem far removed from the program's planners and instructors, they may have knowledge of language instruction or access to finding historical or other materials that may be vital for the success of the program. They may also be a resource for professional skilled work. It may be particularly important for these institutions to receive copies of teaching materials to use to teach students to work from these materials. Indian institutions of higher education, such as the Institute of American Indian Arts and tribal colleges and universities should be given special consideration.

5. Informal programs. These may be as simple as grandparents regularly meeting with grandchildren, elders speaking the language during a tribe's senior lunch program, or small groups meeting in the evening with speakers. These programs are valuable because the participants are doing this voluntarily. Any suggestions or materials provided to these groups may be much appreciated; however, great care must be taken to avoid inadvertently crushing the initiative of these groups.

In the interest of coordination, whatever can be done to encourage cooperation in the sharing of information between these programs would probably improve the language's chance of surviving. The appropriate uses of traditional knowledge could be included in this cooperation.

ETHICAL STANDARDS FOR USE OF CULTURAL PROPERTIES

A priority consideration for each language program is the relationship between the preservation of language materials and the preservation of other cultural property. It would be good if the programs were coordinated to the extent that each is aware of what the other holds and of the methods used to preserve the materials. Those with existing Codes of Ethics may wish to incorporate and amend them to accommodate infrastructural concepts that are presented in this chapter.

Each program should become aware of the Native nation's or language community's formal or informal directions on the use of cultural materials. Guidance may have to be sought from the governing body, the cultural program, tribal attorney or other authority.

Usually, the directives will have to do with restrictions on the use of materials, but also may include directives on contacts with outside people.

CONSIDERATIONS IN SHARING MATERIALS

Each language program must take care in the gathering of information for the creation of materials for the use of the program, and perhaps for later deposit in a national repository, that each piece of information is carefully designated as to its source and any conditions, instructions or restrictions.

In gathering information, care must be taken to assure that the individual giving the information understands that:

- the information will be used to develop materials for the use of teaching the language;
- the materials will be preserved;

- the students of the language may or may not include tribal members, as the case may be;
- the materials may or may not be made available to people other than students, including those preparing the materials, those revising the materials, a funding agency, researchers, those preparing materials for other languages and others, as the case may be; and
- the copies of the materials may be deposited in a national repository, where their use may be restricted by the program that is gathering the information.

It is usually appropriate to clearly allow for the sharing of the information with the descendants and/or the extended family of the person giving the information, and/or of that person's clan or other cultural or social group.

It may be that the information giver objects to one or more of the uses of the information to be given, in which case a reasonable accommodation should be negotiated.

If there is not informed consent to the uses of the material, the information should not be used.

It may be prudent to prepare a consent form along the following lines to be signed by those giving information. A model consent form has been provided in the second part of this chapter.

Preparers of material should also clearly understand the uses of the material they prepare and should be made aware of any restrictions on the uses of specific information in the preparation of the materials. In addition, they should clearly understand any contract they sign regarding the ownership of the copyright of the materials.

A simple statement, such as the following, should be sufficient:

**"I understand that the copyright to the materials I prepare belongs to _____,
meaning that _____ alone will have the power to publish copy and use the materials."**

If there are restrictions on the students using the materials, these restrictions should be explained to the students in an age-appropriate manner at the beginning of each term.

If there are restrictions on the use of the materials by people outside the program, these should be clearly stated before the person is allowed to examine the materials.

It may be prudent for the program to design a form along the lines of a "Consent to Restrictions" form for the person to sign. A model form is provided in the second part of this chapter. The important elements of the form are the signer's statement that the restrictions have been explained, are understood and will be followed.

A record should be kept of each time materials are examined, including which materials were examined and the name of the examiner.

In addition to restrictions by those who give information to use in preparing the materials, the language program, especially if it is not a tribal program, should seek and consider restrictions desired by the tribe's or tribal coalition's governing body, its cultural program, its social structure and others knowledgeable in the culture of the tribe(s) and cultural context of the language. If the program chooses not to follow a proposed restriction, then an explanation of why the program will not follow the restriction should be prepared and given to the proposer of the restriction. This document may be of use in negotiating an accommodation with the proposer.

If restrictions have been placed on materials or information, care must be taken to safeguard and monitor access to the materials.

Culturally sensitive materials must be carefully provided for. Any consultation about culturally sensitive material must begin with the supposition that there are things the language program does not know. The language program should respect the sacred knowledge contained in rituals and ceremonies and not force the religious practitioners to participate if they do not desire to do so. Because of the tradition of sharing, programs must be very careful not to force or pressure the religious practitioners into sharing their knowledge.

Because some materials may be culturally sensitive, programs must be careful when sharing materials with non-Natives, or Native people who may not be qualified to share the materials.

In considering the sharing of materials, the program may wish to give special consideration to programs from other tribes or communities who share the same or a similar language.

The preservation of the materials, as well as the information from which the materials were developed, is crucial for the preservation of the culture. There is much information on preservation in the second part of this Reference Guide. The program must do its utmost to assure that all materials are appropriately preserved. This may include moving the materials to another format -- for example, from CD to microfiche -- and preserving a duplicate of the materials off site at a secure location. Fragile materials should be protected, especially when being duplicated.

The program should designate someone to serve as the monitor for its preservation efforts, as knowledge about preservation methods is constantly changing. It is now recognized that certain types of paper, usually called "archival" paper, preserve better. In general, microfiche is now believed to last the longest of all materials. Digital materials are difficult to preserve because the format used for the hard copy, like "floppy disks," may eventually become unreadable without older equipment. Also, digital formats may deteriorate over time. There is much information available on these issues from professional archivists and provided elsewhere in this Reference Guide.

Any restrictions on the use of information or materials must be stated in clear, easy to understand language, in order to protect against misuse of the restriction.

Any person making copies of the program's material must be made aware of copyright restrictions on the use of the materials. This can be done through a stamped statement on each page of the copies or through a statement attached to the materials. Such a statement should read: "These copies may be used only for scholarly or research purposes." The use of the copied materials may also be restricted to a particular use, such as research.

How Materials Can Be Shared

Once restrictions are understood, their application must be clearly followed.

Internal Application

Within the program, the information and materials should be shared with all of those concerned with the preparation, use, evaluation and revision of the materials. If the people engaged in those functions are not program employees, a consent form detailing appropriate restrictions should be used. The "Consent to Restrictions" form could be used for this purpose.

Within the community of those interested in the language program, the restrictions must be stated before the materials are shared or discussed.

Consideration should also be given to sharing knowledge with tribal programs besides those on language and culture. These may include youth and elder programs, any program dealing with the geography of tribal areas, sacred sites, health and social services programs. All programs would benefit from knowing how the work they do is expressed in the language.

Within the Native nation or language community, in any sharing of the materials, the restrictions must be stated, especially if the restrictions have not been the subject of earlier discussion.

External Application

Those with whom the materials should be shared include persons who may be of assistance in revising the materials or improving instruction; a funding agency, if there is a legal obligation to do so; those seeking assistance in designing their own language programs; those researching for scholarly purposes, as their research may lead to improvements in the teaching of languages; and a national repository, if the Native nation or language community wants to participate, in whole or in part, in a national repository system.

In explaining any restrictions on the material, care should be taken to explain the rationale for the restriction, particularly if the person is expected to sign a consent form. For example, it could be explained that a portion of the materials relate to religious ceremonies that the tribe, clan, society or moiety does not wish to have publicized, or that some of the materials relate to incidents in the life of the person who gave the information and s/he does not want that publicized.

A form should be prepared for the signature of outside people seeking to examine the materials. The form should state:
1) that the program is acknowledged as the source of the materials;
2) the reason why access to the materials is desired;
3) the consent to restrictions; and,
4) that applicable copyright laws will be followed.

Another consideration that may be especially important is that sharing of materials may be essential to develop coordinated curricula in different programs, leading to more effective teaching and learning.

TOOLS FOR PRESERVING

Tribal Codes and Ordinances

Tribes have the sovereign powers to govern and to regulate. Tribal powers over the regulation of non-Indians may be limited to those consenting to tribal control through contracting or licensing, or those powers shown to be necessary to regulate conduct affecting the tribe's political integrity, economic security or health and welfare. Although tribes may not have regulatory power outside of their lands and usual and accustomed places, their political power can be used very effectively in those cases where the tribe has carefully planned its strategy. One way to protect this sovereignty is to be very careful in how it is enforced.

Tribal legal acts concerning the preservation of language may be in a code, meaning a gathering of laws on a particular subject, such as culture. The law may also be contained in an ordinance, like one on language. A law affecting a particular program, especially if it does not require or forbid a particular action, but only encourages cooperation, may take the form of a resolution. Laws affecting a tribal program may be in an amendment to the program's policy or procedures.

In Relation to a Program Repository

If the language program is a part of a Native nation, its government may direct other programs to provide materials or cooperate with the repository. If a cultural program is separate from the language program, cooperation between the programs must be established, as the cultural program may also be involved in archiving language materials.

The language program should carefully examine the tribal documents that empower the program to make sure that the program has the power to set up a repository. If there is any doubt as to the program's power to do so, the program should request that the tribal government amend its powers to allow for the operation of a repository. Such an amendment may include: the purpose and expected use of the repository, the repository's relationship with other programs, its use of the tribal attorney's time, the power of the staff to negotiate with or request monies from federal agencies, and the power to contract with suppliers or consultants.

If the language program is not part of the tribal government, the program may request the government to direct specific programs, such as the cultural program, to cooperate with the language program, share or provide materials to it or provide other assistance. Such cooperation should, of course, be mutual. The language program should provide assistance or materials to the Native nation, as requested.

In Relation to Tribal Laws about Language

There are many ways in which tribal governments may encourage and foster the teaching of language.

The tribal government may by resolution endorse or approve of a language program's request for funding, whether it is or is not a tribal program. The Native nation itself may itself fund a language program, in which case care must be taken to assure that appropriate time is granted for its establishment. The governing body may not realize how much time it takes to decide on and develop teaching materials, find and train instructors and devise plans for continuing instruction.

The tribal government may wish to declare the language as the Native nation's official language. This presents very complex issues of governance:

     1) If the language is not written or there is no approved orthography, then those steps would need to happen before the government's actions can be written in the language.
     2) The need for adequate translators may mean that a declaration should be delayed until the translators are in place.
     3) If the declaration is intended to apply to schools, intensive negotiations with the school administrators need to take place long before the implementation of the declaration.

There are many other matters that must be thought about before such an action is taken. Highway signs on reservation roads funded with federal funds, for example, may require extensive preparation.

In Relation to the Protection of Cultural Property

The Native nation may wish to offer protection to some oral cultural expressions occurring inside its jurisdiction. This is an extremely complex action requiring careful study of federal law, as given federal preemption of copyright law, the window for such action is extremely narrow.

The U.S. Constitution gives Congress the power over copyright. For many years, however, state governments regulated some matters of copyright, like oral expressions that were not written, as well as written materials that did not meet federal requirements. Since the revision of federal copyright laws in 1976, it is clear that all conflicting state laws are now illegal. What is not clear is the status of matters, like oral expressions, that are still not covered in the federal laws. Any tribal government contemplating such an action should require a careful legal study before taking action.

The Native nation may wish to grant permission to those proposing to develop materials using its culture. It is relatively easy to devise some type of license for these persons who come to Indian land to obtain information for the materials. Such a license could be enforced through use of civil penalties printed on the license and through use of tribal exclusion and removal powers**.**

An ordinance on this could provide for registration, payment of a fee to the tribe and that a copy of the final product is delivered to the tribe or a tribal program before publication and after publication. Under existing federal law, it is difficult to imagine how such a license could be enforced against those off the reservation except through filing suit on the license. Jurisdiction problems may arise in federal court in such an action; it may need to be filed in the state court where the researcher resides. Of course, the tribe may have a hearing procedure to revoke the license and prescribe appropriate penalties, but the penalties may be difficult to enforce against a researcher living off the tribal lands. The person could be barred from entering the tribal lands if the tribe has the power to exclude non-Indians.

The tribal government may also develop an endorsement procedure whereby materials are submitted to the Native nation for endorsement or approval. Such approval or the lack of it may be communicated to publishers, libraries, professional associations and other purchasers of materials.

The Native nation may protest the development and use of cultural materials as inappropriate and unethical. The Native nation may, for example, object to the use of a particular story included in a children's book by writing a complaint to the author, the publisher and the American Libraries Association. The Native nation may seek the advice of the American Indian Libraries Association. If, for example, the nation learns that an anthropologist or historian has published material that s/he was told should not be made public, the nation may lodge a written complaint with the anthropologist, his/her employer, the publisher and the appropriate professional associations. Professional associations often have codes of ethics enforceable against those who transgress them.

One of the main reasons why the passage of laws must be done with such great care is that people expect laws to be enforced. When laws are passed swiftly, there is often a lack of consideration for how the law is to be enforced. In the case of language laws, often so much preparation is necessary for the law to be implemented that there is a danger that the law will be ignored because it is impossible to work with. This undermines the tribal citizen's faith, not just in this law, but in other laws as well. This unhappy situation may well lead to a problem with the imposition of a rule of law on the tribal lands. Tribal citizens may conclude that instead of a rule of law, where laws are reasonable, passed in a reasonable manner and amended as necessary, they are instead under a rule of unreasonable people. This would not be good for the preservation of tribal government.

Under the Native American Graves Protection & Repatriation Act, "Cultural Patrimony" means: "...an object having ongoing historical, traditional, or cultural importance central to the Native American group or culture itself, rather than property owned by an individual Native American, and which therefore cannot be alienated, appropriated, or conveyed by an individual regardless of whether or not the individual is a member of the Indian tribe or Native Hawaiian organization and such object shall have been considered inalienable by such Native American group at the time the object was separated from such group." 25 U.S. C. 3001 (3) (D)

This same type of property right should also prove applicable to the patrimony embodied in songs, ceremonies and other objects and actions that belong to the Indian tribe or Native nation.

To protect its rights to this cultural property, the Native government should declare that it is the rightful owner of the songs, dances, ceremonies or other activities that it believes the Tribe or Nation has ownership of. The Native government should issue a formal declaration of cultural property, asserting rights over a single cultural property or many or all cultural properties. The declaration should assert that the claimed rights are prior and paramount rights extending from a time certain, if the date is known, or from time immemorial.

The Tribe or Nation also should aggressively pursue any recording of these acts done without its approval. The Tuolumne Band of Me-Wuk Indians recently won such a case against a person who recorded ceremonies with the approval of a member, but without Tribal approval.

Operational Procedure

Sample Forms

Consent to the Use of Language Information

I, ___(Name)_____, agree to provide information to _____(Program)_____ to be used to prepare materials to teach the _____ language. I understand the following and have had explained to me that:

- the information will be used to develop materials for the use of teaching the language;
- the materials will be preserved;
- the students of the language (may) (may not) include tribal members;
- the materials (may) (may not) be made available to people other than students, including those preparing the materials, those revising the materials, a funding agency, researchers, those preparing materials for other languages and others; and
- the copies of the materials may be deposited in a national repository, where their use may be restricted by the program that is gathering the information.

I also understand that I may direct that this information be made available to my descendants or heirs. I (desire) (do not desire) that this information be provided to them.

I desire that the following restriction on the use of the information be observed as closely as possible.

Signature
Address   **Signature of unrelated witness**
Date

Consent to Restrictions

I, _____, agree to the following restrictions in return for being allowed to examine the materials presented to me by_____.   I desire access to these materials because _____. I understand and have had explained to me the restrictions:

1.   I (will) (will not) be allowed to make a copy of the materials.
2.   I must respect the integrity of the materials and not injure or deface them.
3.   I (may) (may not) quote from the materials; if allowed to quote I will credit _____ as the source of the quotation.
4.   Within the materials I am allowed to examine, I will NOT use materials that have been identified as not for publication.
5.   I understand the copyright for these materials belongs to _____, with whom I must negotiate for any right to use the materials beyond scholarly purposes. I will observe all copyright laws.

Signature
Address   **Witness signature**
Date
……………………………………………………………………………………………..

Explanation of Copyright

Copyright is tied in to American ideas about property, specifically in the sense of property as an economic value. It is easy to see how a person can own something s/he can carry, and many Native nations had laws about such ownership and its exchange for other property. It was not so easy for some tribes to understand ownership of land. Yet another type of ownership applies to owning the expression of ideas. This is copyright.

Many tribes have customary laws about expressions. These may include rules about stories or songs. The rules may restrict who can tell the story, when the story may be told and how the right to tell the story is passed to others, for example. The Indian rights and restrictions are a form of copyright, but not the type of copyright that is enforceable outside the reservation or lands of the tribe. Power over copyright was granted to the federal government in the U.S. Constitution, and the U. S. Congress has made that power almost exclusively a federal one.

The idea of American copyright is that the government grants to the person who created the expression specific rights in the expression. The expression is often called the work, to account for the many types of expression protected. These rights in the work itself are considered as a reward and economic incentive to create more works. These rights are called copyright because the main right is the one controlling the making of copies.

History

Copyright began with books. When books were copied by hand, the owner of the book decided who could make a copy. Later, when printing developed, the author sold the book to the printers, who then controlled the making of copies. English printers were granted a monopoly to print books by the king. The first printer to publish a book had the exclusive right to print that book.

The modern idea of copyright began in England in 1710. In the Statute of Anne, named after the reigning monarch, Parliament granted *authors* the right to control the copying of their works, instead of having to sell the work outright to a publisher. Once they registered each work and gave the government a required number of copies, they could control the work for up to 28 years, after which it became free for anyone to copy.

The U.S. Constitution in 1787 granted Congress the power "to promote the progress of science and useful arts…by securing for limited times to authors and inventors the exclusive rights to their respective writings and discoveries."(Article I, section 8, clause 8). Early on, as Congress passed laws protecting published works, unpublished works were protected by state laws. The 1909 federal law is the one that formed most people's ideas about copyright; it was very strict about what steps had to be taken for the work to be protected. It had to be published with notice of copyright, the application had to be properly filled out and copies deposited before the registration was issued.

In other countries, copyright developed differently, with more rights for creators and fewer requirements for copyright. Partly due to the influence of these ideas, Congress completely remade the law on copyright in 1976 (17 U.S.C. 106 and 106 A). This act and its amendments comprise the controlling law today, although for works published before 1978, the older law may still be important. The key provision of the 1976 law is that fixation, or putting the work into a material form, and not publication triggers the existence of copyright. Also, copyright was no longer dependent on registration. The term of copyright was extended. Copyright ownership could be divided among different parties. The act also made the stated category of works an example, rather than a limit.

Works protected now include, but are not limited to: literary works; musical works; dramatic works; pantomimes and choreographic works; pictorial, graphic and sculptural works; motion picture and other audiovisual works; sound recordings; and architectural works.

Works not protected include those not fixed, titles, listings of ingredients, ideas or concepts and information that is common property and contains no original authorship (like a ruler or standard calendar). Works produced by the federal government were once uniformly not covered, but now many works produced with federal monies are allowed to be copyrighted by the creators, depending on the terms of the federal contract.

The website of the U.S. Copyright Office, accessible at http://www.copyright.gov/, under the publications tab has a series of plain language explanations of many aspects of copyright law.

To be protected, the work must be original, which is not at all comparable to the novelty requirement in patent law, a substantially different type of protection. The work must be original to the author; it can even have the same plot or ideas of another work, as long as it is *expressed* differently.

The work must be fixed in a tangible medium or copy. Tangible means capable of being perceived, reproduced or otherwise communicated, either directly or with the aid of a machine or device. The work must exist for a time, although even cake icing designs have been copyrighted. Any writing or recording of any kind meets this requirement.

Although registration is no longer required, it is often wise to do so as it provides anyone seeking to make illegal use of the work with notice that the work is protected. Registration is required for works published in the U.S. before a lawsuit can be filed against someone infringing the work. Infringement means using the work without the permission of the copyright owner. Registration also means that specific damages and attorney fees will be available when someone infringes the work.

A "compilation" is a work that is formed by assembling material that already exists. A collection of Indian stories written by others would be a compilation. The editor of the compilation would have a copyright in the compilation. The authors of the individual stories have their own copyright in each story and would have to consent to having their story in the compilation. This consent is a license to include the work in the compilation.

A "derivative work" is a work that transforms an existing work, for example, turning a story into a play, or translating the existing work into another language. Each work receives its own copyright to the new material that was created, although the creator of the derived one must have the permission of the copyright owner of the original work.

There are two types of "works for hire." The first is when an employee, as part of his/her job, prepares the work. The second is when an independent contractor is commissioned to produce the work, in that case there should be a written agreement specifying that the work is one for hire and that the copyright belongs to the one who commissioned it.

If there is no written agreement, or if the agreement is not clear, a court will look to the facts surrounding the case, including the amount of control exercised over the contractor as the work was prepared. Only certain categories of work may qualify as works for hire, they can be part of a collective work or compilation, an instructional text, or a supplemental work (such as the foreword or index of a book).

When more than one person creates the work, "joint ownership" is created if that was what each party intended. Each creator is a co-owner and must account to the other owners when dealing with an outside party.

A "collective work" is formed when the work is made up of works individually copyrighted, like an issue of a magazine or an anthology of short stories. The preparer of the collective work must have the permission of the creators of each work, and the preparer only has rights over the collective work, not to use the individual works for other purposes.

Ownership and Transfer of Ownership

The owner of a copyright can only transfer the copyright to another by a written agreement, often called an assignment. The agreement may be recorded with the Copyright Office, but if the agreement is what is called a security agreement, meaning that the copyright is the security for the payment of a debt, it must be recorded.

It is important to realize that the copyright ownership is separate from the work itself. The owner of a work may sell the work itself without selling the copyright, which stays behind with the creator unless there is an assignment of the copyright.

The owner may also grant a license, a right to use the work for a specific purpose. The license may be an exclusive one, meaning only the licensee may use the work for that purpose, or non-exclusive, allowing the owner to permit others to do the same thing. Licenses may be granted orally or by a course of conduct that implies that the person has the permission to use the work.

The Exclusive Rights of Copyright Owners

The main right of a copyright owner is the right to copy (reproduce) the work; that is, duplicating it in any form. Making a drawing of a photograph, for example, would infringe the reproduction right of the copyright owner. For the right to be violated a copy has to be made, so that the public reading of copyrighted chapter from a textbook would not be a violation while including the chapter in another work without permission would be.

The right to control derivative works gives the copyright owner the right to control the creation of another work based on the first. This would include creating a video lesson based on a chapter of a language textbook.

The right to control distribution of the copies relates to publication of the work. Publication means the distribution of copies to the public by sale or other transfer of ownership, or by renting, leasing or lending. The "first sales doctrine" holds that once a particular copy has been sold under the copyright owner's authority, the owner's right of distribution ends and the buyer may loan, rent or sell it.

Other rights apply only to certain kinds of works. The right to control public performance and display applies to literary, musical, dramatic choreographic, pantomime, motion pictures and audiovisual works. The performance right allows the owner to control any performance of the work whether or not for profit. The right of public display includes graphic and sculptural works and allows the owner to control the "first sale" doctrine, the public display of the work.

"Moral rights" are a common feature of owner's rights in other countries; they protect the creator's reputation and control over alteration of the work. In the United States some of these rights apply to certain visual works; many other visual works like maps and books are excluded. These rights give the artist the right to claim or disclaim authorship and to protect the integrity of the work against destruction, mutilation or modification. These rights only apply to the creator and only exist during the creator's lifetime.

Fair Use Doctrine

Evolving initially through the court decisions later confirmed by statute, "fair use" is a major limitation on the copyright owner's rights of control. The doctrine allows copying and use of the work for purposes such as criticism, news reporting. teaching and research. Four factors are considered in deciding whether the use is a "fair" one
1.   The purpose and character of the use, including whether the use is commercial in nature or for nonprofit commercial purposes.

2. The nature of the copyrighted work.
3. The amount and substantiality of the portion used in relation to the work as a whole.
4. The effect of the use on the potential market for or value of the work.

Library exemptions also exist. Under 17 USC 108, all libraries and archives are granted rights in the work to study, research, loan to other institutions, archive and preserve the work.

Duration

The term of copyright for a particular work depends on several factors, including whether or not it has been published and, if it has, the date of first publication. As a general rule, for works created after Jan. 1, 1978, copyright protection lasts for the life of the author plus an additional 70 years. For an anonymous work, a pseudonymous work or a work made for hire, the copyright endures for a term of 95 years from the year of its first publication or a term of 120 years from the year of its creation, whichever expires first. For works first published prior to 1978, the term will vary depending on several factors. To determine the length of copyright protection for a particular work, consult chapter 3 of the Copyright Act (title 17 of the *United States Code).* More information on the term of copyright can be found in Circular 15a, *Duration of Copyright*, and Circular 1, *Copyright Basics.*

Renewal

Works created on or after Jan. 1, 1978, are not subject to renewal registration. As to works published or registered prior to Jan. 1, 1978, renewal registration is optional after 28 years but does provide certain legal advantages. For information on how to file a renewal application, as well as the legal benefit for doing so, see Circular 15, *Renewal of Copyright*, and Circular 15a, *Duration of Copyright*, available from the copyright.gov website.

Publishing

Before the 1976 Act, authors usually sold (assigned) the copyright in their works to the publisher. Since then, authors usually keep the copyright and only grant the publisher a license to publish the work. The license is part of a written contract which specifies the amount of advances, royalties and the terms and conditions of the rights granted to the publisher.

Other Intellectual Property

Other forms of intellectual property are governed by their own statutes.

Patent law's role is to grant exclusive right in new and useful inventions and improvements to inventions. A patent grants the exclusive right to "make, use, or sell' a "new and useful process, machine, manufacture or composition of matter." The requirement that the work be new here means novel or not existing before. It also must not be obvious. This contrasts with copyright's requirement of originality which requires only a minimal amount of creativity, and allows the copyrighting of similar works. No one else can patent any similar invention. A patent lasts twenty years.

A trademark is tied to commercial purposes. A trademark can be a name phrase or mark. When a trademark is registered, no one else may use it to sell similar products using the word or mark. It is possible that the trademark can be used to sell something else, as long as it is used in such a way that the public is not confused. Trademark owners must be careful that the trademark does not come to be a generic term; this is how the trademarks to "aspirin" and "thermos" were lost.

A use of copyrighted work, except for the fair use exceptions is an infringement.

Repository Copyright Policies

I. Intent, Objectives and Scope

A. Intent - The intent of this policy is to respect and apply the copyright laws applicable to the materials held in this repository, while also respecting the rights of the Native Peoples to control the use of their cultural property.

B. Objective and Scope - The objective of this policy is to provide guidance on copyright matters to those working in and using the repository, as well as direction in Indian control of the use of materials. The scope is intended to include all materials entering the repository.

II. Compliance with Native Directives - Restrictions

A. What May be Restricted - Restrictions may be of any kind whatsoever. Examination of the materials may be prohibited or restricted to tribal citizens or available to selected persons, for example, only to those with permission from the Native nation or program. Copying the materials may be prohibited or allowed only for specific purposes.

B. Statutory Restrictions - Statutory restrictions are those imposed by any tribe wishing to take advantage of the 1992 Native American Languages Act Amendment's provision 9 (codified at 42 USC 2991b-3(f) (2) (D) (ii)) not to permit redistribution of copies provided or to restrict in any manner the use or redistribution of the materials produced by the tribe.

1. Notice to Repository - A Native nation or intertribal coalition using this provision should do so in writing, preferably signed by the responsible official(s). If the restriction is orally transmitted to the director or a staff member, such restriction should be immediately written and signed by the person to whom it was transmitted. If the restrictions are unclear, the director may seek clarification from the entity issuing notice.

2. Item Record - All the materials transmitted to the repository should be examined for such restrictions and the restrictions must be noted on the item's record, including a statement that the restriction is a statutory one.

3. Effect of Restriction - A statutory restriction must be strictly observed. Any statement from the Native nation or intertribal coalition allowing an exception for a particular researcher should be verified.

C. Non-Statutory Restrictions of Funded Materials - Non-statutory funded materials are materials produced by entities other than tribes with funding provided under the Native American Languages Act Amendment of 1992. The producer of these materials may request restrictions on the use of the material. It must be made clear to the requester that, unless the requester is the copyright holder, compliance by researchers will be voluntary. The requester should be urged to provide the reasoning behind the request.

1. Discretionary Power of the Director of the Repository - The director must carefully consider the request for non-statutory restrictions and may negotiate with the requester before deciding whether to grant the request. The director will decide whether to honor such a request for restrictions, and may consult with other tribes or entities in reaching a decision.

2. Item Record - If restrictions are granted, they must be noted on the item's record.

3. Voluntary Compliance - If a researcher chooses not to comply with a non-statutory restriction the researcher shall be told of the reasons for the restrictions. The researcher shall then be notified that the requester of the restriction will be notified immediately. The researcher will then be allowed to examine the materials.

D. Notice to Tribes and Others of Materials Received - When materials are received, all relevant tribal governments (other than the one that sent the material, if applicable) should be notified of the receipt of material on their language. At the discretion of the director, such a notice may also be sent to an organization involved in teaching or preserving that language or to a tribal government agency or organization of Native Hawaiians or Native American Pacific Islanders.

1. Content of Notice - The notice should include a summary of the restrictions, if any, placed with the material and information on is the identity of the copyright holder. The notice should provide the Native governments or organizations with the opportunity to request non-statutory restrictions on the use of the materials, explaining that such restrictions will require voluntary compliance by the researchers and that the requester will be notified immediately if the researcher insists on not complying with the restrictions.

2. Treatment of Requests - Any request received as a result of the notice must be treated the same as requests for non-statutory restrictions.

E. Requests for Restrictions from Others - The director may also consider restrictions requested by other persons, treating the request the same as the same as requests for non-statutory restrictions.

F. Examination of Materials

1. Examination of Restricted Materials - Any researcher permitted to examine restricted materials must sign a written statement agreeing to comply with the restrictions before being granted access to the materials.

2. Observation of Restrictions - Care must be taken by all staff to ensure that any restrictions are observed. The restrictions shall be taken into account in the design and operation of the Repository.

3. Copying of Materials - Care should also be taken to ensure that researchers do not have access to reproduction devices, unless permitted to have them. If reproduction is permitted, the reproduction should be done by the Repository.

III. Compliance with Applicable Federal Laws

A. Intellectual Property Laws - The Repository must comply with all applicable federal laws regarding copyright or other intellectual property laws.

Some language or cultural programs may believe that any work about the tribe's culture or language can be used by them without regard to copyright laws. Although sympathy may be expressed for that position, the Repository must make it clear that the Repository itself will comply with all applicable federal laws. Efforts should be made to provide appropriate educational materials to any patron of the Repository objecting to the application of such laws to his/her request.

B. Notice to Researchers - Every researcher shall be given a copy of the following statement:
  Copyright in the materials in this Repository may not be held by the federal government and, therefore, the Repository may not be able to consent to its reproduction or use. It is the researcher's obligation to determine and satisfy copyright or other use restrictions when publishing or otherwise distributing materials found in the Repository's collection. Transmission or reproduction of protected items beyond that allowed by fair use requires the written permission of the copyright owners. Researchers must make their own assessments of rights in light of their intended use. More information about U.S. copyright law (Title 17 U.S. Code) is provided by the Copyright Office. [NOTE: This notice is substantially copied from that of the Library of Congress]

C. Information on Copyright Holder - Any researcher desiring information on the copyright holder of material in the Repository shall be provided the information.

D. Other Federal Laws
The Repository will comply with all other applicable federal laws.

IV. Ownership of Copyright

A. Determination of Copyright

1. Ownership of Copyright - In so far as is possible, every work in the Repository will have an entry in its record indicating who owns the copyright in the material. If necessary, research will be done to determine the copyright holder. All material entering the Repository (because it was produced under the Native American Languages Act of 1992) should have the contract under which it was produced included in its record.

B. Notification - If the copyright holder may not be aware that the material is in the Repository, the holder should be notified and requested to provide any information about permissions as well as information that will assist in placing researchers into contact with owners.

C. Reproduction - No reproduction will be allowed for other than fair use of material until the material's copyright is determined.

V. Licensing Agreements

A. Compliance - The Repository should assist copyright holders with information about Copyright Clearinghouse or other arrangements for researchers seeking to use materials for other than fair use.

Memorandum on Available Resources

Problems in the Determination of Copyright

Federal Copyright

Any work produced under a federal grant, should include a copy of the contract under which the work was made. Generally, if the creator is allowed to copyright the materials, there will be a contract provision granting the government unrestricted permission to "use, modify, reproduce, release, perform or disclose" for government purposes. CENDI, an interagency working group of scientific and technical information managers, has a series of explanations of government copyright at in their "Frequently Asked Questions" publication. (http://www.dtic.mil/cendi/publications/04-8copyright.html)

Unknown Copyright Ownership

In the case of works with no immediately discernable copyright owner, the publisher should be contacted as well as the author. To determine the publisher, if it is not readily discernible, Books In Print should be consulted. In the case of articles in journals, Ulrich's International Periodical Directory serves the same purpose.

Circular 22 of the U.S. Copyright Office, accessible at http://copyright.gov/circs/circ22.pdf , provides some guidance on how to examine the work itself, as well as copyright records. A list of publishers is at: http://www.lights.com/publisher/ and at: http://www.literarymarketplace.com/ lmp/us/index_us.asp

There is also a print publication, American Bookseller's Association's Publishers Directory.

To search by author see: http://www.authorsregistry.org/autcondir.html   Email inquiries only.

Older Works

Because copyright ownership is dependent upon date of publication, as well as upon the date of changes in the statutes, it is easier to see the information in a tabular format.

For older works, a useful chart on copyright duration has been created by Cornell University: http://www.copyright.cornell.edu/training/Hirtle_Public_Domain.htm

Additional charts and material are listed in footnote 1 at the end of the chart.

Fair use guidance: http://fairuse.stanford.edu/

Safeguarding copyright of audio visual materials http://www.loc.gov/rr/mopic/avprot/copy.html

Classroom copying: http://www.copyright.gov/circs/circ21.pdf

Restrictions on the use of materials

Government use of copyrighted works: http://www.loc.gov/flicc/gc/fairuse.html

Tribal Copyright

Although federal statutes preempt the possibilities of state or Tribal copyright law for topics covered by the statutes, there may be room for tribal laws on matters outside of the scope of the federal statutes. This matter deserves further study, but it may be available for the protection of oral expressions or works that are not works of authorship or lack originality. The topic is briefly discussed in Nimmer on Copyright § 1.01[B][2].

NATIVE AMERICAN ARCHIVISTS

Only a handful of archivists in the United States are Native archivists. The Society of American Archivists (SAA), with a membership of 4,069, lists only five Native archivists on its 112-member Archivists and Archives of Color Roundtable.   A Native American Archives Coalition once was part of the SAA Roundtable, with 34 members in 1997. Today, due to an increased interest in establishing archives in Native communities, the number of Native people enrolling in archival training classes is growing.

Of all archivists, curators and museum technicians, approximately 22,000 held jobs in 2002. About 35 percent were employed in museums, historical sites and similar institutions, and 15 percent worked for state and private educational institutions, mainly college and university libraries. Nearly 40 percent worked in federal, state, tribal and local government.

Individuals can prepare for a career in archives through a variety of educational programs. Most entry-level positions require an undergraduate and a graduate degree, together with archival coursework and a practicum. Although archivists have a variety of undergraduate majors, most receive graduate degrees in history or library science. A few institutions offer a master's degree in archival studies. The graduate of an archival studies program should have a thorough knowledge and understanding of archival principles and techniques, and should be prepared to work independently in performing all basic archival functions. The variety and complexity of institutional settings and of archival records and papers require a broad and comprehensive understanding of archival theory and its practical application.

It is possible to learn archival work through on-the-job training, but this is not the recommended route. Most organizations now require formal education and degrees. Many who have learned through on-the-job apprenticeships find that becoming a Certified Archivist -- by passing the exam given by the Academy of Certified Archivists -- is one way to gain the needed credentials in the profession.

The following are some universities that offer degrees in Library Science and/or Archive Studies:

School of Information Management and Systems, UC Berkeley (http://www.sims.berkeley.edu/)
Information School of the University of Washington (http://www.ischool.washington.edu/)
School of Information, University of Michigan (http://www.si.umich.edu/)
School of Information at the University of Texas, Austin (http://www.gslis.utexas.edu/)
School of Information - University of Texas (http://www.ischool.utexas.edu/)
GSLIS at the University of Illinois at Urbana-Champaign (http://alexia.lis.uiuc.edu/)
Indiana University, School of Library and Information Science (http://www.slis.indiana.edu/)
Department of Information Studies, University of California, Los Angeles (http://is.gseis.ucla.edu/)
School of Information Studies at Syracuse University (http://istweb.syr.edu/)
College of Information Studies at Maryland University (http://www.clis.umd.edu/)
Wayne State University, Library and Information Science Program (http://www.lisp.wayne.edu/)
USC College of Library and Information Science (http://www.libsci.sc.edu/)
School of Library and Information Sciences at University of North Texas (http://www.unt.edu/slis/)
University of Arizona- School of Information Resources and Library Science (http://www.sir.arizona.edu/)
School of Information Sciences-University of Tennessee (http://www.sis.utk.edu)
Palmer School of Library and Information Science (http://palmer.cwpost.liu.edu/)
School of Information Sciences at the University of Pittsburgh (http://www.sis.pitt.edu)
Louisiana State University School of Library and Information Science (http://slis.lsu.edu/)
Florida State University School of Information Studies (http://www.lis.fsu.edu/)
University of Hawaii at Manao, Library and Information Science Program (http://www.hawaii.edu/slis/)
School of Information Science and Information Policy at Albany University (http://www.albany.edu/sisp/)
College of Information Science and Technology, Drexel University (http://www.cis.drexel.edu/)
UW-Madison School of Library and Information Studies (http://polyglot.lss.wisc.edu/slis/)
The School of Information and Library Science at the University of North Carolina at Chapel Hill (http://www.ils.unc.edu/)

Department of Library Science- Clarion University of Pennsylvania (http://www.clarion.edu/libsci/)
The Catholic University of America, School of Library and Information Science (http://slis.cua.edu/)
School of Library and Information Studies at the University of Iowa (http://www.uiowa.edu/~libsci/)
School of Library and Information Studies, University of Alabama (http://www.slis.ua.edu/)
University of Missouri School of Information Science and Learning Technologies (http://sislt.missouri.edu/)
School of Library and Information Science at the University of Wisconsin-Milwaukee (http://www.uwm.edu/Dept/SOIS/)
School of Library and Information Management at Emporia State University (http://slim.emporia.edu/)
Kent State University's School of Library and Information Science (http://www.slis.kent.edu/)
University of Rhode Island Graduate School of Library and Information Studies (http://www.uri.edu/artsci/lsc/)
University of Oklahoma School of Library and Information Studies (http://www.ou.edu/cas/slis/)
University of Kentucky School of Library and Information Science (http://www.uky.edu/CommInfoStudies/SLIS/)
Department of Library and Information Science-University of North Carolina at Greensboro (http://www.uncg.edu/lis/)
San Jose State University School of Library and Information Science (http://witloof.sjsu.edu/)
School of Library and Information Science (SLIS) at the University of South Florida (USF) (http://nosferatu.cas.usf.edu/lis/)
Council on Library Technicians (COLT)- Library Technician Programs in the U.S. (http://colt.ucr.edu/ltprograms.html)
Simmons College: Graduate School of Library and Information Science (http://www.simmons.edu/programs/gslis/)
North Carolina Central University School of Library and Information Sciences (http://www.nccuslis.org/)
School of Communication, Information, and Library Studies-Rutgers University (http://scils.rutgers.edu/programs/lis/)
Texas Woman's University School of Library and Information Studies (http://www.twu.edu/cope/slis/)
Graduate School of Library and Information Studies at Queen's College (http://qcpages.qc.edu/GSLIS/)
University of Southern Mississippi School of Library and Information Science (http://www.dept.usm.edu/~slis/)
Dominican University Graduate School of Library and Information Science (http://www.dom.edu/gslis/)

More and more colleges and universities are sponsoring internships and conferences for Native Americans interested in museum, archive or library work. A few examples of current ones are:

The University of Arizona, Arizona State Museum: Tribal Archives, Libraries and Museums: Preserving Our Language, Memory and Lifeways, National Conference II, May 24-27, 2005. The second national conference of tribal archives, libraries and museums will create a network of support for tribal cultural institutions and programs; articulate contemporary issues related to the development of tribal libraries, archives and museums and encourage collaboration among tribal and non-tribal cultural institutions. The Tribal Archives, Libraries and Museums Conference is supported through a National Leadership Grant from the Institute of Museum and Library Services, a federal funding agency in Washington, D.C.

The 2004 National Conference was designed to bring together, for the first time, representatives from tribal libraries, archives, museums, cultural centers and other culturally-related programs. The conference provided a unique opportunity for a variety of professionals to share a common experience of honoring the cultural past while preserving and revitalizing its future. Ideally, collaboration with and among tribes and non-tribal organizations that share the goal of enhancing library, archive and museum service as a means of cultural empowerment and preservation will transpire. The conference also sought to affirm and celebrate the achievements that Native American professionals have made to the field. Native American

library, museum, archive and language professionals served as presenters and speakers throughout the conference program. Finally, the conference intended to increase the professional networks of all the participants.

The Center of Southwest Studies: The Center's Native American Honors Internships program provides select Native students with mentored and paid internships in the following areas: archives, library, museum, and historic preservation. Interns are based at the Center of Southwest Studies at Fort Lewis College in Durango, Colorado, with outreach opportunities at institutions in the Four Corners Region. (http://swcenter.fortlewis.edu/InternNA.htm)

The Western Archives Institute, sponsored by the California State Archives and the Society of California Archivists, is the only program of its kind in the western United States. The intensive, two-week program provides integrated instruction in basic archival practices to individuals with a variety of goals, including those whose jobs require a fundamental understanding of archival skills, but who have little or no previous archives education; those who have expanding responsibility for archival materials; those who are practicing archivists, but have not received formal instruction; and those who demonstrate a commitment to an archival career. Tuition for the program is $650.00 and includes a selection of archival publications. Housing and meal plans are available at additional cost. Admission is by application only and enrollment is limited. The application package for the program is available on the web sites of the California State Archives (http://www.ss.ca.gov/archives/archives.htm) and the Society of California Archivists (http://www.calarchivists.org).

For additional information, contact:
Administrator
Western Archives Institute
1020 'O' Street
Sacramento, CA 95814
(916) 653-7715
Fax: (916) 653-7134
E-mail: ArchivesWeb@ss.ca.gov

SAA then-President Tim Ericson received a 2003 NHPRC grant to hold a special institute in union with the Western Archives Institute for Native American and tribal archivists at the University of Redlands in California. The purpose of the project was to develop a curriculum and class schedule for a Western Archives Institute-Special Institute for Native American and Tribal Archivists (WAI-SI). The grant proposal stated that there were "only a dozen or fewer trained Native American archivists in the United States. As a result there are many repositories, Native American colleges and tribal organizations holding tribal records not under the care of a trained archivist, making those records vulnerable to loss, deterioration, and inaccessibility." The proposal also stated: This project will support NHPRC's statutory mission to improve the methods, tools and training of professionals engaged in documentary work.   More specifically, it is a step in meeting NHPRC's Native American Records Initiative category 6, Development of Training Workshops and Records Management Techniques for Tribal Members.

The National Archives and Records Administration in Washington, D.C., offers a two-week archival training course through its Modern Archives Institute[1] twice a year and shorter archival training sessions throughout the year. Two organizations award scholarships to the Modern Archives Institute: 1) the SAA administers two Institute scholarships for persons working in organizations with holdings predating 1825, and 2) the Mid-Atlantic Regional Archives Conference (MARAC) funds the attendance of one participant at each Institute. For this scholarship, an individual must currently be employed in the MARAC region in an archival or archives-related position.

The National Museum of the American Indian: The NMAI Education Division of the Community Services Department goes out to Native communities to give archival training.

Most Native nations and communities are well aware of the need to preserve their organizational and historical documents, especially their language material, but many lack the funds necessary to build a

repository and to send their citizens to obtain archival training. There is a need for federal agencies, educational institutions and organizations to reach out to Native communities with help for the collection and preservation of their historical documents, and especially their language materials, for the building of a repository and for training in archive studies.

Some of the federal agencies which have grant programs are listed below. Many colleges, universities, and private organizations offer scholarships or grants such as those mentioned above.

The Administration for Native Americans
370 L'Enfant Promenade, SW., Aerospace
Building 8th Floor—West
Washington, DC 20447-0002
Phone: 1-877-922-9262
E-mail: ana@acf.dhhs.gov

Institute of Museum and Library Services
1100 Pennsylvania Ave. NW
Washington, DC 20506
(202) 606-8536, Office of the Director
(202) 606-8539, Office of Museum Services
(202) 606-5227, Office of Library Services Programs and Funding Categories
Email: imls@info.gov

National Endowment for the Arts
Nancy Hanks Center
1100 Pennsylvania Avenue NW
Washington, D.C. 20506
Phone: (202) 682-5400
Email: webmgr@arts.endow.gov

National Endowment for the Humanities (NEH)
1100 Pennsylvania Avenue, NW
Washington, DC 20506
Phone: 202-606-8400 or 1-800-NEH-1121 (1-800-634-1121)

National Historical Publications and Records Commission (NHPRC)
National Archives and Records Administration
700 Pennsylvania Avenue, NW Room 111
Washington, D.C. 20408-0001
Phone: 202-501-5610
Email: nhprc@nara.gov

National Park Service (NPS)
Associate Director, Cultural Resources
P.O. Box 37127
Washington, DC 20013-7127

New York State Historic Preservation Office (SHPO)
Office of Parks, Recreation and Historic Preservation
Empire State Plaza, Agency Building 1, 20th Floor
Albany, New York 12238
Phone: (518) 474-0443

National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, D.C., 20036-2117

Phone: 202-588-6000

Telecommunications and Information Infrastructure Assistance Program (TIIAP)
Director (should a name go in this space?)
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Avenue, NW, Room 4096
Washington, DC 20230
Phone: (202) 482-7002

MODEL CODE OF ETHICS FOR LANGUAGE ARCHIVISTS

Introduction

A code of ethics for archivists should establish high standards of conduct for the archival profession.

It should introduce new members of the profession to those standards, remind experienced archivists of their professional responsibilities, serve as a model for institutional policies, and inspire public confidence in the profession.

The term archivists as used in this code is intended to encompass all those concerned with the control, care, custody, preservation and administration of archives.

Employing institutions and archive services should be encouraged to adopt policies and practices that facilitate the implementation of this code.

This code is intended to provide an ethical framework for guidance of members of the profession, and not to provide specific solutions to particular problems.

The principles are all accompanied by a commentary; principles and commentary taken together constitute the Code of Ethics.

The code is dependent upon the willingness of archival institutions and professional associations to implement it. This may take the form of an educational effort and the establishment of machinery to provide guidance in cases of doubt, to investigate unethical conduct, and if considered appropriate, to apply sanctions.

Code

1. Archivists should protect the integrity of archival material and thus guarantee that it continues to be reliable evidence of the past.

The primary duty of archivists is to maintain the integrity of the records in their care and custody. In the accomplishment of this duty they must have regard to the legitimate, but sometimes conflicting, rights and interests of employers, owners, data subjects and users, past, present and future. The objectivity and impartiality of archivists is the measure of their professionalism. They should resist pressure from any source to manipulate evidence so as to conceal or distort facts.

2. Archivists should appraise, select and maintain archival material in its historical, legal and administrative context, thus retaining the principle of provenance, preserving and making evident the original relationships of documents. Archivists should make available historical and documentary records of enduring value. Archivists cooperate, collaborate, and respect each institution and its mission and

collecting policy. Respect and cooperation form the basis of all professional relationships with colleagues and users.

Archivists must act in accordance with generally accepted principles and practice. Archivists must perform their duties and functions in accordance with archival principles, with regard to the creation, maintenance and disposition of current and semi-current records, including electronic and multimedia records, the selection and acquisition of records for archival custody, the safeguarding, preservation and conservation of archives in their care, and the arrangement, description, publication and making available for use of those documents. Archivists should appraise records impartially, basing their judgment on a thorough knowledge of their institution's administrative requirements and acquisitions policies. They should arrange and describe records selected for retention in accordance with archival principles (namely the principle of provenance and the principle of original order) and accepted standards, as rapidly as their resources permit. Archivists should acquire records in accordance with the purposes and resources of their institutions. They should not seek or accept acquisitions when this would endanger the integrity or security of records; they should cooperate to ensure the preservation of these records in the most appropriate repository. Archivists should cooperate in the repatriation of displaced archives.

3. Archivists should exercise professional judgment and protect the authenticity of documents in acquiring, appraising, and processing historical materials. They should not allow personal beliefs or perspectives to affect their decisions.

Archivists should ensure that the archival value of records, including electronic or multimedia records is not impaired in the archival work of appraisal, arrangement and description, and of conservation and use. Any sampling should be carried out according to carefully established methods and criteria. Replacement of originals with other formats should be done in the light of the legal, intrinsic and information value of the records. Where restricted documents have been temporarily removed from a file, this fact should be made known to the user.

4. Archivists should ensure the continuing accessibility and intelligibility of archival materials.

Archivists should select documents to be kept or to be destroyed primarily to save essential testimony of the activity of the person or the institution which produced and accumulated the documents but also bearing in mind changing research needs. Archivists should be aware that acquiring documents of dubious origin, however interesting, could encourage an illegal commerce. They should cooperate with other archivists and law enforcement agencies engaged in apprehending and prosecuting persons suspected of theft of archival records.

5. Archivists strive to preserve and protect the authenticity of records in their holdings by documenting their creation and their custodial history in hard copy and electronic formats. They have a fundamental obligation to preserve the intellectual and physical integrity of those records. Archivists may not alter, manipulate or destroy data or records to conceal facts or distort evidence.

Archivists should advocate good recordkeeping practices throughout the life-cycle of documents and cooperate with record creators in addressing new formats and new information management practices. They should be concerned not only with acquiring existing records, but also ensure that current information and archival systems incorporate from the very beginning procedures appropriate to preserve valuable records. Archivists negotiating with transferring officials or owners of records should seek fair decisions based on full consideration–when applicable–the following factors: authority to transfer, donate, or sell; financial arrangements and benefits; plans for processing; copyright and conditions of access. Archivists should keep a permanent record documenting accessions, conservation and all archival work done. Archivists protect all documentary materials for which they are responsible, guarding them against defacement, physical damage, deterioration, and theft.

6. Archivists strive to promote open and equitable access to their services and the records in their care without discrimination or preferential treatment, in accordance with cultural sensitivities, institutional

policies and legal requirements. Archivists should recognize their responsibility to promote the use of records as a fundamental purpose of the keeping of archives.

Archivists should produce both general and particular finding aids as appropriate, for all of the records in their custody. They should offer impartial advice to all, and employ available resources to provide a balanced range of services. Archivists should answer courteously and with a spirit of helpfulness all reasonable inquiries about their holdings, and encourage the use of them to the greatest extent possible, consistent with institutional policies, the preservation of holdings, legal considerations, individual rights, and donor agreements. They should explain pertinent restrictions to potential users, and apply them equitably. Archivists should discourage unreasonable restrictions on access and use but may suggest or accept as a condition for acquisition clearly stated restrictions of limited duration. They should observe faithfully and apply impartially all agreements made at the time of acquisition, but, in the interest of liberalization of access, should renegotiate conditions in accordance with changes of circumstance.

7. Archivists respect the privacy of donors, users, and individuals and groups who are the subjects of records or who had no voice in their creation or donation. Archivists respect the confidentiality of information in the records in their custody and recognize all legal, social, cultural, spiritual, and indigenous restrictions to access. Archivists respect the privacy of users and their right to maintain the confidentiality of their research and personal information collected as a part of the security procedures of an institution.

Archivists should take care that corporate and personal privacy as well as national security are protected without destroying information, especially in the case of electronic records where updating and erasure are common practice. They must respect the privacy of individuals who created or are the subjects of records, especially those who had no voice in the use or disposition of the materials.

8. Archivists should use the special trust given to them in the general interest and avoid using their position to unfairly benefit themselves or others.

Archivists must refrain from activities which might prejudice their professional integrity, objectivity and impartiality. They should not benefit financially or otherwise personally to the detriment of institutions, users and colleagues. Archivists should not collect original documents or participate in any commerce of documents on their on own behalf. They should avoid activities that could create in the public mind the appearance of a conflict of interest. Archivists may use their institutional holdings for personal research and publication, provided such work is done on the same terms as others using the same holdings. They should not reveal or use information gained through work with holdings to which access is restricted. They should not allow their private research and publication interests to interfere with the proper performance of the professional or administrative duties for which they are employed. When using the holdings of their institutions, archivists must not use their knowledge of the unpublished findings of researchers, without first notifying the researchers about the intended use by the archivist. They may review and comment on the work of others in their fields, including works based on documents of their own institutions. Archivists should not allow people outside the profession to interfere in their practice and obligations.

9. Archivists should pursue professional excellence by systematically and continuously updating their archival knowledge, and sharing the results of their research and experience.
Archivists should endeavor to develop their professional understanding and expertise, to contribute to the body of professional knowledge, and to ensure that those whose training or activities they supervise are equipped to carry out their tasks in a competent manner.

10. Archivists become familiar with and uphold all federal, state, and local laws and statutory requirements pertaining to the permanent maintenance of archival records and archival practice.

MODEL JOB DESCRIPTION FOR LANGUAGE ARCHIVIST

Archivist

DOT Code: 101.167-010

Industry: profess. & kin.

Appraises and edits permanent records of historically valuable documents, participates in research activities based on archival materials and directs safekeeping of archival materials and documents, such as government records, interviews with cultural information givers, material prepared outside the program and dictionaries, vocabularies and all historic and language materials. Analyzes documents by ascertaining date of writing, author or original recipient of material, to appraise value to posterity or to employing organization. Directs activities of workers engaged in cataloging and safekeeping of valuable materials and directs disposition of worthless materials. Prepares or directs preparation of document descriptions and reference aids for use of archives, such as accession lists, indexes, guides, bibliographies, abstracts and microfilmed copies of documents. Directs filing and cross indexing of selected documents in alphabetical and chronological order. Advises government agencies, scholars, journalists, publishers and others conducting research by supplying available materials, explaining restrictions on use of materials and giving information according to familiarity with archives and with the history and culture of the Native nation or language community. Requests or recommends the acquisition of pertinent materials available in libraries, private collections or other archives. Selects and edits documents for publication and display, according to knowledge of subject, literary or journalistic expression and techniques for presentation and display. Native nation and/or language community preference shall apply.

GOE: 11.03.03 STRENGTH: S GED: R5 M3 L5 SVP: 8 DLU: 77

CONDUCTING A LANGUAGE SURVEY:
METHODS TO DETERMINE THE STATUS OF A NATIVE HERITAGE LANGUAGE
IN THE COMMUNITY

Many Native nations and language communities do not have an adequate assessment of the status of their heritage language. It is important not to accept generalizations or guesswork. A survey, regardless of how perfunctory it might be, is an absolute necessity to those planning a Native language revitalization program.

Action	Considerations
Step 1: Establish to what extent the survey should assess the Native language. For many Native nations or language communities, it may not be feasible to conduct an extensive survey at the outset, but a complete survey should be part of the early goal attainment strategy. According to the Indigenous Language Institute's *Handbook 3: Conducting a Language Survey*, these suggestions are offered as feasible goals: Determine the status and health of the language. Find internal resources (speakers, readers, teachers and advocates). Learn the attitudes and feelings about writing the language, recording the language, ways of teaching. Learn the attitudes/needs of a certain group, such as the youth or elders. Determine how effective the present program(s) is; find out who is learning and who is losing the language. Determine the major needs of the current teachers to teach more effectively. Where the language is in an extremely fragile state with few speakers, it is important to determine the age spectrum of the remaining speakers. Who are the youngest speakers of the language and are they available or able to assist programmers?	Write down the answers to each of these questions. Based on your answers, decide on a strategy to accomplish the goals. Are there any factual references available indicating the status quo of the Native language? Were any previous surveys completed by the tribal college, government agencies, public schools or other entities? Did any of the planning assessments done by tribal, state, private or federal agencies for the community include references regarding the Native language? What is the common assessment of the status of the language given by community members? Keep in mind that non-fluent speakers often overestimate the number of speakers, since they include everyone who uses the language to any extent. What estimates are given by fluent speakers (those speaking the language as children)? Visit with those agency staff people who serve the community on a daily basis and try to determine their assessment of the number of fluent speakers in the community. Workers in the Community Health Representative Programs (CHRs) are in daily contact with many of the older people in the community and may have a good assessment of the number of speakers. Others with great insights into the health of the language include hospital, clinic and nursing home staff; public school outreach staff, court and law enforcement personnel; and social service workers. Compile and compare all assessments of the status of the tribal language. Convene people to compile an exhaustive list of fluent speakers. Based on the average age of the largest segment of fluent speakers (even it this figure is based on limited facts), estimate the remaining years the language can exist without intervention. This figure may be the best indicator of the time available for programmers to teach children the language.

Action	Considerations
Step 2: Outline the basic content and context of the survey instrument. No survey is conducive to all Native nations or language communities. It is not likely that a survey instrument can be borrowed, because it arises from a unique setting. Using another group's survey may hinder what is being sought after and the overall effort. Convene a group to serve on the survey composition team. Individuals (college students) familiar with testing and statistics, mathematics and social services are helpful to the team. First and foremost, obtain a map of the area to be surveyed. Whether it is determined to survey the entire Native territory where the language is spoken or only part of it, a map is an important focal tool of the planning process. Develop a grid overlay for the map and indicate by number each subdivision. This grid breakdown will have to reflect urban and rural aspects of the actual survey. Rural areas require greater travel time, and may require individuals familiar with the area (roads, locations, isolation factors). Urban areas present different aspects to be addressed. This exercise will determine the extent of the survey. Location and size of the language community, available funds and time elements will become obvious to the survey planners and give insight to the work ahead. Based on the extent and scope of the proposed survey, the team should discuss resources and available people needed to conduct the survey. Native studies and language departments and programs, tribal colleges and other local education institutions, community planning and related agencies should be contacted for possible coordination, support and cooperation. After a reasonable amount of time, the group should determine to what extent the survey should address the expressed goals of the team.	Given all the information compiled over a reasonable time frame, with as many informal assessments possible, what is the most reasonable assessment of the status of the Native language at present? There are many related elements of interest that can be included in a language survey without hindering its effectiveness. Inquiries about participation in Native music, dance, ceremonies and diet may shed light on what home environments are more conducive to Native languages. Obtain a large map of the proposed area that can be attached to a wall during planning sessions. The grid exercise is intended to make sure all areas of the community are included and to disperse the interview tasks in a reasonable fashion. The best survey would cover the Native language community to the best extent possible for the best assessment. A strong check-and-balance system must be put in place to assure that interviewers do not intrude on each other's areas and that re-visits can be made to those homes skipped for whatever reason during the first sweep of the area. College and university students are an excellent pool for obtaining interviewers. Most find the work conducive to their own studies and are familiar with the main aspects of survey work. If possible, individuals who can speak the Native language, or "understand" it, are important to bring into the interviewer pool also. Individuals from outside the Native nation or language community will have greater difficulty in obtaining interviews for obvious reasons. Developing the survey strategy to include funding needed, human resources, and related elements should be completed at this stage.

Action	Considerations

Step 3: Creating the survey document.
 	
    Based on the decisions of the survey group, the actual document can be developed. The main considerations of the document will reflect findings on available funding, geographic considerations and types of interviews. It should not be too long or too involved.
 	
    <u>It must be anonymous</u>, except for any numbering needed for logistical reasons (number printed, completed, etc.). Those taking the survey must feel completely at ease answering the questions and the interviewer must emphasis the "privacy" of the document.
 	
    For the most part the survey form should require only: a) yes or no responses; b) check-off responses; c) numbers (how many speakers, etc.); d) short answers; and e) one open ended question.
 	
    One important question to ask is who the interviewee considers the most fluent speaker(s) of the language. This might be the last question on the survey.
 	
Sample Questions:
 	
Can you speak the language?
Are you a "fluent" speaker?
Are you a "first" speaker?
Do you understand the language, but not speak it?
Are you a re-learner of the language?
Do your children speak the language?
Who speaks the language in your family?
How many people do you know who speak the language?
Can you tell Native stories in the language?
Do you think you could teach the language?
Do you sing Native songs with the Native language words in them?
How many people do you think still speak the language in this nation or community?
Where and when do you hear the language spoken?
Where and when did you last hear the language spoken?
Where to you go to hear the language spoken?
How many times a day (week and month) do you hear the language spoken?
What age are most of the people you hear speaking the language?
	Some established definitions should be put in place for the benefit of conformity in the survey and for the interviewer. For example:
	
	    What is considered a "fluent" speaker?
	
	    What does the common answer of "understand, but do not speak" the language mean?
	
	    What is a "first" speaker?
	
	    There are some standard definitions for these terms, but each community should devise its own definition to suit its assessment.
	
	    Keeping careful track of the completed forms is an important consideration.
	
	    Once the form is completed, care should be taken to keep track of the distributed copies. Distribution to interviewers should be done with a master list, under the supervision of one individual.
	
	    Only authorized copies should be made, so as not to jeopardize the sample size. Damaged or lost forms should be tracked and noted when replacing them.
	
	    Careful numbering and counting of the forms should be maintained at all times.
	
	    Questions on the survey must reflect what the community perceives to be the more important aspects of assessment needed to begin a language program.
	
	    Statistics do not always tell the complete tale. Sheer numbers are not all that is important to know.
	
	    More importantly, the group may need to know if there are enough speakers available to make a language program feasible, and who they are.
	
	    Also, is there enough interest and support in the community to make the program feasible?
	
	    Once the document is drafted, it should be field tested several times by editors before final editing and publication.
	
	    These editors should note awkward wording, terminology, repeated or loaded questions and other obstacles to a questionnaire that reads smoothly.
	
	    Once the document is completed, care must be taken to keep an accurate count of available forms.

Do you hear teenagers speaking the language? Do you hear children (under 12) speaking the language? As a non-speaker of the language do you want to learn it? How much time would you devote to learning it? Do you want your children to learn it? Where do they teach the language in this nation or community? Have you ever taken a class in the language? Have your children ever taken a class in the language? What, if any, language programs in this nation or community do you consider worthwhile? Have you ever read any materials on the language? Who are the most fluent speakers of the Native language in this community? Several related questions might also be included: Do you sing Native songs, dance Native dances and take part in or conduct Native ceremonies? Do you have books about the Native nation or community? Do you have photographs of your family ancestors? Do you utilize Native dietary items?	When the survey is completed it is important to know precisely how many forms were distributed and used. This assures a more accurate assessment of the language status.

Action	Considerations
Step 4: Conducting the survey. After the survey document has been edited, published in a pre-determined number and prepared in accordance with the grid-distribution plan, then the interviewers should be brought in to implement the survey. The interviewers must be trained in the content and context of the survey. They must be given training on how to approach the families or groups and how to elicit responses. This part of the training may require expertise from the community. Again, many Native community outreach workers may be excellent providers of this service. The Indigenous Language Institute's *Handbook 3, Conducting a Language Survey*, can be obtained from the Institute by calling (505) 820-0311 or visiting its web site at www.indigenous-language.org. The *Handbook* can greatly assist those who are developing the survey with additional insight and advice.	The interviewers must be known to the community and representative of the community. Interviewers familiar with the community and their neighborhoods should be the ones assigned to do the interviews. Each interviewer must be counseled that the survey instrument may not be altered and responses may not be misrepresented or changed. The interview teams should be given training on conducting face-to-face interviews. House-to-house use of the grid is the more comprehensive method of assessment. It allows for a better method of calculating if the overall community has been assessed. The numbers could be altered by inclusion of community centers, government offices or other public places. Any such inclusion should be carefully monitored by the lead survey team, in order to avoid altering the numbers. This is a decision to be made by the survey team. A definite timeframe must be established, with set beginning and ending dates. The grid must be adequately covered in some mathematical equation. For example, at least one out of every four homes must be visited. This equation should become obvious during planning. It is not necessarily important to visit every home, but it is important to establish a sample survey group representative of the grid sub-division. The ideal interview team would consist of two individuals, along with a language speaker, but one interviewer will suffice in most cases. It is most important to select an interviewer who is comfortable with and trusted by the community. Once all the questionnaires are completed, a careful tally should be taken. Damaged or incomplete forms should be noted. Completed forms should be carefully noted and tallied. Many software programs can break down the raw data collected and put into graphics. Professional survey groups can be utilized when funds are available. Graphics can clearly show where the language is spoken, the degree to which the language is spoken in the home and related information needed as a foundation for a language program. The most important information will be the list of names of speakers generated from the survey.
Step 5. Utilizing the survey results. The completed report should be widely disbursed in the community. It also becomes an important tool in grant writing and fund raising in the future.	

DISASTER PREPAREDNESS

Disaster preparedness is a very important part of archival training. There is no such thing as a perfect archive and there will be times when the staff will be faced with emergencies such as flooding, leaking roofs, fire, pest infestation, and also more extreme situations such as tornadoes, earthquakes, hurricanes, and even the threat of terrorism and bombings. The first part of this section is taken from the Smithsonian Institution Archives *Disaster Planning, Prevention and Recovery Manual.*[2] The second part on water damaged materials is taken from the National Archives and Records Administration online manual.

The first stage of preparation involves knowing and analyzing the potential threats (see also Appendix E). The next stage would be to develop a plan to deal with them.

Following are some of the most common hazards and disasters:

Environmental Hazards

Blizzard or heavy snow fall
Severe heat wave, cold snap
Severe thunderstorm
Lightning strike
Sleet, hail, and ice
Wind storm, tornado, cyclone
Flooding, flash and slow-rising
Earthquake
Dust storm or prolonged drought

Transportation hazards

Collisions or crashes involving:
aircraft, trains, or motor vehicles
(automobiles, pollution trucks)
Transport of chemicals, fuels
or nuclear materials

Human Activity

Accidents by individuals
Armed robbery
Arson and incendiary fire
Bombing
Bomb threat
Conventional warfare
Nuclear warfare and fallout
Riot, civil disorder, and strike
Terrorist attack
Sabotage and malicious mischief
Vandalism
Careless smoking

Infrastructure Breakdowns

Electrical power failure
Downed power or phone lines
Faulty wiring
Fuel supply failure
Water supply failure
Broken water or sewer lines
Sewer failure or backup
Improper storage
Faulty heating systems (furnace)

Industrial Disasters

Explosion
Extreme or prolonged air
Fuel spill (major)
Chemical spill
Radiological contamination
Structural collapse
Structural fire
Nuclear power plant failure

Biological Hazards

Insects
Rodents
Birds
Mold and mildew

Protecting Vital Records

A serious effort has to be made to prevent the irretrievable destruction of documents and records that are essential to the continued operation of the archives.

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The usual methods of protecting vital records such as a catalogue, shelf list, or accession list are as follows:

- duplication, e.g., microform copy of accession records, computerized data back-up
- off-site storage

One of the most important preparations to be made in the event of a disaster is the establishment of a written list of collection priorities which would determine what should be removed or treated first. This list would:

- assure the recovery of the most important or valuable items;
- help to effectively allocate time and energy where it is most needed during a crisis; and
- serve as a guide for the salvage operations teams in their work.

General Guidelines to Determine Priorities

- Materials that are rare or unique; not available elsewhere (as an original or as a replica); or essential to the integrity and purpose of a collection require a high restoration priority.

- Items or artifacts that possess recognized aesthetic, historical, scholarly, or monetary value require a high restoration priority.

- Items (e.g., photographs) that are susceptible to rapid deterioration would require immediate attention. Shelf-lists, catalogues, accession lists and other collection records as well as circulation and patron files should be given high priority.

- Items that are replaceable: a) in an identical format; b) in another media; c) with different but equivalent material; or, d) with a more current version will receive a low preservation priority.

Staff Training

A Disaster Contingency Manual (see Appendices F & I) should be prepared and the staff should read the entire manual at least once. The staff should also know everyone's job description in case they are assigned a different job, so that all vital roles are filled. The staff should read the sections on salvage operations and treatments so this information is familiar should they have to apply what they've read at the time of the disaster.

Conducting in-house staff "disaster contingency" training sessions is part of a disaster contingency plan.

Whenever there is a staff change, new staff members should be given a training session to familiarize them with the disaster contingency plan and its components, and, if possible, to teach them salvage operation/treatment basics. It is the responsibility of the Safety Officer or Evacuation Coordinator to provide or facilitate this training.

Also, before departing staff members leave the archives, the Safety Officer must ask them for and see returned all copies (home and office copy) of the disaster contingency manual.

Preventative Monitoring Schedules

The following is a description of the different types of monitoring systems that are proposed for set up in response to past problems or in the hope of preventing future emergencies through early detection.

1. Water Checks (monthly)

A regularly scheduled monthly check by the Recovery Coordinator or alternative should be instituted to monitor potential trouble spots.

> The inspector will survey the entire archives, including all stacks (walking to the end of each), the receiving room, the reading room, the staff room, the bathrooms, and all of the offices. It is important to check under map cabinets, under cupboards, and under tables in the receiving room and stack areas. (Flashlights might be useful during the inspection; these should be located at the ends of the stacks and in the supply room.)

> The inspector should watch for: water on the floor; water on the ceiling; water on the walls; dried water stains on the floor; wet or dry water stains on the ceiling; water dripping from light fixtures; anything else that looks unusual or suspicious.

> If anything unusual is found during the inspection, a brief report should be written up. The inspector should review previous reports to identify old stains, etc. In this way, new stains can be readily identified and reported.

2. Insect Checks (routine)

> Pest infestation is a special concern in some parts of the country. Below is an example from an excerpt of a statement by Ben Nighthorse Campbell about the Bureau of Indian Affairs record-keeping procedures:

> > Trust fund documents were mixed in with all the other documents kept by the field offices, with no organization and no attention paid to the conditions. These are essentially bank records, water damaged, kept in trashbags, disintegrating boxes, next to paint cans, mop buckets and road signs. . . . Last year the Interior Department claimed they could not comply with a court order to produce some documents because they were covered in mouse droppings and there was a concern about hanta virus[3] infestation.[4]

> All staff should be on the look out for insect infestations. If a staff member notes a particularly significant infestation, he or she should report this situation to the proper persons.

3. Disaster Plan Updates (annual) and Annual Staff Review

> The Disaster Contingency Plan should be updated on an annual basis and all staff members should review the updated version..

4. Off-site Backups (monthly)

It should be a high priority to assure that back-up copies of computer information are stored off-site.

5. Disaster Prevention/Safety and Security Checklists (semi-annually)

There should be a semi-annual run-through of the Disaster Prevention/Safety and Security checklists (see Appendices F & H). The purpose of reviewing these checklists is to remember the preventative measures that can be taken to avoid disasters, and to ensure that a safe, secure work place is maintained.

PROCEDURES FOR SALVAGE OF WATER DAMAGED MATERIALS[5]

In the event of major water-damage problems, a well-organized plan can greatly reduce the costs of salvage and restoration as well as the proportion of outright losses. Assistance and advice should be sought as soon as possible after a disastrous event has occurred, from a qualified library or archive specialist who has proven experience in the reclamation of fire and water-damaged collections.

Library and archive staffs are now generally better informed about the mechanisms of drying cellulosic materials as well as some of the technologies developed for this purpose. The use of vacuum chambers for drying large quantities of books and paper records has become an acceptable, almost common approach, but not without some confusion as to the differences and relative merits of vacuum drying and vacuum freeze-drying. Both methods effectively remove water but by quite different mechanisms and often with quite different results. An understanding of how these technologies function is essential in planning for a recovery operation, in order to make the best possible match between the nature, condition and needs of the materials and the capabilities of a particular drying system.

The use of fungicides to control the spread of mold growth has become an increasingly controversial subject because they may cause severe danger to workers and in some cases to the materials treated. Sterilizing by means of ethylene oxide (ETO) and related chemicals has come under close scrutiny by the EPA, to the extent that its use cannot be recommended, except by a commercial business firm which is fully insured and licensed to perform this service. Treatments involving the use of ethylene oxide are best carried out under controlled conditions, as in vacuum chambers at the end of a drying cycle, and they must be guaranteed to leave no residual toxicity in the material. ETO remains the most effective treatment for severe mold attack resulting from major disasters, especially those exposed to river water.

The critical decisions to be made following water damage require knowledge of available drying technologies and their effects on a variety of composite materials. Ideally, materials removed from site, should be prepared and packed in a manner most suitable for the drying method to be used. Unfortunately, what tends to happen, particularly when no emergency plan exists, is that wet material is packed and shipped off to freezing facilities without any knowledge of how the material will be dried. This may result in the material having to be repacked before drying which adds considerably to the cost of drying and the potential for further damage.

The complete restoration of water-soaked documents, particularly bound items, can be a costly process even under the most favorable conditions. In the majority of cases, the high costs involved do not justify the salvage and restoration of books which are in print and can be replaced. However, decisions relating to these factors are virtually impossible to make during a salvage operation and even when a disaster plan exists. On the other hand, it might be unwise not to attempt to salvage everything, if an insurance assessment is required and a claim is to be made.

Freezing, followed by vacuum freeze drying has been shown to be one of the most effective methods for removing water from large numbers of books and other paper records, but drying is not the final step in the reclamation process. In some cases, volumes which are only damp or which have suffered minor physical damage before freezing may come from a drying chamber in such good condition that they can be returned to the shelves. It is preferable that, where possible, the packing on site should be carried out in such a manner as to segregate very wet material from that which is partially wet or material which is merely damp from exposure to high humidity conditions This will not only result in cost savings during the drying operation but will help to avoid over drying of the least wet material. In the majority of instances, drying must be followed by restoration and rebinding, and therefore the technique and success of the drying method chosen will directly affect the final cost of restoration. This can be very expensive.

Thus, librarians and others faced with decisions which follow water damage from serious flooding, from the aftermath of a fire, or related water damage exposure, need to be reminded that replacement is nearly always much less costly than salvage and restoration. The necessity for making sound, on-the-spot, cost-effective judgments is the best reason for being prepared in advance by developing a pre-disaster preparedness plan. There are a number of such plans that have been drawn up, which can be found in the literature, to serve as models.

How Water Affects Books and Unbound Materials

Paper absorbs water at different rates depending on the age, condition, and composition of the material. Thus, some understanding of the mechanism of swelling action, as well as the development of mold, is essential to planning a successful salvage operation. In addition, when large collections are at stake, it is useful to be able to calculate in advance the approximate amount of water which will have to be extracted in a drying process. This will provide helpful data when selecting an appropriate drying method. Of equal importance is some knowledge of the length of time each type of material can be submerged in water before serious deterioration occurs.

Estimating Water Absorption

Generally speaking, manuscripts and books dated earlier than 1840 will absorb water to an average of 80 percent of their original weight. Some may absorb as much as 200% of their original weight. Since there is a greater concentration of proteinaceous material and receptivity to water in such early books and papers, they are especially vulnerable to mold when damp. Modern books, other than those with the most brittle paper, will absorb an average of up to 60% of their original weight. Thus, in estimating the original weight of a collection, if one assumes an average of four pounds per book when dry for 20,000 books in each category, drying techniques must be capable of removing approximately 64,000 pounds of water from the earlier materials and 48,000 pounds from the latter.

The major part of all damage to bound volumes caused by swelling from the effects of water will take place within the first four hours or so after they have been immersed. Since the paper in the text block[6] and the cardboard cores of book bindings have a greater capacity for swelling than the covering materials used for the bindings, the text-block of a soaked book usually expands so much that the spine assumes a concave shape and the fore-edge a convex shape, thus forcing the text block to become partially or completely detached from its binding. The board cores of bindings absorb a great amount of water in such circumstances and are usually the source of mold development between the board papers and fly leaves. This is especially apparent when the area in which water damage has occurred begins to dry out and the relative humidity falls below 70%. Although it is obviously important to remove as much moisture as possible from the environment, it is essential that the water content of the material be monitored because this will remain dangerously high, long after the area is apparently safe. Action taken to salvage the material should therefore be governed by the water content of the material and not by the relative humidity of the area. A water moisture meter, such as an Aqua Boy can be used to measure the water content inside books and box files. If such an instrument is unavailable a crude but quite effective way is to use a mirror within but not touching the text block. Condensation will cloud the mirror. A water content measuring less that 7% is considered dry.

Leather and vellum books, especially those of the 15th, 16th, and 17th centuries, can usually be restored successfully if they are dried under very carefully controlled procedures. Such materials are usually classified as rare and should be treated accordingly by not mixing them with less rare materials during preparations for salvage, stabilization and drying. The advice of a certified book conservator may be essential in order to safely carry out the most appropriate methods. If the material is frozen, freezer paper should be used between each volume to prevent sticking. (Refer to the section on freeze-drying for the special requirements needed for drying this type of material).

Unfortunately, modern manufacturing processes so degrade the natural structure of leather that once water soaked, book covers are often impossible to restore. Some leather bindings will be reduced to a brown sludge, while others will shrink severely. Swelling of covering materials, such as cloth, buckram, and certain plastics is negligible, however, in some cases shrinkage occurs. Book covers, however, which are made of a highly absorbent cardboard, will absorb water to a greater degree than an equivalent thickness of text block. Some book covering materials which have already deteriorated will absorb water at about the same rate as the text block.

Once access to the collection is gained, the external appearance of each volume and group of volumes is a useful indication of the degree of water damage. Those volumes found, usually in heaps, in the aisles will naturally be the most damaged. Not only will they have sustained the shock of falling, as rapid swelling caused them to burst from the shelves, but they will also have been exposed to water for a longer period than the volumes on the shelves above them. These will need special, flat packing and the most extensive restoration. The appearance of such volumes can be a devastating, emotional experience, but one must not panic since every volume worth the cost of salvage and restoration can be saved.

Above the floor levels there will be distinct signs among the shelves of the locations of the wettest material. Shelves which have expanded under the pressure of swollen paper and bindings will usually contain a mixture of evenly wet as well as unevenly wet material. The proportion of evenly wet material in these situations is usually less than those that are unevenly wet. This is because books, originally shelved closely packed together, will not easily be completely saturated especially if the paper is slow to absorb. This is the major reason why so many books become misshapen and distorted after water damage and also after they have been frozen and dried. If paper is unevenly wet, it will not dry without distortion. Misshapen volumes with concave spines and convex fore-edges can be immediately identified as belonging to the category of very wet. Others that have severely swollen text blocks but that still retain some spine and fore-edge shape may indicate that they were previously bound with library binding oversewing[7] techniques and may have sustained irreversible sewing structure damage. Others may be relatively sound in shape and these stand the best chance of drying with the minimum of distortion.

Coated Papers

Coated papers are the most vulnerable to complete loss and should not be permitted to begin drying until each volume can be dealt with under carefully controlled conditions. The period between removal and freezing is critical. It may be necessary to re-wet them with clean cold water until they can be frozen. During the aftermath of the Corning Museum Library river flood of 1972, it was found that the highest percentage of water damaged books were printed on coated stock papers and that when they were frozen in the wet state most were dried successfully by freeze-drying.

Archival Box Files

Archival box files often fare better than book material because their boxes are made of porous board stock which can be expected to absorb most of the water, protecting the contents inside. This would not be the case, of course, if they were completely immersed under water for many hours. During recovery, the contents of each box should be carefully inspected and the box replaced if it is water saturated. Failure to do so will increase the risk of physical damage as boxes collapse from pressure during recovery, shipment, and cold storage.

Access

Where water damage has resulted from fire-fighting measures, cooperation with the fire marshal, and health and safety officials is vital for a realistic appraisal of the feasibility of a safe salvage effort. Fire

officers and safety personnel will decide when a damaged building is safe to enter. In some cases, areas involved in a fire may require a week or longer before they are cool and safe enough to enter. Other areas may be under investigation when arson is suspected. There may be parts of a collection that can be identified early in the salvage planning effort as being especially vulnerable to destruction unless they receive attention within a few hours after the fire has abated. If the fire marshal appreciates such needs, he may be able to provide means of special access to these areas even when other parts of the building remain hazardous.

Perhaps the most important and difficult decision to make after an assessment of damage has been made, is whether to remove the wettest materials first or to concentrate on those that are only partially wet or damp. If the majority is in the latter category, the best course may be to recover these first since they may develop mold if they are left in dank and humid conditions while the wettest material is removed. A balance must be struck between the reduction of moisture content in the affected areas and the time involved for the safe removal of the majority of the collections in the best condition. To remove the wettest material first will obviously lower the moisture content, but it is often the case that this can be difficult and time consuming because shelves become jammed with swollen wet books and boxes and may require special equipment to free them. The aim is always to recover the majority of the collection in the best condition to avoid additional harm and costs brought about by post-disaster environmental damage.

Once all entrances and aisles have been cleared, in addition to the above considerations, the most important collections, including rare materials and those of permanent research value, should be given priority unless other material would be more severely damaged by prolonged exposure to water. Examples of the latter are books printed on paper of types widely produced between 1880 and 1946, now brittle or semi-brittle. However, materials in this category which can be replaced should be left until last.

Stabilizing the Environment

Salvage operations must be planned so that the environment of water damaged areas can be stabilized and controlled both before and during the removal of the materials. In warm, humid weather, mold growth may be expected to appear in a water-damaged area within 48 hours. In any weather, mold can be expected to appear within 48 hours in poorly ventilated areas made warm and humid by recent fire in adjacent parts of the building. For this reason, every effort should be made to reduce high humidities and temperatures and vent the areas as soon as the water has receded or been pumped out. Water-soaked materials must be kept as cool as possible by every means available and be provided with good air circulation until they can be stabilized. To leave such materials more than 48 hours in temperatures above 70 degrees Fahrenheit and a relative humidity above 60 percent without good air circulation will almost certainly result in heavy mold growth and lead to high recovery and restoration costs.

Damaged most by these conditions are volumes printed on coated stock and such highly proteinaceous materials as leather and vellum bindings. Starch-impregnated cloths, glues, adhesives, and starch pastes are affected to a somewhat lesser degree. As long as books are tightly shelved, mold may develop only on the outer edges of the bindings. Thus no attempt should be made, in these conditions, to separate books and fan them open.

As a general rule, damp books located in warm and humid areas without ventilation will be subject to rapid mold growth. As they begin to dry, both the bindings and the edges of books will be quickly attacked by mold. Archival files which have not been disturbed will not be attacked so quickly by mold. A different problem exists for damp books printed on coated stock, since if they are allowed to begin to dry out in this condition, the leaves will quickly become permanently fused together.

Assessment of Damage and Planning for Salvage

Weather is often the critical factor in determining what course of action to take after any flood or fire in which archive and library materials are damaged. When it is hot and humid, salvage must be initiated with a minimum of delay to prevent or control the growth of mold. When the weather is cold, more time may be taken to plan salvage operations and experiment with various reclamation procedures.

The first step is to establish the nature and degree of damage. Once an assessment of the damage has been made, firm plans and priorities for salvage can be drawn up. These plans should include a determination of the special facilities, equipment and personnel required. Overcautious, unrealistic, or inadequate appraisals of damage can result in the loss of valuable materials as well as confusion during all phases of the recovery operation. Speed is of the utmost importance, but not at the expense of careful planning which must be aimed at carrying out the most appropriate, safe and efficient salvage procedure within the circumstances prevailing. An efficient record keeping system is a must. Inventory of call numbers, shelf location and packing box numbers will help make the task of receiving collections returned after drying so that their original shelf locations can be identified, as efficient as possible.

Maintaining a detailed photographic and written record of all stages in the recovery operation is an essential, but often overlooked task which will aid the process of insurance claims and demonstrate the condition of the material before it is frozen and dried. Some have found that on receiving materials back from a drying process, they are shocked by the appearance of distorted material, believing perhaps that the condition should be much better, or be somewhat restored! The photographic record can be a very helpful reminder that distortion is mostly the result of the initial water damage and not necessarily the result of the drying process. The photographic record should provide key evidence for the reasons and nature of additional damage resulting from any part of the recovery process.

The Recovery Team

Conducting a successful and efficient recovery operation after a major flood or similar disaster requires, in addition to a good supply of dedicated labor, a team of experts who should be assembled before practical work begins.

The leader should be a person who has had practical experience and understands the effects of different environmental conditions on water-soaked materials of all types, conditions, and ages. The team leader should to be assisted by custodians who know the collection intimately; conservators who can provide additional advice and guidance as well as help in training workers in safe removal procedures; procurement specialists; building maintenance engineers; electricians; carpenters; plumbers; a chemist if available, and health and safety experts.

One or more persons familiar with national and local resources are highly desirable to assist in locating and procuring the special facilities, equipment and supplies needed during the operation. They should be familiar with using the Yellow Pages to track down materials and equipment, able to seek out the key chemical supply companies in the country, if necessary, and generally have the authority to cut through administrative red tape.

The assembled team should be carefully briefed on the recovery plan and procedures to be followed as well as various contingency alternatives which might have to be adopted, priorities to be observed, and their own specific responsibilities.

Team leaders need to be identified and instructed in the details of the recovery plan and its main aims and goals. They in turn should brief all workers so that they too will understand the purpose of the plan and what is expected of each of them. A well briefed and dedicated team works much better than enthusiastic individuals who are allowed to carry out actions which may be disruptive to the main purpose of the team plan.

The major objectives of this team should be:

- To stabilize the condition of the materials before removal by creating the environment necessary to prevent further damage.

- To recover the maximum number of material from the damaged collections in a manner which will minimize future restoration and its costs.

- Primary Considerations for Recovery of Water-Damaged Collections.

- Seek the advice of specialists who can assist at the site of the disaster.

- Organize a disaster team and prepare a comprehensive plan of action, as well as plans for different contingencies.

- Do not attempt to remove materials from the area until an overall plan with a schedule of priorities has been established and all personnel thoroughly briefed and trained.
- In winter, turn off all heat in the building. In summer, reduce temperatures as much as possible through air-conditioning.

- Create maximum air flow through all affected areas by opening doors and windows. If electrical facilities are operational, use as many fans as can be acquired to create a current of air so directed as to expel humid air from the building. Use de-humidifiers together with air conditioning and a good air flow. The objective is to avoid pockets of stagnant air and to reduce moisture content.

- If house electricity is not available, hire portable generators to provide electricity for lights, fan, dehumidifiers, and other electrical services. For safety purposes, all electrical lines should be waterproofed and grounded and be administered by health and safety personnel.

- Do not permit anyone to open wet books; to separate single sheets; to remove covers when materials are water-soaked; or to disturb wet file boxes, prints, drawings, and photographs. Such handling can result in extensive and often irreparable damage to materials that otherwise might be salvaged. Reducing the cost of future restoration must be one of the top priorities of the salvage operation.

- Canvass the community to locate freezing and storage space.

- Locate sources of one cubic foot milk crates and corrugated board boxes.

Preliminary Steps in the Evacuation from Water-Damaged Areas

If the materials are to be frozen, prior arrangements should have been made to ship the packed materials immediately to freezing facilities. Packed materials must not be allowed to remain on or near the site for more than a few hours, since such delay will further increase the possibility of mold development. Before actual removal of the water-soaked material begins, lighting, fans, dehumidifiers, and all possible venting should be fully operational. All work surfaces should be covered with polyethylene sheeting. Areas selected for packing or drying should be prepared for the operation by emptying them of all unnecessary equipment and furniture.

Removal and Packing of Water-Damaged Materials–The Work Force

Safety of the materials and future restoration costs will depend largely on the competence and dedication of the salvage crews. The work will be arduous, dirty, and often frustrating. Team leaders should not hesitate to dismiss careless and thoughtless workers. Experience has shown that well-disciplined crews

having brief rest periods with refreshments about every hour and a half are the most efficient. Working salvage crews to exhaustion pays no dividends.

Removal from Water-Damaged Area–The Catalog and Other Records of the Collection

High priority should be given to salvaging the catalog and other records of the collection. Salvage operations should avoid any action that might remove or deface identifying marks and labels.

During the pre-recovery planning stage a decision needs to be made on whether or not to use a location number identification system which could be used after the material is returned from the drying operation to reassemble the collection in similar shelf order. There will be a need to identify and segregate materials which are very wet from partially wet; mold contaminated from uncontaminated; rare and sensitive items from the less rare and sensitive etc. If an orderly, efficient and safe recovery is to be achieved, together with a control over the choice of drying and other special measures needed to save rare and sensitive materials, a box coding system is indispensable.

At least one person should be assigned specific responsibility for making an inventory at each location where the materials are taken from the shelves and boxed. This person might also be given charge of supervising the boxing and box coding process.

Conveyor belts and human chains are normally used to remove large numbers of material from each shelf, pack them in corrugated boxes or plastic milk crates and to move them to the loading site for shipment to cold storage facilities. It is at this time that a great deal of additional damage and confusion can occur. The number of people involved in this operation and their behavior needs to be closely supervised. Try to initiate a rhythm when using human chains that keeps everyone busy without being over taxed. Too many helpers will hamper progress, encourage loafing and generally reduce the efficiency of the operation. It is highly desirable to instruct the team daily on the tasks to be carried out and to keep them informed as to the major objectives of the recovery operation and as to any changes that have been made to the master plan.

An efficient and dedicated work force needs to be provided with all the accoutrements of human survival, such as regular rest periods, a place to eat, a convenience to wash and clean up, and immediate access to medical attention.

Manuscripts and other materials in single sheets create particularly difficult problems if they have been scattered. An indication of the approximate location in which they are found during the salvage operation may be extremely helpful at a later date. Materials should never be moved from the site in large batches or left piled on top of each other, either at the site or in adjacent temporary housing, since the excessive weight of water-affected books and paper records can lead to severe physical damage.

When flood-damaged books were removed from the Biblioteca Nazionale in Florence following the river flood disaster of 1966, substantial numbers were piled high outside the library building while awaiting shipment to drying facilities. This action caused significant damage to the books from the weight of water saturated volumes and led to very high costs of post disaster restoration.

Removal and Packing

The aisles between stacks and main passageways will probably be strewn with sodden materials. These must be removed first, separately, by human chain, in the exact condition in which they are found. Open books will be greatly swollen, but no attempt should be made to close them. Closing them will cause further damage by tearing the leaves, since paper will not slide when wet. Instead, books should be passed undisturbed to an adjacent dry area where an awaiting team may pack them without disturbing their shape. This particular type of material must not be packed tightly but should be packed flat in boxes and separated with at least one layer of freezer paper and one sheet of 1/2" polystyrene between each open book.

The packing team should have approximately the same number of people as the team which passes the damaged material to them. This will avoid bottlenecks and stacking materials on the floor awaiting packing. If a sufficient number of people and conveyor belts are available, the most efficient place to pack damaged materials will be on site. Teams will have to be organized to assemble packing materials and supply them to the packers in a smooth flow. Use of a second human chain or conveyor will reduce bottlenecks and the likelihood of incoming supplies interfering with the flow of packed materials being passed out of the building. After the isles have been completely cleared, the main work of recovery can begin. Hopefully, a decision will have been made as to which material to remove first: the wettest or the ones in the best condition. As stated earlier, if the majority is only damp and in relatively sound condition, these could be removed first and more rapidly than other materials. In these circumstances de-shelving and packing will be a relative quick operation and will help to establish a smooth worker flow. As each line of shelves is emptied, an assistant should code each box and record the box number and its general contents in a notebook. The contents of archival storage boxes are unlikely to be saturated with water if they were previously positioned close together. However, since certain types of boxes have a corrugated inside layer, they may be very wet, even though the major portion of the contents is only damp. In such cases, it is best to repack the contents in new boxes or in plastic milk crates. This will not only make each unit lighter to lift and prevent the collapse of a wet box but will also speed the drying process. When repacking it is important that the new boxes be properly identified.

Disposition of Remaining Materials and Cleaning of Water-Exposed Areas

If the wettest materials were removed first, the drier material will usually be above the first four or five shelves and packed closely together. On no account should this third category be separated or spaced out during the earlier salvage efforts. Closely packed materials will not readily develop mold internally.

However, since these will have been in a very humid atmosphere for, maybe several days, it is likely that some mold will have developed on the outer edges of bindings and boxes. This is less like to occur if, during the evacuation of the wettest materials every effort had been made to reduce temperatures and humidity levels and establish a good air flow.

There may be books and box files in such good condition that they need not be sent to freezing facilities but can be dried in ambient conditions. On no account however should the drying be attempted in the location in which they were found because the environment will be totally unsuitable. They should instead be removed to a controlled environment while shelves, wall, floors, and ceilings are sterilized and necessary maintenance work is being done to return the site to its normal condition. If moved, materials should be stacked with air spaces between them provided that the drying area has a good circulation of air, together with airconditioning and dehumidification. If airconditioning is not available, fans and dehumidifiers should be used to keep air moving and to extract moisture from the area. The relative humidity of a drying area is no guide to the actual moisture content of cellulose materials. The normal water content of paper is between 5 and 7 percent by weight. Materials which feel relatively dry to the touch as they come out of a humid, flood-damaged area, may actually contain moisture from above 10 to 20 percent.

Heat is one of the best means of drying, but since it increases the risk of mold development on humid books and documents, it should be used only if a good circulation of air and dehumidification can be established. Hygrothermographs for recording temperature and relative humidity should be installed to monitor the general area, and moisture-content meters used to measure the moisture in the materials themselves.

Cleaning After a River Flood

The safest time to clean materials is after they have been dried. If water-damage is the result of a river flood then the following might, under certain circumstances, be considered. The Florence experience demonstrated that the best time to remove mud was after the books were dry. However some books did benefit from partial cleaning in the wet state.

If adequate assistance is available, mud deposits on books which will not be further damaged by water may be washed off in clean, running water. Closed books may be held, one at a time, under water and the excess mud removed with a hose connected to a fine spray head. Similar washing should not be attempted with opened volumes, manuscripts, art on paper, or photographs.

Rubbing and brushing should be avoided, and no effort be made to remove oil stains. Anything which is hard to remove is better left until after drying, when techniques for removal can be worked out during the restoration stage. In some cases, printed books bound in cloth or paper can be left immersed in clean running water for as long as two weeks. Although this should be avoided if possible, it is preferable when the only alternative is leaving such books in warm, humid air while awaiting attention.

Thorough Washing to Remove Heavy Deposits of Mud

A more thorough washing procedure, intended to remove as much mud and slime as possible from books, requires six to eight tanks big enough to accommodate the largest volumes in the collection. This process is obviously wet and messy and needs to be set up outdoors in fair weather or in an area fitted out to use and remove large quantities of water. Since large quantities of water are required, the area will be wet and dirty throughout the operation, and good drainage is therefore essential.

Any rustproof receptacles may be used if they are large enough, but plastic garbage cans (20 or 30 gallons) are recommended. Each can should be equipped with a hose to provide low-pressure, continuous water flow to the bottom so that dirty water, as it overflows the rim, will be constantly replaced by fresh. Each hose should be fastened securely to prevent damage to the books being washed. Wooden duck-boards, rubber boots, gloves and aprons are recommended for the protection of workers.

Keeping a book tightly closed, a worker should immerse one book at a time in the first can and remove as much mud as possible by gentle agitation under the water. Workers should not use brushes and or any tool which would cause an aggressive rubbing action. Books should be passed from one can to the next and the same operations repeated until most of the mud has been removed. At the last can, books should be rinsed by spraying them gently with a fine stream of water. No effort should be made to remove mud which continues to cling after sponging under water. This is much better done when the books are dry.

Finally, excess water can be squeezed from books with hands pressure; mechanical presses should never be used. It must be emphasized that the above procedure should be attempted only by a carefully instructed team and in a properly fitted-out area. If there is any doubt about the ability of the team to follow directions, washing should not be attempted. There are many classes of books which should not be washed under any circumstances, and it is therefore imperative to have the advice of an experienced book conservator who can recognize such materials and who understands their treatment requirements.

Principles of Stabilization by Freezing

The most generally accepted method of stabilizing water-damaged library and archival materials before they are dried is by freezing and storing at low temperatures. This buys time in which to plan and organize the steps needed to dry the material and to prepare a rehabilitation site and the building for return of the collections after drying. Freezing provides the means for storing water damaged materials safely and for an indefinite period of time in similar physical condition in which they were found, preventing further deterioration by water and mold while awaiting treatment.

Freezing is not a drying method, nor can it be expected to kill mold spores, but it is highly effective in controlling mold growth by inducing a dormant state in the spores. If mold damaged material is frozen it is important that the drying method chosen prevent mold spore activity during the drying process. For this reason it is important to segregate such material during removal and packing operations.

Stabilization by freezing also provides important advantages when it is not possible to immediately assess the value of the damaged materials or to determine which items can or cannot be replaced. In

other words, stabilization gives time in which to estimate recovery costs, to prepare adequate environmental storage conditions, and to restore the building. In some cases, it may be necessary to restore or rebuild the original facilities--a process which can require a long period of time.

Had freezing technique been used after the catastrophic Florence flood in 1966, thousands of additional volumes could have been saved completely or would have suffered significantly less damage. The Florentine libraries which sustained the greatest losses contained mostly 19th and 20th-century materials. In these collections, losses were heaviest among books printed on coated stock, whose leaves stuck together during drying and could not be separated afterward. These losses could have been largely prevented if the materials had been frozen while wet, and if drying methods now known had been used to prevent adhesion of the leaves.

The effect of freezing upon water soaked volumes which have lost their shape or have had their binding structures damaged by immersion, will be to slightly increase the thickness of volumes by the physical action of ice crystals, but this additional increase in thickness has been found to contribute no significant problems to already damaged books. Studies conducted by the Research and Testing Office of the Library of Congress have uncovered no evidence of any damage to cellulosic[8] and proteinaceous materials caused solely by the action of freezing.

Freezing as a salvage method has other advantages. It can stabilize water-soluble materials such as inks, dyes, and water stains etc. which would otherwise spread by wicking action if they were dried from the wet state by conventional drying methods. Freezing provides the means by which water-soluble compounds will remain stable during a freeze-drying process which involves the removal of water by sublimation. This is the only known drying method capable of drying without further spreading of water soluble compounds, provided that the frozen state of the material is maintained before and throughout the drying process.

Cold Temperature Storage Conditions

The size and formation of ice crystals is governed by the rate and temperature of freezing. Blast freezing used for certain types of food-stuffs is designed to quickly freeze in a few hours, often involving temperatures in excess of -50 degrees Celsius. The advantage of quick freezing is that ice crystals are kept very small, resulting in a limited amount of swelling. Availability of blast freezing facilities may not be possible following water damage, so in normal circumstances, freezing will be slower and therefore the formation of ice crystals larger, but this should not cause problems for the majority of library and archive collections.

Once frozen, cold temperature conditions should be maintained at about 0° Fahrenheit (-18° Celsius). Lower temperatures will do no harm but higher temperatures may increase the size of ice crystals.

Preparation for Freezing

Before freezing, it may seem tempting to wash away accumulated debris particularly if this is the result of a river flood, but this is rarely advisable or safe because of lack of time, skilled workers and a pure water supply, and the quantity of material to be handled. (Aqueous washing to remove smoke damage should never be attempted under any circumstances.)

Washing should never be attempted by untrained persons as this will cause further damage, nor should time be taken for this purpose if so little skilled help is available that any significant delay in freezing the bulk of the materials would result. The washing of materials containing water-soluble components, such as inks, watercolors, tempera or dyes should not be attempted under any circumstances.

Experience has shown that such materials, as well as those that are fragile or delicate, can be seriously or irreparably damaged by untrained workers attempting to clean and restore on-site. Such materials need expert attention and hours of careful work if damage is to be kept to a minimum. The period of emergency action and first aid is a dangerous and unsuitable time for the careful work required to restore

materials to near-original state. The general condition of the damaged material will determine how much time can be spent in preparation for freezing. At the very least, bound volumes should be wrapped with a single fold of freezer paper, or silicone paper, if it is likely that their covers will stick together during the freezing process.

All rare, intrinsically valuable and delicate material should be prepared for freezing separately from other materials and also in separate categories so that each can be located and identified before they are dried. Each category may require a different type of drying than used for the other, less sensitive materials. For instance, early printed books and manuscripts are made up of a variety of material including vellum, leather, paper, wood metal, ivory, inks and water color media. Others will be delicate and or highly water sensitive. These will need to be dried very carefully, and if freeze-drying is used it should be undertaken with the minimum amount of internal chamber heating. If only a few items are involved it may be preferable to send them directly to a certified conservator for immediate treatment.

Containers and Methods of Packing for Freezing

The choice of packing containers should be carefully considered. Although corrugated board boxes are cheaper to purchase, locate and store on site than plastic type milk crates, they may restrict the rate and efficiency of drying and also be prone to collapse when filled with wet material. If it is possible to decide in advance what method of drying is to be used, be guided by the technical requirements of the vendor's drying system. For instance, if freeze-drying is to be used, one cubic foot plastic milk crates might be preferred, since these provide open spaces within the interlocking crates to aid in the efficient out-gassing of ice by sublimation.

With some forms of vacuum drying where sublimation does not occur, corrugated boxes may be quite suitable, depending on the location of the heat source in the chamber. In either case, containers should not be larger than approximately one cubic foot, to avoid excessive weight, a vital consideration for workers removing material from site and also to help reduce damage from collapsing boxes. Usually boxes will be prepared for freezing on pallets and this is where the weight of heavy wet boxes can then to collapse and cause additional damage to material within the pile. To avoid this, use plastic milk crates or very sturdy corrugated boxes for the wettest material and re-box file records if their original boxes are saturated with water. Endeavor to use one size and type of box. If this not possible, do not mix sizes when packing on pallets. The number of boxes per pallet should be no more than can be supported without collapse.

Although faster freezing and drying will result if boxes are not packed tightly, the contents will distort during the drying operation. To achieve the best drying results for books, they should be packed closely together so that drying is done under some restraining pressure. A book should never be packed foredge down as the weight of the text block will cause an inversion of its natural round shape. Pack books spine-down or flat and avoid placing larger volumes on top of smaller ones to avoid sagging which will be costly to correct during restoration.

The decisions taken at this stage will greatly affect the outcome and costs of the processes used for cold storage, drying and restoration. It has, unfortunately, not been sufficiently appreciated in the past that care in packing at this stage will significantly reduce post-recovery costs.

High costs certainly occur if boxes are stacked on pallets in mixed sizes which will increase the potential for collapse under the weight of water, crushing and damaging the material in the process.

It should be possible to move the wet materials directly from library to freezing facility, preferably in refrigerated trucks which can be drawn up to the loading site. For small collections of books and documents, dry ice may be used to freeze the material for transport in un-refrigerated trucks to long-term freezing facilities. (Gloves should be worn at all times when handling dry ice.)

Vacuum and Freeze Drying Technologies

It is important to understand that the processes used by vacuum and freeze-drying companies differ considerably depending on the specific requirements of the material to be dried. The majority of these companies have developed their technologies for food. Few have had experience in drying paper and books and therefore may not know if their normal operating system would be safe, or cost effective for this purpose. Freeze-drying has a number of significant advantages over vacuum drying since water remains in the frozen state during sublimation, a process which removes water from the solid state to the gaseous state. This avoids most of the problems associated with expansion, sticking and wicking of water sensitive and soluble media. Vacuum drying, generally considered to be a process that changes a liquid to a vapor, will result in a much greater risk of expansion, distortion, sticking, and staining.

Although both drying methods have been found to produce satisfactory results in a number of disaster recovery events, comparison between the two following a disaster has not been made. The preference is for freeze-drying because it is the least aggressive of the two methods. However, there are situations where for instance, archival documents have been affected and where there is a low percentage of intrinsically valuable material, where vacuum drying has provided satisfactory results. The choice between the two should be governed by the nature, value and condition of the damaged material. Rare collections of significant value need to be dried with due regard to the sensitivity of the substrate and media and it is for this reason it was suggested earlier that such materials be segregated from the less rare.

Freeze-drying which is used to dry animal specimens, does so at very low internal chamber temperatures, lower than those used for most food processes. One animal specimen may take several weeks to dry. At this slow rate of drying the costs are high. Most paper and book material can withstand higher temperatures than those used to dry delicate animal specimens and there is a need for thermal energy to make the process efficient and cost effective.

If a vacuum or freeze-drying chamber is designed to operate with internal chamber heat sources, these must not touch the material to be dried, to avoid over-heating and scorching. The internal temperature of a chamber should be no greater than 100 degrees Fahrenheit (37.8 degrees Celsius). For sensitive materials, including early book material where there is a mix of paper, vellum leather and wood etc., lower than ambient temperatures or those used to dry animal specimens should be used, to dry the material slowly and under carefully monitored conditions. (Note: an upper limit of 100 degrees Fahrenheit is considered to be a safe temperature. There is insufficient data at this time to evaluate the effects of higher temperatures.)

It is important to realize that the success of any large drying system depends on the ability of the system to stop the development of mold during and after the drying process. Be aware of the risks in accepting material returned from commercial drying processes unless there is a guarantee that none will be returned damp or wet. If mold develops after return, it may not be possible to detect it, if the material remains boxed. If care was taken to segregate mold-contaminated from non-contaminated items during recovery, boxing and freezing, this will help determine if the drying was carried out properly. If mold develops in the non-contaminated material, the chances are that either the drying was not done correctly or that drying was not complete.

Mold-infected material, if dried completely under freeze-drying conditions, can be safely controlled for a short period of time, so that the spores remain quite dormant if stored after drying in an air conditioned environment maintained at 50 to 55 degrees Fahrenheit and a relative humidity of 35 percent or lower. However they must not be returned to the library or archive shelves until the mold contamination has been treated. For this reason it is recommended that, at the end of the drying cycle and while still in the drying chamber, all mold-contaminated material be sterilized. If extreme care was not taken to separate contaminated from non-contaminated materials before the drying operation, it is recommended that each drying load be sterilized.

Rehabilitation After Drying

If maximum benefits are to be gained from stabilization by freezing, every effort should be made, first, to identify and assess the value, condition, and total numbers and types of materials damaged, and second, to draw up comprehensive lists of those materials which can be replaced and those which should be reclaimed and restored. Replacement is nearly always cheaper than restoration. Volumes to be reclaimed will need to be evaluated in terms of the amount of restoration needed and probable costs. The best time to make such judgments, if a disaster preparedness plan does not exist, is after the volumes have been dried and before they are returned to the library or archive shelves

The following represent basic steps that need to be taken after drying in order to begin returning the material to normal housing environments.

Unless a drying company can guarantee in writing that no material will be returned boxed if it has a water content exceeding 7% by weight, there is a high possibility that some boxes will contain damp material that will add to the risks of post drying mold development, and which, if allowed to develop, will quickly spread to other uncontaminated material, if left unchecked and therefore undetected.

It is important when preparing specification for a drying contract that acceptable water content is not specified as an average of a book's total water content. For instance the text block of a book may be measured at far less than 7% but the water content of the book cover boards may contain higher 7% of water. Therefore it is necessary to specify that the waters content of all the books composite materials be less than 7%.

Do not store the material in unopened boxes immediately upon return from the drying facilities, even if this seems to be the most convenient action to take.

All books and paper file records should be unboxed and placed on open shelving in a well ventilated, air-conditioned rehabilitation area, well separated from the main collections. The rehabilitation area makes it easier to assess the condition of the dried materials, as well as to identify those that can be replaced and those that must be cleaned and restored.

A carefully organized, random inspection of mold-infected materials should be conducted daily by personnel trained to carry out this important task.

Whether materials have or have not been sterilized during the drying process, it is necessary to monitor their behavior as a check against the effectiveness of drying and sterilization and to identify any potential for mold growth and to take the appropriate action, before the return of these materials to the main collections.

We are concerned here with monitoring the dried volumes while they are in the rehabilitation area, and after their return to the main stacks. This monitoring should be continued at regular intervals for at least a year after they are returned to the main library shelving.

In preparing the rehabilitation area, provide about twice the number of shelves as would be needed for normal book requirements. This will compensate for the effects of distorted and expanded books and provide sufficient air space to allow the materials to regain their moisture equilibrium content which, depending upon circumstances, may take a week or two.

Theoretically, equilibrium moisture regain can be accomplished at the end of a drying run while the material is contained in the drying chamber. The chamber can be back filled with moisture to achieve the desired result. However this is only possible and safe if the drying method has been guaranteed to dry the material completely. If there remains some partially damp material at the end of a drying run, back filling the chamber with moisture would make such material more vulnerable to mold growth.

The rehabilitation area should be maintained at a relative humidity of 30 to 40 percent and a temperature of less than 65 degrees Fahrenheit. Both humidity and temperature controls must be adjustable.

It is desirable to maintain the collection in the rehabilitation area for a period of at least six months. At this time, temperature and humidity in the rehabilitation area can be gradually changed to duplicate conditions in the stack areas to which they will be returned. At the end of this time, if no mold growth has occurred, the volumes can be returned to the main stacks and monitored as indicated above. It is highly desirable but usually not practical to leave volumes in the rehabilitation area for an added six months in an environment that duplicates normal stack conditions, as a check against post drying mold growth.

No materials should be returned to the main library shelves without very careful inspection, and preferably not before all necessary cleaning and restoration has been completed.

Evaluation of Loss

When a flood or fire-damaged collection is covered by insurance, full settlement of a claim cannot be realized until the lost and damaged materials have been listed and their values established. The extent and success of possible restoration must also be determined. In the event that a claim is anticipated as a result of such damage, every item should be salvaged, frozen, and dried. After drying, the affected materials should be shelved in a specially equipped environmental storage area, isolated from the main stacks, and there inspected and monitored over a period of time. Such a policy is the best guarantee of sound judgments by custodians, consultants, and adjusters when they must calculate the degree of loss as a basis for compensation.

Summary of Emergency Procedures
(see also Appendix I)

Seek the advice and help of book and paper conservators with experience in salvaging water-damaged materials as soon as possible.

Turn off heat and create free circulation of air.

Keep fans and air-conditioning on day and night and use dehumidifiers and insure a constant flow of air is necessary to reduce the threat of mold.

Brief each worker carefully before salvage operations begin, giving full information on the dangers of proceeding except as directed. Emphasize the seriousness of timing and the priorities and aims of the whole operation. Instruct workers on means of recognizing manuscripts, materials with water-soluble components, leather and vellum bindings, materials printed on coated paper stock, and photographic materials.

Do not allow workers to attempt restoration of any items on site. (This was a common error in the first ten days after the Florence flood, when rare and valuable leather and vellum-bound volumes were subjected to scrubbing and processing to remove mud. This resulted in driving mud into the interstices of leather, vellum, cloth, and paper, caused extensive damage to the volumes, and made the later work of restoration more difficult, time consuming, and extremely costly.)

Carry out all cleaning operations, whether outside the building or in controlled environment rooms, by washing gently with fresh, cold running water and soft cellulose sponges to aid in the release of mud and filth. Use sponges in a dabbing motion; do not rub. These instructions do not apply to materials with water-soluble components. Such materials should be frozen as quickly as possible.

Do not attempt to open a wet book. (Wet paper is very weak and will tear at a touch. One tear costs at least one dollar to mend!) Hold a book firmly closed when cleaned, especially when washing or sponging. A closed book is highly resistant to impregnation and damage.

Do not attempt to remove mud by sponging. Mud is best removed from clothes when dry; this is also true of library materials.

Do not remove covers from books, as they will help to support the books during drying. When partially dry, books may be hung over nylon lines to finish drying. Do not hang books from lines while they are very wet because the weight will cause damage to the inside folds of the sections.

Do not press books and documents when they are water soaked. This can force mud into the paper and subject the materials to stresses which will damage their structures.

Use soft pencils for making notes on slips of paper but do not attempt to write on wet paper or other artifacts.

Clean, white blotter paper, white paper towels, strong toilet paper, and unprinted newsprint may be used for interleaving in the drying process. When nothing better is available, all but the color sections of printed newspapers may be used. Care must be taken to avoid rubbing the inked surface of the newspaper over the material being dried; otherwise some offsetting of the ink may occur.

Under no circumstances should newly dried materials be packed in boxes and left without attention for more than a few days.

Do not use bleaches, detergents, water-soluble fungicides, wire staples, paper or bulldog clips, adhesive tape, or adhesives of any kind. Never use felt-tipped fiber or ballpoint pens or any marking device on wet paper.

Never use colored blotting paper or colored paper of any kind to dry books and other documents.

Used and damp interleaving sheets should not be reused.

Frequent changing of interleaving material is much more effective than allowing large numbers of sheets to remain in place for extended periods.

Newsprint should not be left in books after drying is complete.

A good grade of paper toweling is more effective than newsprint, but the cost is much greater.

RECOMMENDED REFERENCE MATERIALS

Awakening Our Languages: ILI Handbook Series
(8 handbooks covering all aspects of tribal language revitalization)
Indigenous Language Institute (ILI)
560 Montezuma Avenue, 202
Santa Fe, New Mexico 87501-2590
Telephone: 505 820-0311
E-mail: ili@indigenous-language.org
Home page: www.indigenous-language.org

Encouragement, Guidance, Insights and Lessons Learned for Native Language Activists Developing Their Own Tribal Language Programs
Piegan Institute
POB 909
Browning, Montana 59417
This 50-page guide can be downloaded at:
www.grottofoundation.org under documents for downloading.

The Green Book of Language Revitalization in Practice
Edited by: Leanne Hinton, University of California. Berkeley
Berkeley, California & Ken Hale, Massachusetts Institute of Technology.
Cambridge, Massachusetts.
Academic Press, Elsevier Science, Technology & Business Books
(http://www.academicpress.com)

The Smithsonian Folklife and Oral History Interviewing Guide
By Marjorie Hunt
Smithsonian Institution Center for Folklife and Cultural Heritage
750 Ninth Street, NW, Suite 4100
Washington, DC 20560-0953
This 35-page guide can be downloaded at:
http://www.folklife.si.edu/explore/Resources/InterviewGuide/InterviewGuide_home.html

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Endnotes:

[1] http://www.archives.gov/preservation/modern_archives_institute.html
2. http://www.si.edu/archives/report/disaster/three.htm The entire manual can be found at http://www.si.edu/archives/report/disaster.

3. Hanta virus is a fast acting disease that can affect humans. It is transmitted by airborne particles originating with deer mice. The virus cannot survive without moisture. Hanta virus is recognized by flu-like symptoms and a buildup of fluid in the lungs.

4. Statement of Ben Nighthorse Campbell, Chairman, Committee on Indian Affairs, Joint Indian Affairs - Energy Committee Hearing on Trust Funds, March 3, 1999. http://indian.senate.gov/1999hrgs/trst3.3/bncstmt.htm

5. This publication was produced as a public service. It may be reproduced and distributed freely in part or in its entirety. When duplicating individual articles please copy them exactly as they appear so that proper credit will be given to the originating institution. Extracts from unpublished revised text by Peter Waters, July 1993, The Library of Congress; and the Preservation Policy and Services Division of the National Archives and Records Administration (NARA). http://palimpsest.stanford.edu/bytopic/disasters/primer/waters.html

[6]. The total of a book's leaves, which is bound into the case. The main block of sections or leaves, including endsheets and spine linings, which is bound together and then attached to the case (cover). Also called book clock and body of the book.

[7]. Oversewing is the method leaf attachment by the means of sewing sections of loose leaves one to another by hand or by machine through a 5/8 inch or more binding margin to create a textblock.

[8]. A complex carbohydrate, $(C_6H_{10}O_5)_n$, which is composed of glucose units, forms the main constituent of the cell wall in most plants, and is important in the manufacture of numerous products, such as paper, textiles, pharmaceuticals, and explosives.