

POLICY

of the

MUSEUM OF SOUTHWESTERN BIOLOGY (MSB)

THE DEPARTMENT OF BIOLOGY

UNIVERSITY OF NEW MEXICO

ALBUQUERQUE, NEW MEXICO 87131

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PREFACE

The Museum of Southwestern Biology is a research and teaching facility in the Department of Biology, housing historically important collections of vertebrates, arthropods, and plants from the American Southwest, Central and South America, and from throughout the world. The Museum serves the scientific community and the public at large through its research and teaching efforts and maintenance of collections in conditions that promote long-term conservation. Maintaining high standards of operation is both the responsibility of the individual divisions and the museum as a whole.

This Museum Policy applies to all Museum staff, students, administrators, associate researchers, visiting researchers, and the public. The Policy will be amended and updated as needed; an ad hoc committee will be selected to make recommendations and to write a draft for Museum personnel review and comment. The Director, in conjunction with the curators, will approve the final draft of any updated Policy.

OBJECTIVES OF THE MSB POLICY

The Museum of Southwestern Biology, recognizing its role as a University facility and a public trust, will strive to maintain a Policy that reflects current University and State of New Mexico codes as they pertain to collections. Likewise, the Policy will reflect the philosophies and principles of current museum practices as outlined in policy guidelines for the Association of Systematics Collections, International Council of Museums and the American Association of Museums. It will be expected that all Museum personnel will be familiar with this Museum Policy and Code of Ethics.

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SCOPE OF COLLECTIONS

Mission Statement

The Museum of Southwestern Biology (MSB) documents, acts as a repository for, and interprets biological diversity in order to increase and disseminate knowledge of our natural environment.

History

The MSB, a University operated and bound museum, conducts original research of national and international significance on the systematics, ecology, and life history of vertebrates, plants, and invertebrates. The MSB services the national and international scientific community by providing identifications, information, and research access to the collections and associated records under its care.

The collections of plants, invertebrates, and vertebrates are housed in Casterter Hall of the University of New Mexico (UNM) and originated from the collecting efforts of Edward F. Casterter beginning in 1928. Formal management and maintenance of collections began in 1936 when William J. Koster joined the UNM faculty. He instituted the museum tradition whereby the Museum eventually formed into six divisions over the next few decades. From his "UNM Herbarium" and the "UNM Collection of Vertebrates" we now have the UNM Herbarium and the Divisions of Arthropods, Fish, Herpetology, Birds, and Mammals. At present, the collections consist of more than 88,000 plant specimens, 15,000 arthropods, 21,000 lots of fishes, 57,000 reptiles and amphibians, 18,000 birds, and 105,000 mammals. A seventh division, formed in 1977, is the Division of Biological Materials. This division holds approximately 70,000 frozen samples from all MSB divisions.

A recent addition to the MSB is the relocation of the Western Biological Survey Collections of the Midcontinent Ecological Science Center of the National Biological Service (NBS). The collection includes over 40,000 voucher specimens of vertebrates, many of which are from federal lands in the western United States.

Future Directions and Collections Considerations

The MSB will continue efforts to improve its ability to better achieve its mission. Directions for the immediate future include the improvement of information transfer via electronic enhancements and increased ability to address scientific questions across a variety of disciplines. Further integration of research and teaching will continue, as will outreach to the private sector.

CODE OF ETHICS

The objective of the MSB Code of Ethics is to establish a framework in which Museum staff perform their duties in accordance with standards established by the museum and scientific communities. Further, the MSB recognizes the various codes of ethics established by the International Council of Museums, Association of Systematics Collections, American Association of Museums and the University of New Mexico.

The following statements summarize MSB standards for Museum personnel in behavior and attitude:

To use only the most acceptable preservation, conservation and management techniques for collections, recognizing that the MSB has been given stewardship of a natural heritage.

To accept the responsibility that specimens and their byproducts that are inherently hazardous, or have been made so through preparation or fumigation practices, are clearly identified or inaccessible (in some cases) to researchers and other staff.

To collect specimens without detriment to their habitat, populations, or other biota therein.
To collect specimens only with official permission and permits. Likewise, to accept only legitimately collected specimens into permanent collections.

To accept and/or collect specimens that further enhance the scientific and educational value of the existing collections.

To neither modify nor conceal specimens and associated documents. The curator of each collection has the responsibility to withhold specimens and associated documents in cases where dissemination of information may jeopardize sensitive or protected species, or the particular research of students or staff of the Museum for the duration of their involvement.

To make MSB collections and their documents available to all qualified users. Access will be denied to qualified users only when the user fails to adhere to Museum Policy, misrepresents their research, or misrepresents the MSB collections.

To adhere to the University of New Mexico's equal opportunity guidelines in its employment practices.

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References:

ad hoc Committee on Acceptable Field Methods in Mammalogy. 1987. Acceptable field methods in mammalogy: preliminary guidelines approved by the American Society of Mammalogists. *Journal of Mammalogy*, 68(4):1-18. Supplement.

American Association of Museums. 1991. Code of Ethics. AAM, Washington, D.C. 4 pp.

American Association of Museums Curators Committee. 1983. Code of ethics for curators. *Museum News*, 61:38-40.

American Association of Museums Registrars Committee. 1984. Code of ethics for registrars. *Museum News*, 63:42-46.

American Society of Ichthyologists and Herpetologists, The Herpetologists' League, and Society for the Study of Amphibians and Reptiles. 1987. Guidelines for Use of Live Amphibians and Reptiles in Field Research. 14 pp.

Feldblum, M. 1989. University of New Mexico Employee Right to Know Handbook. UNM Employee Occupational Health Services, Albuquerque. 30 pp.

International Council of Museums. 1990. Statutes and Code of Professional Ethics. ICOM, Paris. 35 pp.

Malaro, M.C. 1989. Collections care and accountability: Legal and ethical standards. in *Legal Problems of Museum Administration*, ALI-ABA Course Study Materials, 20-22 March 1989, Washington. American Law Institute, Philadelphia. 351 pp.

Museums & Galleries Commission. 1992. Standards in the Museum Care of Biological Collections. Museums & Galleries Commission, London. 55 pp.

University of New Mexico. 1989. Staff Employee Handbook. UNM, Albuquerque. 20 pp.

COLLECTIONS CARE AND USE POLICY

Introduction

The MSB collections are, first and foremost, research collections. They are available to legitimate users from the national and international scientific community. Each division imposes more specific policies for use of its collections while at the same time operating under the general scope of the MSB. Specimens may be used for research, exhibit, and educational purposes. Owing to their manner of preservation, specimens generally are not suitable for display in exhibits; nonetheless, scientific specimens are used in exhibits when appropriate. Similarly, selected examples may be used in teaching and as models for preparing illustrations for publication. The governing consideration in any use of Museum specimens is the conservation of specimens in particular and the collections as a whole.

Collection Access

Access to collections is permitted for research and educational purposes. Use of the collections is by approval of the divisional curator or his/her designee, usually the collection manager. Individuals or representatives of organizations who wish to use the MSB collections for commercial purposes or who may profit financially from its use are given access at the discretion of the divisional curator. These users may be charged a service fee which will be deposited into a divisional discretionary fund.

The MSB has the right to deny access to individuals or representatives of organizations who propose to use the collections in ways that are contrary to the objectives of the Museum. Reasons may include: excessive costs to the MSB in terms of staff effort and use of facilities, compromised security of the MSB collections and buildings, unauthorized consumptive use of specimens, a history of misuse and mishandling of Museum materials at the MSB or other institutions, misrepresentation of credentials and affiliations, criminal activity, or disorderly or disruptive conduct.

Loans

Loans constitute the primary method of access for the majority of collection users. Specimens and other Museum materials (such as collateral material) may be loaned to researchers at established, scientifically recognized institutions. Loan requests are made in writing and should include the nature of the research and must be approved by the divisional curator. Students may be asked to include the signature of their supporting faculty member (accepting responsibility)

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both for requests of collection information and for loans of specimen material. Electronic mail requests must be followed by a letter of request on institutional stationery. Facsimile requests on letterhead are sufficient.

Loans may be denied or limited because of size or number of specimens or because of the fragility, rarity, or uniqueness of the specimen(s). Borrowing institutions must meet minimal standards (as defined by professional organizations) for security, storage environment, and handling of specimens. Future loans are contingent on previous care provided to MSB specimens.

The duration of each loan is specified by the division making the loan, and will not exceed one year. A renewal period may be negotiated prior to the return date of loaned material.

Loan shipments are made in accordance with the Lacey Act of 1903 and the United States Department of Interior regulations concerning the, "Import, export, and interstate transportation of wildlife", CFR 50.14 (Appendix I, II).

All MSB specimens cited in published works must be identified by their catalog numbers and standard institutional code: **MSB** (Arthropods, Fishes, Herpetology, Ornithology, and Mammals); **UNM** (Herbarium); and **NK** (=New Mexico **K**ryovoucher, Division of Biological Materials). The MSB requests two copies of the resulting published work (one for divisional publication files and one for MSB library) sent to the Museum division that provided specimens for the cited research.

Loans within the Department of Biology are allowed for research, teaching, and demonstration purposes with permission of the divisional curator. However, the borrower (Department of Biology ultimately) is accountable for such specimens. Any person removing specimens, Museum materials, or equipment from the building without following standard loan policy may be denied access to the Museum's collections in the future. All students, staff, faculty, and visitors are subject to this Loan Policy.

Collection Visits

Visitors to the collection should call or write in advance of their visit to the MSB by contacting the divisional curator or collection manager. First-time users of collections are trained in specimen handling and collection arrangement before access to the collections is granted. All specimens used for study are reinstalled by MSB staff. No food or drink is allowed in the collection areas.

Consumptive analysis

Requests for consumptive analyses of Museum specimens will comply with the following restrictions: consumptive sampling is not allowed without prior written approval from the curator of the division where the samples are sought; researchers must refer to divisional guidelines on how consumptive sampling is to be accomplished and documented; and residual products resulting from consumptive sampling (e.g., parasites, DNA strands, gut contents, karyotype test slides) are to be returned to the MSB with two copies of any written reports or published results.

Exhibits

Loans of material for exhibits must comply with the MSB Loan Policy specifically as it relates to long-term storage, security, and environmental conditions. Before it is displayed, material must be correctly identified to species (if possible), cataloged, and the MSB must be acknowledged. MSB specimen tags are to remain on specimens at all times; tags are never removed from MSB specimens.

Tours

Educational tours of the collection may be provided as staff time allows.

Special Collections

Most divisions maintain **teaching collections**. Representative taxa in these collections are used on a regular basis by students in courses or in exhibits and demonstrations. Specimens in teaching collections are documented (usually with their own, separately maintained catalog) and stored separately from the main cataloged collections.

Reference collections are a loaned portion of research collections for periods of time in excess of the normal loan period. For instance, a reference collection is maintained at the Sevilleta National Wildlife Refuge, LTER site, near Socorro, New Mexico, for personnel to verify specimens collected locally. Although this collection is remote from the main collections, users must comply with the Loan Policy relative to care and management of the specimens (e.g., proper storage and handling, adequate security, acceptable environmental conditions, and commitment to long-term preservation). Reference collections can be recalled at any time if MSB staff determine proper care and management are not provided or the collections are no longer needed.

Unprocessed or Uncataloged Research Material

All unpublished products of research activities (for instance, data sheets, owl pellet remains, electrophoretic gels, field books, blood samples) may be loaned to another organization or researcher after a reasonable length of time, with written permission by the original researcher or her/his designated agent (e.g., major advisor). Researchers must cite MSB catalog numbers in published reports even if that material was uncataloged at the time it was loaned to that researcher.

Collection Care

Collection care and conservation are the responsibility of staff members directly involved with specimens: curators, collection managers, curatorial assistants, and Museum technicians.

Curators are ultimately responsible for the collection, determining direction of growth, and assisting the Director in securing adequate funding for normal Museum operations. Collection managers are under the supervision and guidance of the curator. Collection managers are responsible for the care, management, and maintenance of the collection, loan activity, access to specimens and data, and coordinating the activities of curatorial staff.

Procedures for care and maintenance shall be consistent with current conservation information and meet professional standards within the discipline. MSB staff shall be instructed by collection managers how to recognize potential threats to specimens and to initiate appropriate conservation techniques. Collection managers shall receive appropriate training, and attend meetings and workshops as needed to keep current on matters pertaining to collection care.

Food, drink, and living plants and animals are not allowed in the collection areas. All collection areas shall be kept pest-free. An Integrated Pest Management (IPM) plan shall be designed and adhered to in order to monitor pest invasion and to execute localized eradication efforts. Necessary division-wide fumigation will be implemented as needed by trained personnel with the consent of the Director.

Each division holding Type or otherwise irreplaceable specimens recognizes their extreme importance and takes extra precautions in their use, protection, care, and conservation.

Rights

All materials housed or produced by, or donated to the MSB are property of the Regents of the University of New Mexico. Federal specimens curated by NBS remain the property of the United States Government. Use of these materials may be granted to bona fide

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individuals and agencies for acceptable purposes as approved by the divisional curator. Any person or activity that is not consistent with the philosophy, scope, or spirit of the MSB (and thus violates the Museum's mandate) may be denied all or part of the holdings and services of the Museum.

References:

Alpert, G.D. and L.M. Alpert. 1988. Integrated pest management: A program for museum environments. Pp. 169-173, in A guide to museum pest control (L.A. Zycherman and J.R. Schrock, eds.). Foundation of the American Institute for Conservation of Historic and Artistic Works and the Association of Systematics Collections. 205 pp.

Fink, W.L., et al. 1979. A report on current supplies and practices used in curation of ichthyological collections. ASIH ad hoc Subcommittee Report. 63 pp.

Forman, L. and D. Bridson. 1989. The Herbarium Handbook. Royal Botanic Gardens, Kew. 214 pp.

Genoways, H. H., C. Jones, and O. L. Rossolimo. 1987. Mammal collection management. Texas Tech University Press, Lubbock, TX. 219 pp.

Simmons, J.E. 1987. Herpetological collecting and collections management. Society for the Study of Amphibians and Reptiles Herpetological Circular No. 16:1-70.

Smithsonian Directives Transmittal. 1992. Office memorandum 808 (Rev), Collections Management Policy - Revised Edition.

Williams, S. L., R. Laubach, and H. H. Genoways. 1977. A guide to the management of recent mammal collections. Carnegie Museum of Natural History, Special Publication No. 4. 104 pp.

ACCESSION AND DEACCESSION POLICY

Accession

Acquisitions of natural history collections are normally derived from **gifts, exchanges, and museum sponsored field activities**. These collections are accessioned if they fulfill the objectives of MSB.

Each division accepts collections acquired legitimately, according to the laws and regulations of the international, federal, and state agencies dedicated to the protection of fauna and flora. All appropriate permits, import, and export documents are retained in each division's accession files for public inspection.

Each accession file is recorded and organized so that original documentation (collecting permits, proofs of title, export/import forms, field notes, correspondence, and invoices) is easily accessible.

Each division has written collection goals and principles. These guide the division in accessioning collections which augment the current holdings of the division, assist in current research and educational requirements, and are within the scope of the MSB.

Dispatching institutions and donors of specimens are acknowledged in an official and timely manner by MSB staff. Any conditions, terms of acceptance, or policies to be adhered to by the MSB are noted in the accession records. Only preconditions or terms that do not constrain the Museum's full stewardship of the collections are accepted.

Each division assumes full stewardship for collections it accepts. This includes the principle that **minimal standards of care** will be provided for specimens and original documents received.

As part of the accessioning protocol, the MSB expects in most cases that all available original documentation and field notes accompany collections received from museum sponsored field activities and gifts. These data will be held in each division's library and stored according to recommendations made by professional societies of librarians and archivists (see Documentation Policy, Section 5).

The monetary value of an accession is not assessed by MSB staff. Depositors may not request this service of staff nor require MSB involvement in locating this service as part of the agreed conditions. The only exception may be for insurance purposes and those evaluations will be considered confidential information for primary parties only (i.e., the MSB and the donor.)

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Reports of museum acquisitions in the form of gifts (see Appendix III) will follow current University of New Mexico requirements. Gifts to the MSB are subject to the Board of Regents approval.

Deaccession

As a steward of natural history collections, the MSB recognizes its role as a caretaker of the wider scientific community's intellectual property. However, the permanent removal of cataloged specimens from the MSB collections may be done for sound scientific and curatorial reasons. Therefore, the following are acceptable conditions for formal deaccessioning procedure:

Exchanges: This is an agreement between the MSB and another museum to transfer specimens of equal scientific value and to mutually relinquish their respective stewardship over those collections.

Transfers of Collections: This is an agreement between the MSB and another museum that the MSB will relinquish its ownership of collections that no longer serve a purpose to the MSB (or require more accessibility to the wider scientific community). Collections are transferred only to institutions which can assure the MSB that minimal standards of care will be provided for those collections. In these transactions, the MSB does not require specimens in return. Primary types may be transferred depending on the discipline's attitude regarding stewardship of these important specimens. (see Lachner 1976).

Institutional Sharing: This is a decision made by a MSB division to share an important series of specimens with another peer institution or museum with international recognition in order to increase accessibility to those specimens (e.g., dividing a paratypic series among several museums or institutions.)

Discarding Specimens: Destruction of cataloged specimens can sometimes occur by natural disasters, museum pests, and consumptive sampling procedures. Each curator may decide which (destroyed) specimens no longer have scientific value and informs the Museum Director of his/her intention to discard these specimens. The Museum Director will inform the Museum staff of a division's intention to discard cataloged specimens and will seek their opinion on the matter. Original documentation for discarded specimens is always retained by the MSB. Holotypes and Type series are **never** discarded, regardless of their condition. Gifts made through the University of New Mexico by approval of the Board of Regents are subject to formal procedures of deaccessioning.

Generally, original documentation of deaccessioned specimens will be retained by the MSB divisions.

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Exchanged, transferred, and shared specimens will retain original specimen labels and those labels will be transferred with the specimens. Photocopies of other original documents (field notes, accession files and correspondence) will be provided.

MSB catalog numbers assigned to deaccessioned specimens are not reassigned. The catalog entries are amended to show the status of those specimens and the date of deaccessioning.

References:

Lachner, E. A. (Chair). 1976. A national plan for ichthyology. A report to the American Society of Ichthyologists and Herpetologists by the ASIH Advisory Committee. 90 pp + 7 appendices.

DOCUMENTATION POLICY

The objectives of this Policy are to define documentation, establish standards on care and maintenance, and describe permissible forms of use.

Documentation is defined "as supporting evidence, recorded in a permanent manner using a variety of media (paper, photographic, electronic, etc.), for the identification, condition, history, or scientific value of a specimen, artifact, or collection. This encompasses information that is inherent to the individual specimen and its associations in its natural environment as well as that which reflects processes and transactions affecting the specimen (e.g., accessioning, cataloging, loans, sampling, analysis, treatment, etc.). Documentation is an integral aspect of the use, management, and preservation of a specimen, artifact, or collection." (Cato et al. 1994)

Maintenance of MSB original documentation follows recommendations by professional societies such as the Society of American Archivists (Deiss 1984; Ritzenthaler 1983) and American Institute for Conservation of Historic and Artistic Works (Kushel 1980).

MSB documents are available for any legitimate (i.e., noncommercial, research) use. All requests to use MSB documents are subject to the approval of divisional curators. Users must follow divisional guidelines on proper use and handling of original documents. Intentional misuse, alteration, removal, or destruction of MSB documents will result in the denial of future access to documents.

Loans of original documents (field notes, correspondence, accession files, catalogs and NK books) are not granted. However, loans of other forms of supporting documents may be granted. These include radiographs, photographs, photocopies, and slides.

Reproduction of MSB documents is not allowed without the expressed consent of the divisional curator. Methods of reproduction can be restricted or denied to prevent damage to original documents.

Public display or publication of MSB documents (or their copies) must acknowledge the MSB as the source of these documents.

As with MSB specimens, when MSB documents are cited in any published work, two copies of the paper must be provided to the division.

Documents no longer relevant to MSB will be transferred to the University of New Mexico Libraries' archives upon approval by the MSB Director.

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Archives (documents of relevance but no longer actively used) are subject to the same restrictions and guidelines as documents in current use (see Collections Care and Use Policy, Section 3). The physical integrity of archives is maintained according to methods recommended by such professional societies as the Society of American Archivists (Deiss 1984; Peterson and Peterson 1985; Ritzenthaler 1983).

Magnetically stored data, electronic catalogs, and specimen database files are subject to specific policies and are addressed separately in this policy manual (see Database Policy, Section 6).

References:

Cato, P. S., B. Webb, D. Duckworth, J. Klein, B. Moore. 1994. Guidelines for collection care in natural history museums. Society for the Protection of Natural History Collections, working document. SPNHC Newsletter.

Deiss, W. A. 1984. Museum Archives: An Introduction. Society of American Archivists, Chicago. 37 pp.

Kushel, D. 1980. Photodocumentation for Conservation: Procedural Guidelines and Photographic Concepts and Techniques. American Institute for Conservation of Historic and Artistic Works, Washington, D.C.

Peterson, G.M. and T.H. Peterson. 1985. Archives and Manuscripts: Law. Society of American Archivists, Chicago.

Ritzenthaler, M. L. 1983. Archives & Manuscripts: Conservation. Society of American Archivists, Chicago. 151 pp.

DATABASE POLICY

Specimen-based databases are defined as catalog records (derived from museum specimen labels and field notes, etc.) in any form, including electronic databases, catalog card files, and images (e.g., photographic or digitized).

The MSB may share (subject to database availability) its electronic institutional databases. MSB institutional databases may include collection catalogs and Type registers. Each division has policies that detail the availability of access, restrictions, transfer of data agreements, fees, and issues of data integrity. Users who fail to comply with MSB guidelines may be denied future access. Unusual cases or requests may require the approval of the Director.

Data transfer or data-sharing agreements must precede the actual transfer of data, and should include a statement of the mission of each party. Collaborative research is reciprocal and requires no payment, however reasonable fees may be charged to users outside the systematics community, including for-profit institutions.

MSB desires to release only accurate data but users must be aware that specimen-based databases are continually being updated as species delineations and nomenclatural changes occur. Both specimen examination and verification of identification remain the responsibility of the primary researcher. MSB does not accept responsibility for the accuracy of data taken by the user.

MSB may establish restrictions to certain data fields (e.g., localities of endangered species), or data involving current research by staff or students. In addition, the MSB requires the presence of a curator or collection manager when the collections database is being consulted.

MSB database records may not be released in whole or part to any individual without the expressed written consent of the Director and curator.

The user must acknowledge MSB as the source of specimen data, and must provide the MSB with two copies of any publications, research reports, or completed projects.

References:

Hathway, E.C., and K.E. Hoagland (eds.). 1993. ASC Guidelines for Institutional Database Policies. The Association of Systematics Collections, Washington, D.C. 76 pp.

HEALTH AND SAFETY POLICY

The MSB is committed to providing a safe and healthful environment for staff, volunteers, and visitors, as well as minimizing risks to its collections. It is the goal of MSB to conduct its activities in a safe manner through recognition, evaluation, and control (reduction or elimination) of health and safety risks.

Authority and Responsibilities

The Museum coordinates its safety efforts with the University Occupational Safety Office and complies with Federal, State and local laws and regulations. Safety efforts are shared by staff, Museum workers, and visitors alike. The Museum Director is ultimately responsible for implementation of and compliance with all environmental health and safety policies. Curators ensure compliance of their staff with the applicable requirements of these policies. Collection managers (or those directly responsible for supervising workers) are responsible for providing safety orientation to new workers; training employees in safe work practices, and ensuring that employees have and use the appropriate personal protective equipment. It is the employee's responsibility to observe and follow all safety and health policies; wear personal protective equipment that has been provided; use all machinery and equipment in a safe manner; and report any accident, injury, or unsafe or unhealthful condition to their supervisor. Similarly, visitors are encouraged to observe and follow all applicable Museum safety and health policies.

Hazard Recognition (Identification)

Safety inspections of the collection areas and laboratory facilities are conducted on a regular basis to determine potential or actual safety, health, or environmental hazards. The inspection will be conducted by the University Campus Safety Office and an ad hoc Museum Safety Committee. Any identified hazards will be brought to the attention of the curator of the division where the hazard occurs. The Committee and Safety Office will make recommendations to minimize or eliminate these hazards, and will evaluate the results of any previous action taken.

Hazardous materials can be biological (e.g., blood, tissues) or chemical (e.g., fixatives and preservatives, pesticides). They can be found throughout collections, in the museum specimens themselves (e.g., bird and mammal skins treated with arsenic or pesticides) as well as in the storage medium (e.g., fishes, amphibians, and reptiles stored in formalin or

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alcohol; and storage cabinets coated with lead-based paint). The Museum staff needs to be aware of the actual and potential sources of hazardous materials in the collections and work areas, as well as historical and current treatments of specimens.

Hazard Elimination or Control

Listed below are various types of safety equipment and supplies located within the divisions:

Safety Equipment and Supplies:

- Environmental monitoring and detection devices (hygrothermograph);
- First aid equipment (first aid kits, emergency eyewash stations);
- Fire detection and suppression equipment (fire extinguishers, pull down fire alarms);
- Clean-up equipment ("sharps" container, biohazard container);
- Protective clothing and equipment (fume hoods, gloves, safety goggles, half- and full-face respirators with high-efficiency particulate air (HEPA) and/or organic chemical cartridges).

Good Museum Practices:

- Smoking, eating, drinking, and living plants and animals are prohibited in collection and work areas;
- Do not discard hazardous wastes down the drain or in the trash; non-hazardous wastes may be diluted with water and flushed down the drain (refer to MSB's "Hazardous Waste Management Guidelines" for additional information);
- All accidents or spills must be cleaned up at once and reported to museum personnel immediately;
- All containers must be properly labelled and stored (see MSB's "Hazardous Waste Management Guidelines");
- "Sharps waste" (e.g., broken glassware, scalpels, hypodermic syringes, needles) must be deposited in a "sharps" container or wrapped in several layers of paper towels before being deposited in waste cans);
- The fume hood must be used when working with volatile or hazardous chemicals (e.g., ammonia, alcohol, formalin);
- All electric appliances must be turned off and unplugged after use;
- After use, all equipment and supplies must be cleaned and properly stored. Work areas must be cleared and put in an "as found" condition.

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Personnel

Training: Supervisors are responsible for determining the training necessary for employees to recognize and handle on-the-job hazards. Supervisors shall supply employees with personal protective equipment, provide training, or make provisions for formal training if necessary. Examples of formal training include: respirator use, electrofishing, and formaldehyde hazard awareness. Supervisors may require periodic training or re-training in health and safety and will notify their employer to correct these deficiencies. Each work location or division should have at least one individual currently certified in cardiopulmonary resuscitation and first aid.

Testing and Monitoring: All hazardous materials have established permissible levels and most can be easily monitored (e.g., formaldehyde, inorganic arsenic). The Museum coordinates with the University Occupational Safety Office, which has primary responsibility for these activities.

References:

Department of Occupational Safety. 1990. Hazardous Waste Management Guidelines. 28 pp.

HAZARDOUS WASTE POLICY

This Policy applies to all Museum employees who have potential for exposure to hazardous materials in the work environment. A hazardous material is defined as any material which by reason of being particularly reactive, explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful is likely to cause injury or death to employees, or destruction of property. When no longer useable, this material becomes a hazardous waste. Hazardous wastes can be biological (biohazardous) and include infectious wastes such as bacteria, viruses, and bodily fluids. Chemical wastes are non-radioactive chemicals that meet any of the criteria listed above for hazardous materials. Refer to the University's "Hazardous Waste Management Guidelines" for a list of hazardous chemicals and their reactivity.

The objectives of this Policy are: to define the role of supervisors and employees relative to hazardous wastes; to provide employees with information concerning the storage and disposal of biohazardous and chemical wastes; and to reduce the incidence and/or likelihood of workplace injuries and illnesses from biohazardous and chemical exposures.

Authority and Responsibilities

The University has delegated authority regarding the collection and disposal of hazardous wastes to the Department of Occupational Safety. Nonetheless, the Museum is aware of its role in providing a safe and healthy environment to its staff, volunteers, and visitors. The Museum Director is responsible for ensuring compliance with all environmental health and safety policies. Supervisors (curators and/or collection managers) must inform employees of all harmful agents associated with their work environment, as well as how to protect themselves from danger. Employees are responsible for knowing the Museum's Policy and notifying their supervisor of potentially harmful agents.

Storage of Hazardous Materials

Hazardous materials must be stored in approved storage containers which meet OSHA (Occupational Health and Safety Administration) requirements, and accompanied with a Material Safety Data Sheet (MSDS; see below). Small quantities may also be stored in any metal cabinet in other areas provided that the container is labelled appropriately (i.e., CAUTION: FLAMMABLE).

Material Safety Data Sheet

The MSDS is required for any hazardous chemical stored at MSB and shall be clearly posted where the hazardous material is used or stored. The MSDS is "required reading" for all employees working at that worksite prior to initial use of the material.

Chemical Inventory List

A list of all hazardous (and potentially hazardous) chemicals shall be completed by each division and updated annually. The list should contain, as a minimum, the following information: name of chemical, amount, and storage site. Each division should try to minimize the quantity of hazardous chemicals and should reassess on an annual basis the need to retain such chemicals.

Container Labeling

All hazardous or potentially hazardous materials shall be stored in the original container which carries a warning label listing the chemical name, hazardous ingredients, hazard warnings, and the manufacturer's name and address. Transfer of chemical products from one container to another is permissible provided that the new container is properly labeled and meets OSHA and NFPA (National Fire Protection Act) standards. Transfer of flammable liquids requires that both containers are grounded and bonded together with a bonding wire.

Training

Employees are to be informed of all hazardous chemicals in their work areas at the time of their initial assignments, and whenever a new hazard is introduced into their work areas. Minimum training shall include a review of the University's "Hazardous Waste Management Guidelines" and a briefing on the types of hazardous substances that the employee will come in contact with.

Disposal of Hazardous Chemicals

This information should be listed on the appropriate MSDS. In general, **no** hazardous wastes can be disposed of down the drain or in the trash. Contact the University's Health and Safety Office for information on disposal of specific chemicals.

Disposal of Biohazardous Wastes

Biohazardous wastes are sealed in an autoclavable "biohazard bag" and autoclaved within the Department of Biology. Animal wastes which are not considered to be hazardous are bagged and transported to Veterinary Diagnostic Services for incineration. The material is stored in a "waste freezer" if it cannot be processed immediately. Refer to divisional policies for additional information on the disposal of biohazardous wastes.

References:

Department of Occupational Safety. 1990. Hazardous Waste Management Guidelines. 28 pp.

EMERGENCY PREPAREDNESS POLICY

The basis for this Policy is to provide guidelines in emergency situations and to reduce the adverse effects to collections and personnel in the event of an emergency. This Policy will identify potential emergencies, provide a high level of preparedness for emergencies in order to reduce adverse effects to collections and personnel, and outline areas for further policy development for each divisional emergency plan.

Potential emergencies include damage to the collections or personnel due to fire, flooding, power failure, earthquake, weather damage, or human factors such as vandalism, theft, or civil disorder. In the event of a disaster, personnel (Museum staff and emergency personnel) on the scene must follow the MSB and divisional emergency preparedness and disaster plan (in preparation).

Specific risk areas are those that contain flammable materials, are in a poor location (such as a basement or near windows), or have poor storage designs (unstable shelving or malfunctioning cases). Sensitive collections (such as cryovouchers), valuable specimens (Types, endangered species, furs, ivory), and documentation are all areas in need of risk assessment.

Some methods of reducing risk include location of specimens in buildings that are dedicated to house museum collections. The physical structures and equipment housing specimens must be disaster-resistant. Staff are urged to advise the Museum Director of inadequate collection care due to building placement, placement of collection areas within buildings, or poor physical structure of the facilities.

Mitigation strategies include proper training of all MSB personnel including instructing personnel of all available resources (expertise, alternative storage areas, supplies and equipment for disasters, and medical, fire, and security services) for emergency preparedness.

Recovery strategies include establishing authorities, identifying secure specimen holding areas, and developing methods to assess damage. The UNM Department of Biology Annex and the New Mexico Museum of Natural History are alternative sites for partial safe specimen storage. Other collections and experts who have had experience with disasters will be consulted for both recovery and assessment of damaged collections. Collection staff from other collections will be contacted to help in disaster recovery and to assist in short-term replacement of supplies. All steps of the recovery process will be documented by written descriptions and photographs. It is advisable for each division to maintain a photo record of current collection areas for use after a disaster.

GLOSSARY

Accession(ing):

Formal process of collection registering used to legally accept and record a specimen as an item added to a collection. Accessioning involves the creation of an immediate, brief, and permanent record utilizing a control number for the specimen or a group of specimens added to the collection from the same source at the same time, and for which the institution has custody, right, or title. In some divisions (e.g., Fishes), loaned material is accessioned into that collection for the duration of the loan period. When that loan is returned to the parent institution, it is then deaccessioned.

Archive:

The storage of collection-related material that is no longer actively used.

Cataloging:

Creating a full record in complete descriptive detail of all information about a specimen or group of specimens (lots), cross-referenced to other records and files; includes the process of classifying and documenting specimens in detail.

Collateral material:

Accompanying or associated material that is part of the primary specimen. This material usually takes the form of tissues, cell suspensions, parasites, vocalizations, chromosomes, genetic extracts or amplifications. Collateral material is curated and referenced by the NK number.

Collecting:

The process of sampling or surveying the natural world using a variety of techniques that are dependent on the organism or material being obtained and on the research methods that are likely to be used on the collected sample.

Collection:

1) A group of specimens with like characteristics or a common base of association (e. g., geographic, taxonomic, donor); 2) an organizational unit within a larger institutional structure (e.g., a collection within a university biology department)

Collection Management:

The responsibility and function of an institution that fosters the preservation, accessibility, and utility of the collections and associated data. The management process involves responsibilities for policy development and implementation, specimen acquisition and collection growth; planning and establishing collection priorities; obtaining, allocating, and

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managing resources; and coordinating collection processes with the needs of curation, preservation, and specimen use. These responsibilities may be shared by collection managers, subject specialists, and other institutional administrators.

Collection Manager:

A professional staff member whose main duties are collection management.

Conservation:

The science of stabilizing a specimen or collection by retarding those factors that contribute to its deterioration by physical and chemical means. This involves activities such as preventative conservation, examination, documentation, treatment, research, and education.

Consumptive (=Destructive) Sampling:

A process whereby a portion of a voucher specimen is removed and used in techniques that alter that material from its original state.

Curation:

The process whereby specimens are identified and organized according to discipline-specific standards using the most recently available scientific literature and expertise; a primary objective of this process is to verify identifications, recognize new classification systems by the arrangement of specimens, and assess the status of specimens.

Curator:

A full-time faculty member in the Department of Biology whose responsibility is to curate a divisional collection; these duties may be designated with the approval of the Director. The NBS collections are the responsibility of the NBS curator (a Federal employee). Usually, the curator has a systematic, taxonomic, evolutionary research interest in one or more of the taxonomic groups held in their division. The curator also sets and enforces policy, procures funding for the division, supervises the division's collection manager, and reports to the Director of the MSB and Chair of the Department of Biology.

Curatorial Assistant:

In the MSB, each division is assigned a graduate student to assist the curator and collection manager in specimen cataloging, taxa-specific curating, and loan preparation. These part-time assistantships are offered to Biology graduate students and are part of graduate Teaching Assistant (TA) assignments. These curatorial assistantships were added to the TA pool in the mid-1970's to support the museum and to supplement graduate support. Curatorial assistants are selected by curators annually.

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Deaccession:

The formal process used to permanently remove a specimen from a collection.

Deterioration:

Degradation of a specimen's physical state or loss of specimen-specific data.

Director:

A faculty member who was a curator previously, who is ultimately in charge and responsible for all aspects of the MSB. The Director is selected from among the current curators by acclamation.

Division:

One of seven units of the MSB. The divisions are the UNM Herbarium, Division of Arthropods, Division of Fishes, Division of Herpetology, Division of Ornithology, Division of Mammals, and the Division of Biological Materials. The Biological Materials Division comprises collateral materials from the other divisions usually consisting of tissue samples stored in ultracold freezers.

Documentation:

Supporting evidence, recorded in a permanent manner using a variety of media (e.g., paper, photographic, electronic) for the identification, condition, history, or scientific value of a specimen or collection. This encompasses information that is inherent to the individual specimen and its associations in its natural environment as well as that which reflects processes and transactions affecting the specimen (e.g., accessioning, cataloging, loans, sampling, analysis, treatment). Documentation is an integral aspect of the use, management, and preservation of a specimen or collection.

Integrated Pest Management (IPM):

The monitoring for museum pests, evaluation of the extent of pest infestation, and proper treatment of an infestation. Current procedures normally involve treatment of "hot spots" using cryofumigation, thus eliminating the overall use of pesticides in the collections.

Loan:

The lending of MSB specimens within UNM or to another institution. Each division has specific requirements, but all loan requests must be made in writing directed to and approved by a curator of the pertinent division.

Maintenance:

Routine actions that support the goals of preservation of and accessibility to the collections such as environmental monitoring, general housekeeping, providing appropriate storage and exhibition, and organizing a collection.

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Minimal Standards:

Standards outlined and published by professional organizations (e.g., American Society of Mammalogists, 1978. Revised minimal standards. *J. Mammalogy*, 59:911-914) outlining minimum requirements for satisfactory facilities, collection management, use, and financial support.

MSB: Museum of Southwestern Biology.

MSDS: Material Safety Data Sheet.

NBS: National Biological Service. The biological research agency of the Department of the Interior. An office of NBS is maintained within MSB. A major function of this office is the curation and care of Federal specimens.

NFPA: National Fire Protection Act.

NK: The NK or New Mexico Karyovoucher number (recent synonyms New Mexico Karyotype, New Mexico Kollateral) began as a numbering system to keep track of karyotype preparations. The system was derived from TK (Texas Karyotype) system at Texas Tech University. This number is assigned to all collateral material at the time of collection in the field or laboratory. Field NK catalogs are maintained in the same fashion as collector's field notes and catalogs.

OSHA: Occupational Safety and Health Administration.

Preventative Conservation:

A facet of conservation that involves taking steps to prevent deterioration and damage to specimen collections to ensure long-term preservation; includes such activities as risk assessment, development and implementation of guidelines for continuing use and care, appropriate environmental conditions for storage and exhibition, and proper procedures for handling, packing, transport, and use.

Repository:

A collection administered by a non-profit public (includes state and federal) or private institution, that adheres to professional standards for collection management and care (see "Minimal Standards" above) to ensure that specimens acquired will be professionally maintained and remain accessible for future use

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Sampling:

Process of taking a portion of a specimen for analysis. The analysis may be consumptive or nonintrusive to the sample. Also, the systematic and purposeful collecting of an area or organism.

Special Collections:

Collection of specimens isolated for special purposes. Some examples are a divisional teaching collections, cryptogam collection, collection of *os genitalia*, synoptic collection.

Specimen:

An organism, part of an organism, or naturally occurring material that has been collected for a specific purpose, that may or may not have undergone some preparation treatment. It may exist in its original state, or in an alternative form (such as a photograph), or some combination of the two. A specimen may be comprised of one element or many related pieces. It may be composed of one physical or chemical component or represent a composite of materials.

Stabilization:

Treatment of an object or its environment in a manner intended to reduce the probability or rate of deterioration or damage.

Type:

Name-bearer of a taxon. Includes several related usages. A holotype is a single specimen (or part of an organism) used by the author as the Type of a taxon. Paratypes are any specimens in the Type series not designated as the holotype. Symbiotype is the Type host of a newly described taxon of parasite.

Treatment:

Actions taken to stabilize, physically or chemically, a specimen includes stabilization techniques such as preparation, cleaning, mending, and consolidation.

Voucher:

A specimen and its associated data which physically document the existence of that organism at a given time and place; can be used as substantiating evidence.