

SPNHC Newsletter

Society for the Preservation of
Natural History Collections

August 1993
Volume 7 Number 2

PRESIDENT'S REPORT

I want to extend a special thanks to the staff of the Royal British Columbia Museum. The annual meeting was a tremendous success and the hard work that they put into organizing every little detail was obvious to all who attended. As well, I was impressed by the quality of papers presented. Thanks are also due to Cathy Hawks and John Simmons who have completed their terms of office as Member-at-Large. Both contributed greatly to the work of Council and continue to serve the Society in new roles.

The Society has matured greatly in the last few years and we are now a leading force in the management and care of natural history collections. It is amazing how the combined work of a group of dedicated professionals can affect such a change in so little time.

Next year's joint meeting with ASC at the Missouri Botanical Garden should take us even farther in gaining recognition and advancing our goal of improving collections care in natural history museums.

It is especially significant that, this year in Victoria, we awarded the SPNHC AWARD to Mary-Lou Florian and the PRESIDENT'S AWARD to Suzanne McLaren. When a Society recognizes the outstanding achievements of individuals it serves two important functions. First, the individuals are recognized for their special contributions. Second, awards establish standards of professionalism that provide a measure for others to strive for. The awards and the ever increasing quality of papers, both presented at meetings and published in *Collection Forum*, are helping to define levels of collections care professionalism.

A working draft of the "Guidelines for Collections Care in Natural History Museums" is included with this newsletter. The "Guidelines" are not as yet approved but we want to have them ready for full discussion at the annual meeting next year. There is a great deal of work yet to be done and the sessional committee needs your constructive comments not just editorial changes. Remember that the "Guidelines" will help to define professionalism in collections care. We must be certain that they accurately state the Society's position.

We have submitted a grant request to IMS to publish "Storage of Natural History Collections: Basic Concepts". Sales of the book "Storage of Natural History Collections: Ideas and Practical Solutions" are going well. Both publications are

important contributions to natural science collections care.

All of the committees are reviewing their terms of reference and getting on with approved activities. The terms of reference will be reviewed by the Bylaws Committee. They are also currently reviewing the bylaws to bring them in line with current practice and law. This has particular implications with respect to the Canadian Corporation and recommendations will be brought to the membership as soon as possible.

In conclusion, I am pleased to report that the Society is financially stable and is now in a position to consider new initiatives. As well, we have received tax-exempt status in the U.S.A.

--- Jerry Fitzgerald, SPNHC President (#1)

SPNHC 1994 ANNUAL MEETING

May 11-15, St. Louis, MO

Our ninth annual meeting will be held at the Missouri Botanical Garden, May 11- 15. The meeting will be held in conjunction with the Association of Systematic Collections annual meeting. The joint meeting will enable us to continue discussions and coordinate activities on at least three areas of mutual interest: the 1992 Madrid Symposium and World Congress Resolutions, NIC's project on the conservation and preservation of natural science collections, and ASC's Systematics Agenda 2000.

The meeting will begin Wednesday May 11 with meetings of the ASC Board, SPNHC Council and Committees, plus tours and an opening reception. SPNHC and ASC joint panel sessions and working groups will meet Thursday and Friday, May 12-13. There will be a slight alteration in our usual meeting format in that the training workshop will be held before the technical sessions. The SPNHC Education and Training Committee's Workshop on "Risk Assessment" will be held on Saturday, May 14, and will be followed by a day of technical papers on Sunday, May 15. Posters will be on view throughout the meeting. See the enclosed "Call for Papers".

The Missouri Botanical Garden will provide an exciting backdrop for what should prove to be a stimulating and informative meeting. Housing and registration information will be available in the First Circular. Mark your calendars now!

Abstract Deadline: 1 December 1993

--- Ann Pinzl (#3)

1993 AWARDS PRESENTATIONS

PRESIDENT'S AWARD

Suzanne McLaren was the recipient of the President's Award. The award recognizes a SPNHC member for distinguished service to the development and continued success of SPNHC.

Sue has been a pillar of strength in the Society but only a few people really understand just how much she has done. A founding member of the Society, she served as treasurer with three Presidents and, through able direction, brought us out of the red and put us on a stable financial footing. She handled every issue that arose with integrity and professionalism. She has continually done the work of three people for the Society and never used money allocated by the council to provide assistance. She worked us through incorporation in the U.S.A. and stayed on to see us through the whole process until we received tax-exempt status in the U.S.A. During this time she administered the IMS grant and processed orders for the "storage book", handled backorders for journals, and responded to numerous telephone and written requests.

Last but not least, her enthusiasm and determination have been a continuing inspiration to all the Council members who have had the privilege to work with her. Sue truly is a fitting recipient of the first President's Award.

SPNHC AWARD

Mary-Lou Florian was the recipient of the SPNHC Award. The award is presented in recognition of an individual for significant contribution to the objectives of the Society.

Mary-Lou, in her CV, describes her education as "living" and her work history as "a lot". This is certainly true. She has a B.A., M.A. and completed course work for a Ph.D. She worked in a variety of capacities at no less than nine institutions; the last two being Conservator at the Canadian Conservation Institute, and then Conservation Scientist and Chief of Conservation at the RBCM. Now retired, she continues to teach and lecture, and holds the position of Curator Emeritus at the RBCM. During her career, she has published 43 papers in the field of conservation on a wide variety of subjects.

She has also been a teacher and mentor, and has provided direction to the work of others. This is best illustrated in a letter from Dale Kronkright, "She revealed (to her students) the illumination of discovery, the treasure of having done something well and the great joy and collaborative alchemy of having found the product of our combined efforts to be far more important than any one of its parts."

Truly Mary-Lou's career has been one of leadership and contribution to the goals that the Society promotes, and as such she is a deserving recipient of the first SPNHC Award.



left to right: Mary-Lou Florian, Jerry Fitzgerald, SPNHC President, Suzanne McLaren

SPNHC 1993 MEETING WRAP-UP

The eighth annual meeting of SPNHC was held June 8-13, 1993 at the Royal British Columbia Museum, Victoria, British Columbia. The program included 39 oral and poster presentations, informal discussion periods, a computer workshop, collection tours and a special one day symposium on archives in natural history museums.

The keynote speaker was Dr. Geoff Scudder, University of British Columbia, who spoke on the importance of natural history collections in research. Scudder stressed that the possession of type material gives museums a mandate to maintain their collections and that collections are repositories of information documenting global change. They are an essential and integral part of biodiversity studies. Collections are being used now in ways that the original collectors never imagined; however, the value of collections depends on complete and accurate labelling and documentation and on preservation techniques that do not compromise the chemical integrity of tissues.

The meeting offered much food for thought. Scudder's comments were echoed in a later paper on the challenge facing museums being offered large quantities of material seized under CITES. Two papers presented aspects of the use of collections for purposes other than research. Five papers were devoted to the flooding of the Texas Cooperative Wildlife Collection at Texas A&M University in October 1992. This large collection, stored below grade, includes fluid preserved fish, reptiles, and amphibians, frozen tissues, mammal and bird skeletons and skins, and large tanned pelts, as well as field notes and catalog records. Although the TCWC is a life science collection, the accounts of the damage to records and storage equipment were equally applicable to any discipline. Papers on the second morning were presented in two concurrent sessions roughly divided into earth science and life science applications.

The meeting program included two sessions of concurrent discussion groups. The first offered discussions on access versus restrictions in collections; preservation techniques; staffing in natural history collections; and the public view of biological collections. A brief summary of each discussion was presented to the whole meeting the next day. In the second session of concurrent discussions, participants broke into discipline groups. This session was particularly useful, as it offered an opportunity to meet other SPNHC members in the same discipline.

The program was rounded off with a poster session supplemented by commercial displays of storage equipment, computer systems, and conservation supplies; a symposium on computer

applications, tours of the RBCM collections and a full social program.

The formal meeting was followed by an excellent full day symposium on Archives in Natural History Collections, presented by the Education and Training Committee of SPNHC. Invited speakers offered a brief introduction to the subject of archives, including the definition and function of archives, determining what material should go into an archive, archives management, and a round table discussion of the organizational politics of establishing an archive and associated legal issues. The afternoon session included presentations on paper conservation, photographic conservation, and emergency preparedness.

--- Janet Waddington (#2)

SPNHC COMMITTEE ACTIVITIES

1994 AWARDS CALL FOR NOMINATIONS

Nominations are being accepted for both the President's Award and the SPNHC Award.

President's Award: given in recognition of a SPNHC member's distinguished service to the development and continued success of SPNHC. Nominees must have performed significant service to the Society, outside of Presidential positions. Normally this would involve exceptional service to appointed offices, committees, and/or ongoing activities of SPNHC. Nominee must be a current or previous SPNHC member.

SPNHC Award: given in recognition of an individual's significant contribution to the objectives of the Society. Normally a nominee's lifetime achievements will be considered. In addition to the general information required, each nomination for the SPNHC Award should include at least two letters of recommendation. Recommendations need not be from SPNHC members.

For both awards, multiple nominations for the same individual are encouraged. Nominations must include:

Name of nominee

Name of award for which nominee is proposed

Description of the contributions of the nominee and why they are appropriate to the award category

Nominations Deadline: October 30, 1993

Please send nominations to:

Carol Bossert, Chair

SPNHC Award Committee

49 Washington Street

P.O. Box 540

Newark, New Jersey 07101

FAX (201) 642-0459

ELECTION OF OFFICERS, 1994 Final Call for Nominations

This is an important year for the SPNHC Elections Committee with the offices of President-elect, Secretary and two Members-at-Large to be filled. The call for nominations for SPNHC offices was opened at the 1993 Annual Business Meeting in Victoria, BC. Please note that this is the final call for nominations.

Nominations Deadline: October 15, 1993

Please suggest SPNHC members who could serve our society in these offices. Write or send a facsimile to a member of the Nomination Subcommittee, Greg Brown (#4), Sheila Byers (#5), or Judith Price (#6). The Committee will verify membership in good standing and contact candidates to ask if they are willing to stand for office.

CONSERVATION COMMITTEE

The Committee's overall goal is to improve the long-term preservation and care of natural history collections. In the up-coming year, the Committee will focus on increasing information dissemination and investigating the feasibility of forming a purchasing cooperative for archival supplies.

The Assessment Subcommittee will continue its intensive efforts to develop procedures for assessing the condition of fluid-preserved specimens. The Research Subcommittee continues to update and expand its list of conservation research projects currently being conducted on natural science specimens. The Poster Subcommittee will work on designing educational posters. The Documentation Subcommittee, which has been developing collection care guidelines, is now a sessional committee (see the Working Document included with this newsletter).

The possibility of forming a purchasing cooperative for archival supplies will be jointly investigated by the Conservation and Resources Committees. The cooperative recently formed by the Colorado-Wyoming Association of Museums will be used as a model.

Information dissemination efforts for 1993 will include: a second printing of the extremely popular publication, *Storage of Natural History Collections: Ideas and Practical Solutions*; investigating the feasibility of developing a "technical leaflet" series with the Publications Committee; and designing and producing one or more posters that will encourage general awareness of conservation problems and concepts.

--- Carolyn Leckie and Catharine Hawks (Co-chairs)

MODIFYING A FREEZER FOR PEST CONTROL

Freezing is increasingly being recognized as a major part of integrated pest management programs. A temperature of at least -20° C is recommended (with -25°C being best or -4° to -13° F). Acquiring a low-temperature freezer, at a reasonable price, is trickier than it might at first seem. Domestic units (certainly in the U.S.) are not designed to attain and/or hold the required temperatures. Commercial freezers can do the job but are expensive and may be overly large especially for smaller operations.

Upon facing the reality of the freezer market, I had the good fortune at a local appliance dealership to meet two refrigeration service technicians, Mike Klawnsnik and Bart Mosher, who took my problem to heart. I selected a Westinghouse chest freezer (model no. FC083TW) whose external and internal measurements met my needs. However when the lowest temperature settings were used and the temperatures measured, we learned that the temperature ran through a cycle ranging from 0°F through 10° F (-18°C to -12°C) throughout a 24 hour period. They were confident that with certain modifications, desired temperatures could be met and maintained.

To that end, they: 1) bypassed the cold control by rewiring the power cord directly to the compressor; 2) increased condenser capacity by adding a static condenser coil directly to the discharge line of the compressor and prior to the existing cabinet hi-side coil; 3) added a suction line accumulator to stop liquid refrigerant from returning to the compressor; and 4) added a condenser fan to supply ambient air flow over the compressor and refrigerant lines which are necessary to maintain constant and consistent temperatures within the temperature specifications.

It worked. Within two hours from start up, the freezer was operating at -14°F (-26°C). The temperatures levelled off at -18° to -20°F (-28° to -29°C) and maintained these temperatures in ambient air of 40° to 85°F.

Similar modifications should work on other freezers, even older, used models provided they utilize an R-12 system. If there is no appropriate person on staff to perform these alterations, you might check with a local dealership or other refrigeration specialists.

--- Ann Pinzl (#3)

(Editor's note: The modifications cost about \$200, parts and labor. Modifications may void the warranty on the freezer.)

CORRECTION: The correct volume for the February 1993 SPNHC Newsletter should be Volume 7.

**SPNHC 1995
10TH ANNIVERSARY MEETING
TORONTO, ROYAL ONTARIO MUSEUM**

ANNOUNCEMENTS JOBS

San Diego Natural History Museum

Collections Conservation Specialist: This individual: will identify elements in the environment that might affect the condition, safety, and longevity of research collection specimens and act to correct or mitigate negative elements; will be responsible for the physical security of the herpetology, entomology and marine invertebrate collections; will maintain written records of treatments and assist other departments with maintaining secure collections. Minimum requirements include a Bachelor's degree in museum studies with two years experience in collections care or a Master's degree in the biological or geological sciences with four years natural history museum experience. This is a temporary, one year appointment with the possibility of continuation thereafter. Send letter of interest, resume, and 3 letters of recommendation to:

Dr. Geoffrey Levin; Director of Research and Collections; San Diego Natural History Museum; P.O. Box 1390; San Diego, California 92112.

Milwaukee Public Museum

Senior Conservator: The Milwaukee Public Museum seeks to fill the Senior Conservator position by early 1994. Responsibilities include: preventative and interventive conservation; recommendations concerning the building/facility, and exhibit and storage conditions; supervision of staff; cooperating with curatorial sections as to care of collections. Requirements: graduate of a recognized conservation training program with six years of post-graduate experience, preferably in a natural history museum; possess successful grant writing, project management, supervisory and communication skills. Salary commensurate with experience. Send letter of application, resume, and names, addresses and telephone numbers of 3 professional references to:

Human Resources Coordinator; Milwaukee Public Museum; 800 W. Wells St.; Milwaukee, WI 53233

Canadian Museum of Nature

Assistant conservator: The Canadian Museum of Nature, Programmes/Collections is searching for an Assistant Conservator who will work with collections and research staff to implement conservation standards; monitor collections for conservation problems and ensure that conservation standards are being implemented; assist in staff training; test materials; provide assistance in research projects on collections conservation questions; work with exhibits and architectural staff on conservation issues.

You must have a MSc in conservation, 0 to 2 years conservation experience, and basic knowledge

of collections conservation. This position will be staffed as a one year, renewable term. If you meet the above qualifications, send your application to:

Pierre Boivin, Staffing & Official Languages Officer, Personnel Division, Canadian Museum of Nature, P.O. Box 3443, Station "D", Ottawa, Ontario, K1P 6P4 Canada. State competition #2090-93-CMN-OC-015. Statement of qualification is available from Suzanne Danis at (613) 991-0015. **Closing date: 24 September 1993**

La direction des programmes, division des collections du Musée canadien de la nature est à la recherche d'un conservateur adjoint ou une conservatrice adjointe pour collaborer avec le personnel des collections et de la recherche à l'application des normes des collections; surveiller les problèmes de conservation et veiller à l'application des normes de conservation; assister à la formation des employés; soumettre le matériel à des essais; assister aux recherches sur les problèmes de conservation et collaborer avec le personnel des expositions et de l'architecture à résoudre ces problèmes.

Vous devez posséder une maîtrise ès sciences en conservation, de zéro à deux ans d'expérience et une connaissance élémentaire de la conservation des collections. Ce poste sera rempli en vertu d'un contrat renouvelable d'un an. Si vous répondez aux critères ci-dessus, veuillez transmettre votre offre de services à:

Pierre Boivin, Agent de dotation et langues officielles, Division du personnel, Musée canadien de la nature, C.P. 3443, Succursale "D", Ottawa, Ontario, K1P 6P4 Canada. Veuillez indiquer le numéro du concours: 2090-93-CMN-OC-015. L'énoncé de qualité peut être obtenue de Suzanne Danis au (613) 991-0015. **Date limite: 24 Septembre 1993**

Canadian Museum of Nature

Conservator: The Canadian Museum of Nature, Programmes/Collections is searching for a Conservator who will work with collections and research staff to implement conservation standards; monitor collections for conservation problems and ensure that conservation standards are being implemented; train staff; test materials; conduct research to answer collections conservation questions; review exhibits and architectural drawings for conservation content.

You must have a MSc in conservation or equivalent (Bachelor Degree and CAPC accreditation), 5 to 7 years conservation experience and an advanced knowledge of collections conservation. This position will be staffed as a one year, renewable term. Change to permanent status would require your CAPC accreditation. If you meet the above qualifications, send your application to:

Pierre Boivin, Staffing & Official Languages Officer, Personnel Division, Canadian Museum of Nature, P.O. Box 3443, Station "D", Ottawa, Ontario, K1P 6P4 Canada. State competition #2090-93-CMN-OC-014. Statement of qualification is available from Suzanne Danis at (613) 991-0015. **Closing date: 24 September 1993**

La direction des programmes, division des collections du Musée canadien de la nature est à la recherche d'un conservateur ou une conservatrice pour collaborer avec le personnel des collections et de la recherche à l'application des normes des collections; surveiller les problèmes de conservation et veiller à l'application des normes de conservation; former les employés; soumettre le matériel à des essais; mener des recherches pour résoudre les problèmes de conservation des collections; examiner les expositions et les plans d'architecture du point de vue de la conservation.

Vous devez posséder une maîtrise ès sciences en conservation ou l'équivalent (Baccalauréat et certificat de l'ACRP), de 5 à 7 ans d'expérience en conservation et une connaissance avancée de la conservation des collections. Ce poste sera rempli en vertu d'un contrat renouvelable d'un an. L'accession au statut d'employé permanent nécessitera le certificat de l'ACRP. Si vous répondez aux critères ci-dessus, veuillez transmettre votre offre de services à:

Pierre Boivin, Agent de dotation et langues officielles, Division du personnel, Musée canadien de la nature, C.P. 3443, Succursale "D", Ottawa, Ontario, K1P 6P4 Canada. Veuillez indiquer le numéro du concours: 2090-93-CMN-OC-014. L'énoncé de qualité peut être obtenue de Suzanne Danis au (613) 991-0015. **Date limite: 24 Septembre 1993**

SUPPLIES AND SUPPLIERS

University Products, Inc., announces new archival quality hat storage boxes. Constructed of sturdy, 60 pt. unbuffered, blue/gray, acid-free Perma/Dur, the boxes feature rust proof metal edges for superior support and stacking strength. The 13 1/2" square box stands a full 12 1/2" high with a 2 1/2" telescoping lid. The boxes are designed for hats, but may be equally useful for natural history specimens. Contact University Products, Inc. (#9)

University Products, Inc. presents the 25th Anniversary Edition of its Archival Quality Materials Catalog. It features conservation materials, tools and equipment, a fold-out back cover with a variety of helpful information including conversion charts and source lists. For a free copy, contact University Products, Inc. (#9)

Verilux Corporation introduced museum quality lamps which are coated under a patented process with Dupont Surlyn to provide ultraviolet protection (#10).

Technology and Conservation magazine is sent without charge to qualified persons working in or managing programs involving analysis, preservation, restoration, protection, and documentation of art, books and manuscripts, buildings and monuments, historic sites and antiquities. To subscribe contact: Technology and Conservation, 1 Emerson Place, 16M, Boston, MA 02114.

INFORMATION WANTED

The Michigan State University Archives & Historical Center is collecting any information related to preservation and protection of materials collected by archives, museums, historical societies or libraries. They are starting a statewide clearinghouse for preservation and disaster preparedness. If you have materials to contribute, send them to the Museum at W. Circle Drive, East Lansing, MI 48824. (517) 355 2370.

--- M-Link Newsbytes

The Registration Section, Canadian Museum of Nature is interested in obtaining copies of any policy papers pertaining to access to natural history collection, including data. Please forward any information to: Nancy Boase, Registration Section, Canadian Museum of Nature, P.O. Box 3443, Sta. "D", Ottawa, ON, Canada K1P 6P4; tel: (613) 954-2654; FAX: (613) 954-6439.

IMS ANNOUNCES NEW DEADLINE FOR CONSERVATION PROJECT SUPPORT

The Institute of Museum Services (IMS) provides Conservation Project Support on a one-to-one matching basis for collection care and management projects. IMS reviews applications twice yearly. The next application deadline for Conservation Project Support is October 15, 1993. The maximum grant is normally limited to \$25,000.

IMS currently requires a survey by a conservation professional as the first step in funding an institution's conservation program. IMS will provide funds for this highest priority activity. The general survey typically reviews building environment, exhibits, storage and handling, policies, and other elements of care for all of the museum's collections. Once a general survey has been done, IMS will fund detailed condition surveys of specific collections.

In addition, IMS funds requests for conservation treatment. To be successful, proposals must be accompanied by a general survey report and should be accompanied by a long-range conservation plan based on the report.

For complete information or to obtain a copy of the IMS Conservation Project Support application, contact IMS (#15).

NEDCC SERVICES

The Northeast Document Conservation Center (NEDCC) has expanded its photographic copying service and now has the capacity to copy large collections of photographic materials efficiently and cost effectively. The photoduplication laboratory was renovated and equipped with a grant from the National Endowment for the Humanities. With new automated equipment and experienced staff it has the capacity to maintain the highest level of quality control in reformatting nitrate and early diacetate negatives onto safety film. NEDCC welcomes new projects from institutions that hold collections of photographic materials.

In addition to its photographic services, NEDCC offers conservation services and surveys of the preservation needs for paper and related materials, including art on paper, books and documents.

For questions regarding NEDCC services, contact the staff at 100 Brickstone Square, Andover, MA 01810, tel: (508) 470-1010.

HEALTH AND SAFETY NOTES

compiled by Linda Thomas

Through the courtesy of Monona Rossol (#7), SPNHC receives ACTS FACTS, a monthly review of Federal regulations which affect the health and safety of artists, theater or crafts people, and is equally applicable to museum staff. It is published by Ms. Rossol and is available to individuals for \$10 per year.

v.7(4):4 Non-asbestos Minerals. An article titled "Biological Effects of Inhaled Minerals", by George D. Guthrie, Jr., a Los Alamos National Laboratory geologist, compiles data on the biological effects of many non-asbestos clays, zeolites and other minerals. Included are hematite, goethite, lepidocrocite, boehmite, fibrous burcite, kaolinite, halloysite, antigorite, berthierine, chlorite, talc (data on this mineral is outdated), mica and mica-like clays, sepiolite, palygorskite (attapulgitite), erionite, mordenite, and some zeolites. Copies of the 19 page article can be obtained from ACTS for \$4.00 to cover copy costs. (#7)

v.7(6):2 Silicosis from Sandblasting and Rock Drilling. The National Institute for Occupational Safety and Health (NIOSH) has published alerts on silicosis in sandblasting and rock drilling. Both alerts describe cases of silicosis, some fatal, through exposure to the two processes and provide recommendations for reducing hazardous exposure. The alerts would be particularly helpful to geologists, and fossil and rock collectors, and are available as single copies from NIOSH. (#8a&b)

v.7(7):1 Warnings on Prepolymerized Isocyanates. Reactive and potentially toxic isocyanate groups are still found in even the new and supposedly safer urethane products. Many remain untested

for toxicity and so their MSDSs usually do not list them as a hazard. However, an improvement from the older isocyanates is that the new ones are not volatile and therefore become airborne less easily. This is still not ideal given their probably toxicity which is to be assessed by the EPA, so it is recommended to use all two-component urethanes in local exhaust ventilation or with air-supplied respirators.

NEW BOOKS AND SOFTWARE:

The National Institute for the Conservation of Cultural Property is pleased to announce the release of *Preserving Natural Science Collections: Chronicle of Our Environmental Heritage* (by W. Donald Duckworth, Hugh H. Genoways and Carolyn L. Rose). The publication is available for (US \$): U.S. \$8; Canada and Mexico \$9; all other countries \$16.50.

The report synthesizes information gathered from meetings with more than 250 professionals into recommendations and strategies that can be implemented by collecting institutions, research scientists and collections managers, funding agencies and various scientific and collections conservation organizations to improve the care of natural science collections. In addition to a concise executive summary, the report includes a glossary, selected bibliography and the resolutions from the International Symposium and World Congress on the Preservation and Conservation of Natural History Collections, Madrid, May, 1992.

The project also generated 20 reports that summarize meetings with disciplinary societies in the natural sciences and panel discussion on materials sciences. These are also available from NIC for a nominal charge. To order the publication or to receive a list of the summary reports, please contact NIC (#11).

Rochester Institute of Technology announces publication of the *IPI Storage Guide for Acetate Film*, a tool for those involved in the planning and evaluation of storage environments for acetate base photographic film, cinema film and microfilm. The guide will help collection managers in museums, libraries and archives understand the way in which temperature and humidity in the storage environment can significantly increase or decrease the useful life of the film in their collections. \$25.00 plus \$2.00 shipping and handling. For more information contact: Rochester Institute of Technology, Image Permanence Institute (#12).

Harmon Preservation Pest Management announces the publication of a new manual for the preservation librarian, archivist and museum conservator. *Integrated Pest Management in*

Museums, Libraries and Archival Facilities is an how-to guide for the layman as well as the professional for the design, development, implementation and maintenance of an integrated pest management program. Available for \$40.00 plus \$5.50 shipping and handling (#13)

Jason Geosystems announces new PC software tools for paleontology and sedimentology. PD WINDOWS is designed to deal with the entry, storage, and presentation of sample-based biostratigraphic and geologic data. SEDIN WINDOWS will allow the user to make and store descriptions in standard format. It offers a checklist for intervals and allows entry of well tests, plugs, core information, stratigraphic units, coarsening and fining up sequences and well information. For more information contact: Jason North America, Inc. (#14).

ADDRESSES FOR CONTACTS

- 1)Gerald Fitzgerald, Canadian Museum of Nature, P.O. Box 3443, Sta. D, Ottawa, Ontario, Canada K1P 6P4; tel: (613) 954-0358.
- 2)Janet Waddington, Royal Ontario Museum, Invertebrate Paleontology, 100 Queens Park, Toronto, ON M5S 2C6 Canada; tel: (426) 586-5593.
- 3)Ann Pinzl, Nevada State Museum, Capitol Complex, Carson City, NV 89710-0001; tel: (702) 687-4810.
- 4)Gregory W. Brown, University of Nebraska State Museum, W-436 Nebraska Hall, Lincoln, NE 68588; FAX: (402) 472-8949.
- 5)Sheila C. Byers, Royal Ontario Museum, Invertebrate Zoology, 100 Queens Park, Toronto, ON M5S 2C6, Canada; FAX: (416) 586-5863
- 6)Judith C. Price, Canadian Museum of Nature, P.O. Box 3443, Sta. D, Ottawa, ON K1P 6P4, Canada; FAX: (613) 954-7675
- 7)Monona Rossol, ACTS, 181 Thompson St. #23, New York, NY 10012-2586; tel: (212) 777-0062
- 8)Information Dissemination Section, Division of Standards Development and Technology Transfer, NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226. DHHS Publication no. (NIOSH) 92-102: a. Request for Assistance in Preventing Silicosis and Deaths from Sandblasting. b. Request for Assistance in Preventing Silicosis and Deaths in Rock Drillers
- 9)University Products, Inc., 517 Main St., P.O. Box 101, Holyoke, MA 01041-0101; tel: (800) 628-1912
- 10)Verilux Corporation, 626 York St., Vallejo, CA 94590; tel: (800) 786-6850
- 11)National Institute for Conservation, 3299 K Street, NW, Suite 403, Washington, D.C. 20007; tel: (202) 625-1495; FAX: (202) 625-1485
- 12)Rochester Institute of Technology, Image Permanence Institute, 70 Lomb Memorial Drive, Rochester, NY 14623-5604; FAX: (716) 475-7230
- 13)Harmon Preservation Pest Management, P.O. Box 0262, Indianapolis, Indiana 46240
- 14)Jason North America, Inc., 950 Threadneedle, Suite 180, Houston, TX 77079-2903; tel: (713) 597-1777; FAX: (713) 597-1787
- 15)Institute for Museum Services, Conservation Project Support Program, 1100 Pennsylvania Ave., NW, Rm. 609, Washington, D.C. 20560; tel: (202) 606-8539

MEETINGS, COURSES, WORKSHOPS

2nd Symposium for Palaeontological Preparators and Conservators, mid-September 1993. Cambridge. Contact: Eric Milsom, Lamont Cottage, Norton Green, Freshwater, Isle of Wight PO40 9RY, UK; tel: 0983 753192

Conservare 93 - The European Heritage Forum. October 13-17, 1993. Flanders, Belgium. Contact: Adriaan Linters, Conservare n.v., Troonstraat 66, B-8400 Oostende, Belgium; tel: 32 59 556611

Museum Computer Network. November 3-6, 1993. Seattle. Contact: tel: (412) 681-1818

Restoration 93. December 6-8, 1993. Boston. Contact: Steven Schuyler, tel: (617) 933-9699; FAX: (617) 933-8744

GCG Seminar and AGM: True confessions - learning by our mistakes. December 8, 1993. Hunterian Museum. Contact: John Faithfull, Hunterian Museum, The University, Glasgow G12 8QQ, UK

Entomology Collections Network. December 11-12, 1993. Purdue University, West Lafayette, IN. Program and registration information available from: Michael Schauff, ECN Steering Committee, Systematic Entomology Lab, USDA, National Museum of Natural History, NHB 168, Washington, D.C. 20560; tel: (202) 382-1784; FAX: (202) 786-9422

Conservation of photographs (C401): mid-career training for book and paper conservators. January 31-February 4, 1994. Fee: \$500, registration deadline, October 5, 1993. Contact: Conservation Analytical Laboratory, Smithsonian Institution, Dianne van der Reyden; tel: (301) 238-3700

University of Cambridge. Workshops at the Geological Conservation Unit for 1993. Contact: Chris Collins, Geological Conservation Unit, Dept. Earth Sciences, University of Cambridge, Madingley rise, Madingley Rd., Cambridge CB3 0EZ UK; tel: (0223) 62522; FAX: (0223) 60779

October 7. Storage and environmental monitoring for geological materials

November 18. Conservation and care of sub-fossil bone

Photographs, Preserving a Moment in Time. April 11-16, 1994. Bath, UK. Contact: Conference convener, Centre for Photographic Conservation, 233 Standstead Road, Forest Hill, London SE23 1HU UK; tel: 081 690 3678

We were saddened to hear of the death of C.J. "Jack" McCoy, Curator, Section of Amphibians and Reptiles, Carnegie Museum. Jack served on the SPNHC Publications Committee. Our condolences to his family and friends.

PUBLICATIONS OF INTEREST

- Preservation and the academically viable sample.** Startin, B., 1993. *Antiquity* 67(255):421-426. Discusses of the Code of Approved Practice for the regulation of Contractual Arrangements in Field Archaeology.
- A rapid method for information planning.** Toney, S., 1993. *Archives and Museum Informatics* 7(1):2-6. Reports on the development of a strategic technology plan for the Santa Barbara Museum of Art, to show how long range information planning can be done in a short time with minimal cost.
- Use of advanced digital technology in public places.** Bearman, D., 1992. *Archives and Museum Informatics* 6(3):2-8. Outlines the use of digital technology by several museums and discusses constraints.
- Technology, scholarship and the humanities: the implications of electronic information.** Conference Report, 1992. *Archives and Museum Informatics* 6(3):10-12. Seventy percent of the American public gets 100% of its information from electronic media. The conference explored ways to use electronic media to further education in the humanities.
- ASC guidelines on foreign field research and collecting.** 1993. *ASC Newsletter* 21(3):35-36. Practical guidelines offered as a working document, the spirit of which is as important as the precise words.
- Vertebrate fossil collecting on federal lands: views aired on pending legislation.** 1993. *ASC Newsletter* 21(2):23-25. A summary of the conclusions of an ASC sponsored meeting of professional paleontologists, federal land agencies, and commercial and amateur collectors.
- Conservation concerns: a guide for collectors and curators.** Bachmann, K., (ed.), 1992. 149 p., Smithsonian Institution Press in association with Cooper-Hewitt, National Museum of Design. \$12.95. A compendium of 22 articles offering basic principles of conservation to the non-specialist reader.
- The care and study of fossiliferous amber.** Grimaldi, D., 1993. *Curator* 36(1):31-49. Discusses preparation and study of inclusions in amber, and considerations for storage and maintenance of amber.
- Effects of preservation on wing morphometry of the little brown bat (*Myotis lucifugus*).** Bininda-Emonds O.R.P. and A.P. Russell, 1993. *Journal of Zoology* 230(1):141-158. Recommends procedures to minimize changes resulting from the fixation and preservation process in fluid preserved museum specimens.
- Mineral identification in the home library.** Dunn, J.J., 1993. *The Mineralogical Record* 24(1):3-9. Includes methods for determining magnetism, cleavage, hardness, density, optical properties, fluorescence, and chemical characteristics.
- The fading of artists' colorants by exposure to atmospheric nitric acid.** Salmon, L.G. and G.R. Cass, 1993. *Studies in Conservation* 38(2):73-91. Fading and color shifts are induced in a variety of colorants.
- The effects of low oxygen atmosphere on the powderpost beetle, *Lyctus brunneus* (Stephens).** Gilberg, M. and A. Roach, 1993. *Studies in Conservation* 38(2):128-132. All stages of the powderpost beetle were killed when exposed to 0.4% oxygen in nitrogen for up to 12 days.
- Saving the twentieth century: The conservation of modern materials.** 1991. Proceedings of the conference "Symposium 91" held in Ottawa, 1991. \$50 Canadian. An overview of current knowledge regarding modern materials in the museum context.
- The archival enterprise: Modern archival principles, practices and management techniques.** Dearstyne, B., 1993. Chicago, American Library Association. An introduction to archives management.
- The state of the art and the artifact: a regional survey of museum collections.** Young, J.C. 1992. *Technology & Conservation* 11(2-3):10-16. Examines documentation, object density and storage space, climate control, risk management and security.
- Disaster/hazard mitigation & recovery organizations: a directory of government agencies, academic centers, and professional associations.** Natural Hazards Research and Applications Information Center Staff. 1992. *Technology & Conservation* 11(2-3):17-21. Outlines numerous organizations that can provide assistance in planning programs to minimize damage caused by natural and human disasters.
- The Kern Effigy: its discovery, interpretation, and in-field preservation.** White, J.R., 1993. *Curator* 36(1):66-78. Describes reburial which included the use of rock salt and plastic.
- A note of caution.** Cowin, V., J. Gardner, and S. Carroll, 1993. *Curator* 36(2):93-94. Warning against the use of salt in the preservation of buried archaeological sites such as the Kern Effigy described by J.R. White.
- Desktop computer mapping at the National Herbarium of Canada.** Haber, E., 1993. *Taxon* 42:63-70. Describes hardware, software and capabilities of a relatively inexpensive system.

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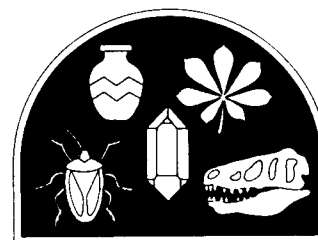
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SPNHC

SPNHC NEWSLETTER is a benefit of membership in the SPNHC and is published biannually, summer and winter. Address all inquiries concerning membership to the SPNHC Treasurer. Inquiries concerning newsletter content should be addressed to the editor. Deadlines for submitting information for inclusion in the SPNHC Newsletter are January 15 and July 15.

FIRST CLASS MAIL



WORKING DOCUMENT - JULY 23, 1993
SESSIONAL COMMITTEE ON COMMON PHILOSOPHIES AND OBJECTIVES (SPNHC)

GUIDELINES FOR COLLECTION CARE IN NATURAL HISTORY MUSEUMS

REQUEST FOR COMMENTS

Collections are the lifeblood of museums. The acts of collecting, preserving, documenting and studying objects are the cornerstones of the museum domain. The Society for the Preservation of Natural History Collections is dedicated to promoting strong institutional investment in the preservation of collections in the fields of anthropology, earth sciences, and life sciences, as well as associated library and archival materials. These collections document our cultural and natural history and are an irreplaceable scholarly and educational resource for future generations.

Given the high public profile that museums enjoy today, the frequency and diversity of collections use, and the sophistication of information technology and conservation research, management of collections has been transformed dramatically. More than ever, there is a need to balance wise use of collections with sound conservation practice. In an effort to promote this, the Committee has been charged with developing guidelines for managing and caring for natural history collections. The purpose of the guidelines is to advocate an institutional framework that advances professional standards of management and care of collections. The basis for the framework is preventive conservation and recognition of primary institutional responsibilities for use, management and care of specimens. To be effective, these guidelines must involve lively and critical input from collections managers, curators, conservators, researchers, registrars, and administrators, as well as comment from other professionals in allied fields.

The attached draft has been generated, revised, and re-worked extensively over the last two years within a committee structure in SPNHC. Versions have been sent to members of the Conservation Committee, Resources Committee, and SPNHC Council for several rounds of comments. The attached draft is provided for your review and comments. Please answer the questions below and/or mark directly on the guidelines and return them by October 1, 1993. The guidelines will be revised based on comments received, and the next version will be circulated by the end of November, 1993, to individuals who may not be SPNHC members and other professional groups with interest in the topic. A revision based on this last round of comments will be made available for discussion at the joint 1994 meeting of the Society for the Preservation of Natural History Collections with the Association of Systematics Collections in St. Louis. The goal is to present to SPNHC Council in 1994 for endorsement a document that will provide a useful basis for understanding collection care and management for those institutions that are responsible for natural history collections.

--Committee: P.S. Cato (Co-chair), B. Webb (Co-chair), D. Duckworth, J. Klein, B. Moore

WE NEED YOUR OPINIONS!

PLEASE ANSWER THE FOLLOWING and/or MAKE YOUR COMMENTS DIRECTLY ON THE GUIDELINES. RETURN BY **OCTOBER 31, 1993** TO: Paisley S. Cato, Virginia Museum of Natural History, 1001 Douglas Ave., Martinsville, VA 24112. Thank you for your input.

- 1) Is the information relevant and applicable to the disciplines you are familiar with (anthropology, biology, geology)?
- 2) Is the information relevant and applicable for your institution relative to the functions of management, research, conservation, and administration?
- 3) If you would improve a statement or section, how would you improve it?
- 4) Has anything been omitted?

GUIDELINES FOR COLLECTION CARE IN NATURAL HISTORY MUSEUMS

I. Premise

A. Inherent value of specimens:

Specimens in natural history collections exist because of their potential for use; the majority are to be used for scientific research. Specimens are collected as a sample of a region's natural and cultural environment (past and present), then often prepared in some fashion so as to make them useful for research, exhibition, or educational programming. Subsequent preparation, or sampling may be necessary to fulfill the goals of research or legitimate educational uses. A single specimen may be used for a variety of scientific methodologies.

B. Balance between use and preservation:

Associated with the responsibility of ongoing research is the obligation of the institution to maximize the value of each specimen for future use. This applies not only to the data associated with each specimen, but also to the physical and chemical integrity of the specimen. Thus, it is critical that the demands placed on natural history specimens for current research and educational use are balanced with issues of preservation of the specimens for future needs.

C. Caring for collections of specimens:

Most natural history collections contain thousands, if not hundreds of thousands, of individual elements that require care. An individual specimen may contain hundreds of related elements. Thus guidelines for collection management and care must take into consideration the prospect of large quantities of specimens and numerous elements per specimen.

II. Objectives

- A. Collection management and care of natural history materials is governed by respect for the scientific, historic, physical, cultural, and aesthetic integrity of the specimen or artifact and its associated data. Concern for its future should include protection against unnecessary damage, loss, or alteration that might affect its future research, educational, or exhibition potential.
- B. Collection management and care should meet the highest professional standards; they must be compatible with and enhance access to collections for the intended scientific and educational uses of the specimens or artifacts.
- C. All processes for collecting, preparing, and sampling, as well as the maintenance and curation of specimens or artifacts should be analyzed relative to the goals of use and preservation to insure that techniques and materials are thoroughly documented, follow sound preservation practices, and fulfill the desired objectives for the specimen's intended use.
- D. Every effort must be made to minimize the level of risk facing specimens and artifacts as a result of storage and use (e.g., by appropriate storage units, adequate security, careful screening of on-site users and borrowers, standards for methods and materials used in packing and shipping).
- E. Conservation and preservation treatment should meet the highest professional standards. Generally, the preferred approach for natural science research specimens or artifacts will involve preventive conservation. The least intrusive methods are preferred because it is not possible to anticipate the future uses of specimens that may be enabled by advances in technology. Physical or chemical modifications to the specimen may adversely affect the analytical potential of technological advances. In addition, many treatments must be tested over time to understand more fully their effects.
- F. Documentation should meet the highest professional standards and follow recommendations established by disciplinary groups (Fitzgerald, 1988; Garrett, 1989). Media used for documentation should be preserved according to professional archival standards.

- G. Techniques and materials as much as possible should not compromise the physical or chemical integrity of the specimen or artifact, and should not impede future treatment or retrieval of information through scientific investigation. Techniques and materials selected should be those that are the most stable and have the greatest longevity, and added materials should be reversible whenever possible. Any exceptions considered necessary must be fully justified and documented.
- H. It is unethical to modify or conceal the true nature of a specimen or artifact through restoration. The presence and extent of restoration should be detectable, although it need not be conspicuous. Methods and materials used must be fully documented.
- I. Destructive sampling of specimens or artifacts must be justified by the quality of the information gained, and procedures should be established to prevent unnecessary sampling. Sampling must be fully documented and approved in advance by individuals designated with such authority (Cato, 1993).

III. Goals for the institution

- A. A museum has the ethical and legal responsibility to ensure that collections in its custody are "protected, secure, unencumbered, cared for, and preserved" (American Association of Museums, 1992). To fulfill this charge, it is essential that institutions take steps to mitigate the use of scientifically unsound preparation and other treatment techniques, poor environmental conditions, and negligent handling to protect the physical and chemical integrity of specimens for present and future needs. Guidelines for professional management and care should be applied not only to research collections, but also to education and exhibit collections. Institutions should implement systems that ensure preservation of documentation as well as that of specimens.
- B. Priorities must be established for the care of the institution's collection as a whole as well as for individual specimens and artifacts of particular research, historical, aesthetic, or educational value. Values of individual specimens vary, resulting in the need to prioritize management and care activities. As stated by Michalski (1992), "practical conservation of collections is not the cessation of deterioration, it is the minimization of total damage rate, across the whole collection, across all agents [of deterioration], and with finite resources." Priorities must be developed in conjunction with findings from a conservation assessment performed by a conservator.
- C. Each institution should develop a set of collections policies and procedures that provide a written framework for collection management, care, and use. It is essential that each institution also provide the resources (e.g., time, money, personnel, space, facilities) needed for the long-term preservation and documentation of the collections under their responsibility.

IV. Staff Responsibilities

- A. Collection care is an institutional responsibility that is shared by all staff in an institution having the responsibility for specimens and artifacts. The governing body retains the ultimate responsibility for collection care, but the director and staff must have sufficient authority as well as the resources for implementing adequate measures. The assignment of direct individual authority and responsibility for various aspects of collection care is dependent on an institution's infrastructure, but these assignments must be clearly stated in the institution's collections policy and appropriate job descriptions. Preventive conservation is the responsibility of all staff including, for example, building and grounds staff, security staff, and staff responsible for receptions and development functions.
- B. Collection care is primarily the responsibility of staff members directly involved with specimens and artifacts: curators, collection managers, curatorial assistants, conservators, registrars, preparators, and technical assistants in these areas. Other departments that use specimens and artifacts, such as education and exhibition departments, are also directly responsible for the care of specimens and artifacts that are used for education or exhibition purposes.
- C. Collection care personnel should have appropriate training to fully understand all aspects (legal, ethical, environmental conditions, etc.) of situations presented to them, the limitations of their own expertise and authority, and the consequences of any decisions and/or actions they may take or recommend. Every effort

must be made to consult with appropriate specialists to ensure that all aspects of management, preservation, and use are considered before authorization for actions may be given.

- D. There should be a cooperative dialogue among curators, collection managers, registrars, conservators, and collection users concerning all aspects of collection care. In the event that there is only one individual responsible for all collection care activities, every effort should be made to build a network of associates and consultants to broaden the base of available expertise.
- E. Treatments should reflect the most recent conservation information, and new developments based on sound scientific methodology should be encouraged. Treatments should be undertaken only within the limits of staff competence and facilities. Interventive treatments are performed only with the consent of an informed individual or individuals so authorized by the institution, and may require consultation with conservation experts outside the institution.
- F. It is the responsibility of knowledgeable staff to identify clearly specimens and artifacts that are inherently hazardous or have been made so through preparation or fumigation practices. Staff should take corrective actions to implement appropriate safety precautions.
- G. Documentation is the responsibility of all individuals who come in contact with or use specimens or artifacts. All techniques and materials used in collection management, care, and conservation must be fully documented.
- H. Curation is the responsibility of individuals with sufficient disciplinary expertise and knowledge of the most recently available scientific literature to provide reliable identifications and information.
- I. Collection management is the responsibility of individuals trained in museum philosophy, theory and practices, including those processes defined within these guidelines: collection, preparation, sampling, preventive conservation, maintenance, and documentation. Responsible staff should have training in a relevant disciplinary specialty but are not necessarily taxonomic specialists. Training in the management of personnel, facilities, and information systems promotes better collection management.
- J. Conservation is the responsibility of trained conservators. Conservation and preservation personnel should have appropriate training and experience to undertake appropriate conservation and preservation techniques. Conservators should meet professional training requirements and should adhere to professional ethics and guidelines such as those defined by IIC-CG and CAPC (1989) and AIC (1993, draft).
- K. All collection staff should keep abreast of the most recent literature and upgrade their skills in their areas of responsibility according to the highest professional standards for collection management and care. It is the institution's responsibility to provide sufficient resources to pursue actively educational opportunities for collection staff and adequate training for volunteers.

V. Use of collections

- A. Whenever possible, use of collections should be carried out in ways that are compatible with preservation objectives. However, research objectives may necessitate such intervention as destructive sampling, but only when the potential for gaining knowledge by such means justifies sacrifice of the specimen or artifact, and the knowledge will be shared with the scientific community. These procedures must be undertaken in a controlled manner with approval by a qualified individual or individuals as authorized to do so.
- B. Preservation of a specimen or artifact is paramount and must be balanced carefully with use. Certain specimens or artifacts may be considered too rare, delicate or significant for exhibition or loan (e.g., type specimens, specimens of extinct species, historically significant specimens, or specimens in poor condition). Preservation should also include original data, documentation, and records of specimens affected by destructive sampling.
- C. Exhibit design and production must incorporate the long-term preservation requirements of specimens and artifacts used in exhibits. Appropriate collection care staff should be viable members of exhibit planning and production teams.

- D. Educational programming that uses specimens and artifacts should convey to the general public the need for managing and caring for the items according to professional standards.
- E. Some specimens and artifacts in natural history collections are inherently toxic or have been made hazardous through preparation or fumigation techniques. Specimens and artifacts should be used in a manner that protects the health and safety of staff, researchers, volunteers, and visitors.

VI. Definitions

- A. Accessioning - formal process used to accept legally and to record a specimen as a collection item (Malaro, 1979); involves the creation of an immediate, brief and permanent record utilizing a control number for the specimen or 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.
- B. Artifact (human) - a human-made item, often manufactured or created from naturally-occurring materials and made for use in a cultural context.
- C. Cataloging - creation of a full record in complete descriptive detail of all information about a specimen or group of specimens, cross-referenced to other records and files; includes the process of classifying and documenting specimens in detail.
- D. Collecting - the process of sampling the natural or cultural world using a variety of techniques that are dependent on (1) the organism or material being obtained and (2) the research methods that are likely to be used on the collected sample.
- E. Collection - (1) a group of specimens or artifacts with like characteristics or a common base of association (e.g., geographic, donor, cultural); (2) an organizational unit within a larger institutional structure (e.g., a collection within a university biology department).
- F. Collection Care - the responsibility and function of an institution with collections that involves developing and implementing policies and procedures to protect the long-term integrity of specimens and artifacts, as well as their associated data and documentation for use in research, education and exhibition.
- G. 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 including: specimen acquisition and collection growth; planning and establishing collection priorities; obtaining, allocating, and 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.
- H. Conservation - the science of stabilizing a specimen, artifact, or collection by retarding those factors that contribute to its deterioration by physical and chemical means. This involves activities such as preventive conservation, examination, documentation, treatment, research, and education (AIC, draft, 1993).
- I. Curation - the process whereby specimens or artifacts are identified, classified, 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 or add to the existing documentation for the specimens and add to knowledge.
- J. Deaccession - the formal process used to remove permanently a specimen from the collections (Malaro, 1979).
- K. Deterioration - "in a museum object [deterioration] can be defined as change in its material state from new. Damage, on the other hand, is the consequent loss of attributes or value: aesthetic, scientific, historic, symbolic, monetary, etc." (Michalski, 1992).

- L. Documentation - 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.
- M. Maintenance - routine actions that support the goals of preservation of and accessibility to the collection such as monitoring, general housekeeping, providing appropriate storage and exhibition, and organizing a collection.
- N. Object - a material, tangible item of any kind.
- O. Preparation - the procedures used in the field or in the institution to enhance the utility of an organism, object, or inorganic material for a specified use. The resulting specimen may represent only a portion of the original organism or material or may be otherwise altered from its original state. Procedures should be compatible with intended uses and conservation objectives, should be methods of preservation, and should be documented.
- P. Preservation - often used synonymously with conservation; in most conservation disciplines, preservation involves preventive measures, such as correcting adverse environmental conditions, and maintenance procedures; in natural science conservation, preservation also includes treatments carried out initially to prepare specimens.
- Q. Preventive conservation - a facet of conservation that involves taking steps to prevent deterioration and damage to collections to ensure their 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.
- R. Registration - (1) the process of assigning an immediate and permanent means of identifying a specimen or artifact for which the institution has permanently or temporarily assumed responsibility; one facet of documentation; (2) as an institutional function, includes the logical organization of documentation and maintaining access to that information.
- S. Repository - a collection administered by a non-profit public or private institution, that adheres to professional standards for collection management and care (e.g., Alberta Museums Association, 1990; Lee et al., 1982; American Society of Mammalogists, 1974) to ensure that specimens acquired will be professionally maintained and remain accessible for future use.
- T. Sampling - process of taking a portion of a specimen or artifact for analysis. The analysis may be destructive or nondestructive to the sample.
- U. 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, in an altered form, 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.
- V. Stabilization - treatment of an object or its environment in a manner intended to reduce the probability or rate of deterioration or damage.
- W. Treatment - actions taken to stabilize, physically or chemically, a specimen or artifact; includes stabilization techniques such as preparation, cleaning, mending, and consolidation.
- X. Voucher - a specimen and its associated data which physically document the existence of that organism at a given place and time. This definition is more broadly based than that put forth by Lee et al. (1982) in recognition of the potential for specimens held in a collection for use as substantiating evidence.

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