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SPNHC NEWSLETTER

**Society for the Preservation
of Natural History Collections**

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Cyberinfrastructure and the Natural History Collections Community

Gerald “Stinger” Guala

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When Tim White asked me if I would write an overview of cyberinfrastructure, I responded that Daniel Atkins and his blue ribbon panel at the US National Science Foundation had taken many months and a hundred pages or so to do that already¹. Tim said “how about a few hundred words for the SPNHC community in a few weeks”. It struck me that while the Atkins report isn’t very difficult to read, few in the SPNHC community would read it or some of the other numerous salient specialized reports that followed it^{2,3,4,5}. It is a fine piece of work though and I highly recommend it. Among other things, it coined the modern use of the term “cyberinfrastructure” and goes to great lengths to define what it is and why it is important. Basically, in this context, cyberinfrastructure is all of the hardware, software, and people needed for a transformational integration, mobilization and exploitation of scientific data and expertise. If you think such reports don’t carry weight, there is now a new Division of Cyberinfrastructure at NSF with a considerable budget, and guess who is in charge?

In recent years, there has been a massive investment in cyberinfrastructure across NSF and many other government and non-govern-

ment entities globally. A surprisingly large part of it has gone to cyberinfrastructure for collections. Take for example, the SyntheSys⁶ effort in the EU and the many DiGIR⁷ network based community projects primarily in the US. As all of these projects have shown, real cyberinfrastructure is about more than supercomputers.

For example, GBIF⁸ is essentially a cyberinfrastructure project. The Atkins report pointed out that “much of the effort under way to use cyberinfrastructure for collaborative research is not giving adequate attention to sociological and cultural barriers to technology adoption that may cause failure, even after large investments.” GBIF is addressing that issue directly. There aren’t giant computers at GBIF, and they aren’t buying massive amounts of fiber, but they are forcing the global natural history collections community to deal constructively with what I see as the most debilitating cyberinfrastructure problem this community has. Over the last few years, large efforts based in focused communities (e.g. MaNIS⁹, HerpNet¹⁰, ORNIS¹¹, OBIS¹², FishNetII¹³, BioCase¹⁴) have produced the software and best practices documents needed specifically

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Cyberinfrastructure...

for these communities to integrate and mobilize their collections data. At the higher level, GBIF is integrating and mobilizing those collections of collections. For example, BioCase uses the ABCD schema, or data format, running through the BioCase network, while all of the other examples mentioned use the not-quite-compatible Darwin Core II schema running through the DIGIR network. To integrate the two, and others, GBIF is collaborating with TDWG¹⁵ and others to build TAPIR¹⁶. It is up to the natural history community to be aware of these standards and best practices and use them. If they don't suit specific needs then it is up to the community to participate in developing modifications within the existing framework. The place to do that is TDWG, which is the primary standards organization for the SPNHC community. Just as GBIF integrates data from multiple, already integrated sets, TDWG is building the needed standards while also functioning within the broader standards context of ISO¹⁷, OBO¹⁸ and OGC¹⁹. It is emerging in most disciplines of biology now that the real challenges in data integration are not with hardware or software, but with standards and sociological and cultural barriers.

The second major problem plaguing the natural history collections community that I see is a lack of really broad integration with the biodiversity informatics community. I can tell you from being involved in many collections informatics projects and seeing hundreds of project proposals and their fates, that the most successful new projects require a close and well integrated working relationship between collections managers and experienced biodiversity informaticians (not just your graduate or work study student) although students under joint direction of the combined experienced personnel can benefit greatly from this rare environment. Many of the collections projects that I have heard proposed at computer science meetings are well meaning and often very creative but ultimately useless in a collections context because the participation of a real collections person, and hence the biological component, was trivial. Conversely, many of the projects that I hear about at collections meetings and workshops seem to be exciting and worthwhile at first but the basic understanding of exactly what is possible, what has been done before, and how to apply it to achieve biodiversity science goals, be transformational, and compete well for funding in the cyberinfrastructure arena is missing. Unfortunately, at this point in time, the LINNE²⁰ effort is a prime example of this problem in my opinion. I believe that before the community can be successful in soliciting really large investments by taxpayers or foundations, there needs to be a very broad grass-roots effort in the community to become broadly knowledgeable about existing cyberinfrastructure. Then there needs to be wide adoption and refinement to form a solid base, and then a consensus about what major investments would yield the most transformational results with a directly focused plan to achieve them. The EDIT²¹ program in Europe, especially EDIT(WP5)²², is building the community in this direction and existing and proposed RCN²³ projects in the US such as SERNEC²⁴ may be

instrumental as well. Another possible bright spot is the \$100 million PSCIC program²⁵. At the time of writing, PSCIC awards have not been announced but the program announcement certainly leaves the door open for both significant community building and cyberinfrastructure development in the collections community as a part of the charge.

What is in the immediate future? Some things are clear. Digitization and georeferencing of collections is key and high throughput methods are essential and already viable. Remember that for a collection of 120,000 specimens, every extra minute spent per specimen in data capture adds a person/year to the project. In the herbarium community, the combination of HERBIS²⁶ and BioGeomancer²⁷ is allowing specimens to be accurately digitized and georeferenced as quickly as they can be photographed. Images are essential for efficient high-speed data capture and electronic verification. Observation data already make up a high percentage of occurrence records available electronically (e.g. eBird²⁸). As automated sensors for recording occurrence data become more common, observation data will only take a much bigger share. The only thing that sets collection data apart is the physical specimen, which can only be remotely verified by an image. Taxon concept management, pioneered by the SEEK²⁹ project, will eventually allow efficient and accurate connection of collection data to all other data that contains taxon names. NEON³⁰ will likely generate highly efficient distributed data management workflows that will make new collection data acquisition more efficient and data rich.

In the more distant future the view is less clear. Will there be a NEON for collections? I don't think so because however you spin it, the collections community is more like a group of libraries than a telescope, and the MREFC³¹ account is heavily skewed toward the telescope kind of endeavor. That doesn't mean that collections can't be a part of this type of project though. There has been for some time a movement toward large scale simulation. The US DOE ScaLeS report³² lays out the main ideas and sizeable investments are being made in the US, Japan and Europe. Undoubtedly if collections are to enter the big cyberinfrastructure arena, forecasting and historical modeling will be a major driver and large scale simulation will be a big part of that. Concentrating on the unique attributes of collections and mobilizing the data in them will be the key. There are also many other large funding sources available. The PSCIC was already mentioned and other centers are proposed on a regular basis at NSF. There are also numerous other large investments in biodiversity such the continuing Alfred P. Sloan foundation investment in COML³³ or the \$278 million commitment by the Gordon and Betty Moore Foundation to Conservation International. I think, in general, a cohesive and broadly technologically savvy collections community with a new and very focused big idea has to come first and the funding will follow. SPNHC must be at the center of this effort.

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Presidential Report

Tim White

Assistant Director for Collections and Operations, Peabody Museum of Natural History, Yale University, 170 Whitney Ave., PO Box 208118
New Haven, CT 06511 USA

Russell D. "Tim" White was born in Stafford, Connecticut, and at Eastern Connecticut State University, he developed his interest in geology, paleontology, and biodiversity. Following graduation from ECSU in 1981, he entered the graduate program in geology at the University of Kansas where White's interest flourished in natural history museums and the role they play in documenting global change and the history of life. He interned at KU's natural history museum and worked on various databasing projects and collected invertebrate fossils for the museum in Kansas, Nevada, Utah and northern Mexico.

In 1984 White joined the staff of Yale University's Peabody Museum of Natural History as the Collection Manager for invertebrate paleontology. White was a key player in the design and construction of Yale's Environmental Science Center, an interdisciplinary facility that is home to faculty members, research centers and 65 percent of Peabody's research collections. This experience led to the creation of White's current position, Assistant Director for Collections and Operations.

White is a charter member of SPNHC and a former officer of the Paleontological Society. He has been an active member in both societies and has held numerous offices. He is married to Elizabeth Joseph White, an executive at Kodak's Scientific Imaging Group in New Haven, Connecticut, for the past 18 years. He lives in Killingworth, Connecticut with his wife and two Labrador retrievers.



Over the past few months the Society has been very active, and many projects are underway that will improve the operational side of SPNHC and how the Society interacts with our members. One of the most significant changes is a new web site hosted by the Harvard University Herbaria and under the direction of James Macklin. But let's not forget that for the past several years our web site resided at the University of Calgary and was spearheaded by Jon Greggs.

This spring there is an election for two Member-at-Large positions, and I encourage you to take ownership of the Society by voting. And there are other ways you can be active in SPNHC. For example, we have several standing committees (e.g., conservation, documentation, membership) that are always on the look out for members. Contact a committee chair and your help-a few hours a year can go a long way to promote the Society's values. We have several sessional committees underway and they are examining such topics as threatened and endangered collections, legislation and regulations, publicity and outreach, a review of our journal *Collection Forum*, and long-range planning.

This spring we are publishing our fifth reference book, *Museum Studies: Innovations and Perspectives*, an edited volume coordinated by Steve Williams and Cathy Hawks. *Museum Studies* has 18 chapters ranging from professionalism in museums to the challenges we all face in museums. This book is dedicated to one of our past presidents, Carolyn Rose. This is a reference that we all will want on our book shelf. Ordering information will be on the SPNHC web site soon.

Janet Waddington ended her six-year term as managing editor last year, and the final product of her efforts is Volume 21 of *Collection Forum*, a proceedings volume from our 2005 annual meeting in London. Janet worked with Giles Miller from the Natural History Museum in London on this issue. This is a full issue with 19 papers and 231 pages and is an excellent companion to the London meeting.

A regular participant at our past few meetings has been Larry Speers from the Global Biodiversity Information Facility. GBIF is located in Denmark and is an international organization that provides free access to data regarding the world's biodiversity. Larry has stepped down from his role at GBIF and has been a solid

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The **Society for the Preservation of Natural History Collections** was formed in 1985 and is recognized as a non-profit organization [501(c)(3)] in the United States. SPNHC members receive *Collection Forum*, a biannual journal of reviewed technical information, and two issues of the *SPNHC Newsletter* each year. The Society for the Preservation of Natural History Collections (SPNHC) is a multidisciplinary organization composed of individuals who are interested in development and preservation of natural history collections. Natural history collections include specimens and supporting documentation, such as audio-visual materials, labels, library materials, field data, and similar archives. The Society actively encourages the participation of individuals involved with all aspects of natural history collections.

The **SPNHC Newsletter** (ISSN 1071-2887) is published twice a year, March and September, by the Society for the Preservation of Natural History Collections, c/o Division of Ichthyology, Natural History Museum & Biodiversity Research Center, University of Kansas, Dyche Hall, 1345 Jayhawk Boulevard, Lawrence, KS 66045-7561, USA.

Changes of address should be directed to SPNHC Treasurer, PO Box 797, Washington, DC 20044-0797.

Submissions are welcome. Please forward announcements, articles and notes to the Newsletter Editors by mail or email.

Deadline for the next Newsletter is August 1, 2007.

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.....Presidential Report

supporter of SPNHC. With his encouragement the Society has become an "Associate Partner" in GBIF, which we were elected to last fall. Our feature article in this issue of the Newsletter is about cyberinfrastructure and the role it plays in natural history museums.

The host for our annual meeting this year is the Science Museum of Minnesota in Saint Paul, Minnesota. The theme of the meeting is "*Building for the Future: Museums of the 21 Century*," and Gretchen Anderson, Jackie Hoff and their local committee have put together an exciting program. I hope to see you this May!

SPECIAL INTEREST GROUP (SIG) REPORTS

Global Biodiversity Information Facility (GBIF)

Discussions that have been ongoing since the 2003 SPNHC meeting in Lubbock, Texas, culminated in Albuquerque with an invitation from Larry Speers, GBIF Program Officer for the Digitization of Natural History Collections, for SPNHC to apply for membership in GBIF as an Associate Participant Organization. The invitation was discussed and passed in the SPNHC council meeting.

This action has several benefits for SPNHC as an organization. First, it puts us on "equal footing" with other GBIF Associate Participant Organizations, including the Natural Science Collections Alliance and the Taxonomic Databases Working Group. While Associate Participants are not voting members of GBIF, our membership will allow us to directly benefit from GBIF projects and products such as data quality and data cleaning documents and workshops, geo-referencing tools, and best practices (such as how to present data for protected or otherwise sensitive species online).

As museums and other data-holding organizations continue to make their data available via the GBIF portal, SPNHC will be in a position to provide valuable assistance to GBIF and its other members with regards to the physical specimens to which the data relate. This, in turn, will strengthen our position as collection repositories.

Richard Monk



Integrated Pest Management (IPM)

The SPNHC Special Interest Group meetings were held early on the morning of May 26, 2006. Nine members joined for the IPM group where a variety of topics were discussed. These included methods of identifying pests, associations among pests (i.e., which species do you have that are allowing other, more harmful species to exist?), and types of databases used for storing pest observation data. While these topics were stimulating, they were entirely overshadowed by another topic that all participants wanted to discuss: visualization of pest observation data.

Everyone at the IPM SIG agreed that it doesn't matter how much data you have, its usefulness is determined by your success in presenting it to others. This seems to be a short-coming of current systems, particularly in the area of presenting trends or pest observations over time. James Bryant suggested that it should be possible to get ESRI to assist the effort by their developing a series of easy-to-use tools for importing, manipulating, and presenting data via a GIS system. These tools could then be further developed into a package for distribution to museums and related institutions. It's obvious that museums are not the only buildings with pest concerns. Libraries, archives, public buildings, and others could all benefit by the partnership of IPM and GIS.

The outcome of the SIG was to recommend that the IPM Working Group create a new sub-group to focus on this issue. Several of those in attendance at the SIG have committed to join IPM-WG in order to continue to contribute to this effort. For more information about this particular project or about IPM-WG, visit www.MuseumPests.net.

Richard Monk

National Science Foundation (NSF)

Eight people attended the informal breakfast meeting, at which we discussed funding opportunities for collections. Participants asked about NSF funding and also provided some information on their own experiences in searching for support.

Carol Deveau, director of Natural History at the Auckland Museum of Natural History in New Zealand, asked if the U.S. had a plan for preserving taxonomic science comparable to other nations and groups (e.g., the European Union). I told her about the Division of Biological Infrastructure (DBI) programs as well as those of Division of Environmental Biology (DEB) in systematics, but she was also interested in more baseline support. We discussed the efforts of the USGS in this area, but the consensus was that the U.S. could do more in this area.

Richard McCourt

Permits and Related Issues

The Permits and Related Issues SIG met to discuss current permit-related topics of interest and concern. Special guest Monica Farris of the US Fish and Wildlife Service's Office of Management Authority was present to hear concerns and provide her expert advice. The discussion was both lively and productive, focusing on potential solutions to common problems.

SPNHC and NSCA have the opportunity to work on behalf of their respective memberships to advocate change in permit requirements and amendments. Advocacy from these groups is necessary because they are the strongest voice for the interests of natural history collections and museums, a constituency not always taken into account by regulatory agencies focused on larger commercial issues. This can be done via coordinated responses to agency comment periods, ongoing professional updates to the SPNHC and NSCA memberships, and meetings with key agency staff.

Communication between the natural history collections community and the regulatory agencies is vital. An annual permits update should be provided as part of every meeting of the two organizations, as a service to the members. Every meeting should incorporate the presence and participation of key agency representatives insofar as is possible and at appropriate levels. Some of the suggested US agencies include the State Department (particularly the interagency working group on human and animal disease issues), US Fish and Wildlife Service, NOAA National Marine Fisheries Service, Centers for Disease Control and Prevention, USDA Animal and Plant Health Inspection Service, Homeland Security, and representatives of CITES Scientific and Management Authorities from key countries.

Concerns have been expressed about recent USDA requirements for treating animal and soil specimens upon import into the US. These treatments are designed to reduce the risk of animal disease vectors being unwittingly brought into the US, but may have the unfortunate side effect of damaging or destroying vital parts of the specimens. There is no good information at this point on the short- and long-term effects of USDA-approved specimen treatments on the integrity and stability of research specimens, in particular their DNA and other biochemical content. The SIG attendees would like to see SPNHC, perhaps through its Conservation Committee, look at this issue and suggest testing protocols.

PERMIT-L and NHCOLL-L will continue to serve as the main venues for the public dissemination of up-to-date scientific permit information. In addition, Linda Ford will chair a Sessional committee to look at Legislation and Regulations (Legs and Regs) issues.

Sally Shelton



Membership

Membership applications for individuals (US\$25), Libraries (US\$30) or Associate/Institutional (US\$50) may be submitted to:

SPNHC Treasurer
P.O. Box 797
Washington, DC 20044-0797
USA

Be sure to include the following information:

Name, Discipline Specialty, Institution
Address (Street, City, State/Province, Country, Zip/Postal Code)
Voice, Fax, E-mail address

Payment may be made by cheque, money order, Visa or Mastercard.

Membership application/renewal form by portable document (Adobe Acrobat Reader required): <http://www.spnhc.org/renew.pdf>

Membership application/renewal form by Word file: <http://www.spnhc.org/renewal.doc>

Life Membership

The SPNHC Life Membership is a special membership category for those interested in the long-term financial stability of our organization. Life membership monies are invested towards the future goals of the Society. SPNHC life memberships are available for \$625. The fee is 25 times the Individual Membership rate, currently \$25. Life Memberships may be paid in one of three ways:

- (1) one-time payment of \$625;
- (2) two-year installments of \$350/1st year and \$275/2nd year;
- (3) three-year installments of \$300/1st year, \$200/2nd year and \$125/3rd year.

Please contact the Treasurer should you require further information about life memberships.

Treasurer

Sensitive Data

As part of the annual SPNHC meeting a Special Interest Group on Sensitive Data Access was convened. There were approximately 20 to 30 participants in this session and from the discussion it was clear that dealing with access to potential sensitive records is a major concern for most collections managers. The session was moderated by Larry Speers, GBIF's Program Officer for the Digitization of Natural History Collections and Arthur Chapman a consultant working on the sensitive data issue. Issues identified during the discussion included:

- How to identify potentially sensitive records?
- What tools and authority files might facilitate the identification process?
- Are there secure methods of sharing this information for valid scientific purposes?

In exploring the issue it was announced that the Global Biodiversity Information Facility had undertaken a survey of how various organizations are dealing with sensitive data. The summary of responses to this survey is now available at:

http://www.gbif.org/prog/digit/sensitive_data/Summary_of_Responses_-_03.pdf

and a draft report "Dealing with Sensitive Primary Species Occurrence Data" is available at:

http://www.gbif.org/prog/digit/sensitive_data/Sensitive_Data_Draft_Report.pdf

Larry Speers

Taxonomic Databases Working Group (TDWG)

The Taxonomic Databases Working Group (TDWG) is an international association that "develops, adopts and promotes standards and guidelines for the recording and exchange of data about organisms, [and] promotes their use through the most appropriate and effective means..." Since these goals clearly complement the activities of SPNHC members, the Documentation Committee made it a priority in 2005 to pursue a more formal relationship with TDWG. To this end, Richard Monk attended the annual TDWG meeting, held in St. Petersburg, Russia, in September 2005 to investigate ways SPNHC and TDWG might work cooperatively.

Following that meeting, discussions with the Documentation Committee and SPNHC Council have resulted in a recommendation that a SPNHC member attend the TDWG meeting each year and prepare a report of TDWG activities for distribution to the SPNHC membership. This report will contain information about standards currently under development as well as standards that have been recently ratified. It is hoped that

this will provide a simple means for SPNHC members to be made aware of TDWG activities, and thereby allow them to use TDWG standards in their own work as appropriate.

For additional information about TDWG, please visit www.tdwg.org.

Richard Monk

Transportation of Dangerous Goods

The Transportation of Dangerous Goods Special Interest Group session was attended by fourteen people and chaired by Sue McLaren. The registration packets for the SPNHC meeting had included a survey containing nine questions, which were analyzed prior to the SIG session. The first order of business during the session, after introductions, was to review the survey responses. Since much of the discussions that followed mirrored responses to the survey, a synopsis of the survey results is included here.

Twenty-two people responded to the survey with 20 people indicating that their institution housed and shipped many different types of collections. Of the 20 who shipped specimens or objects, 17 send international shipments and 18 send to domestic locations. All 20 respondents ship ethyl alcohol, 15 ship formalin or formaldehyde, 11 ship isopropyl alcohol, 9 ship dry ice, 3 ship radioactive materials and 2 ship nitrocellulose film. Twelve of the 20 indicated that they are certified to ship Dangerous Goods and four others were not trained but had co-workers who are certified. Sixteen of 20 indicated that they have adjusted their shipping practices in response to the regulations either by complying fully with IATA or by shipping less or avoiding shipments altogether. Five of 20 said that they have had problems with packages not reaching their destinations in one or more of the following countries: Brazil, Peru, Venezuela, Argentina, Mexico, Germany and Australia. The final question got to the heart of this Sessional Committee's goals: "Given current domestic and international regulations on the shipment of Dangerous Goods/Hazardous Materials, our options for significant change in the regulations are limited. Based on your institution's experience, what changes in the regulations would you like to see, in order to facilitate a safe and affordable flow of biological materials for research?" Multiple respondents asked us to work to get a "Scientific Exemption" recognized, as "Commercial Exception" is recognized for liquor; be able to use a special label indicating that contents are "Museum Specimens" shipped in compliance with IATA Excepted Quantities; and want to be able to hand carry excepted quantities or send them as checked baggage. Single respondents also suggested that we develop a chart showing differences among nations; create a glossary of terminology; get the authorities to increase the amount of alcohol a package can contain and reduce the need for foreign consignees

to travel to the port to pick up items from Customs' Broker; and be able to use Postal Service to ship internationally when overnight carriers lead to problems.

Those who attended the SIG were well versed on the issue and agreed that the current situation was both expensive and an impediment to research. Various stories of difficulties in shipping were discussed, as well as differences in certification training in various countries and the need for a clear and consistent interpretation of the international regulations among shippers and their clients.

Following the SPNHC meetings, it was decided that Andy Bentley would Chair this Sessional Committee on the Transportation of Dangerous Goods in the coming year. As someone whose collections require him to deal with DOT and IATA rules on a regular basis, Andy is a person who seems driven to make things happen for the Museum community. Change may be slower than we wish because of the meeting schedules of the regulatory agencies, but SPNHC remains a good means of keeping each other informed of problems as well as positive developments in the meantime.

Suzanne B. McLaren

COMMITTEE REPORTS

Conference Committee

We have received Letters of Intent for not just the 2008 Annual Meeting, but also for 2009. We expect to have a presentation from each venue for the membership to consider (and hopefully approve!) at the Annual General Meeting in St. Paul in May.

2008: 13-17 May 2008 - Sam Noble Museum of Natural History, University of Oklahoma, Norman. The theme of the meeting will be "Collection Stewardship: Challenges in a Changing World". NSCA has been invited to join us for the 2008 meeting, as discussed at the 2006 meeting.

2009: National Museum of Natural History, Leiden, The Netherlands. The Anatomy Museum of the Leiden University Medical Centre will co-host the meeting. Dates remain to be set and more groundwork is needed, but we now have a site for the meeting that we hoped to host on the European Continent! A special thanks to Dries van Dam for helping with logistics in Leiden!

While it is too soon to be formalized, some plans for the 25th Anniversary meeting in 2010 are beginning to emerge; watch for further announcements as that time draws closer.

Rich Rabeler

Conservation Committee

1. Resources Subcommittee

Subcommittee Co-Chairs: Cindy Ramotnik (US); Kelly Sendall (Canada)

The United States Resources Display Unit (RDU) was requested for 3 venues in 2006: a Department of Interior-sponsored weeklong course "Curating Natural History Collections" in Washington, DC (April); a workshop on preventive conservation "Caring for Your Collections" at the Cincinnati Museum Center, Cincinnati, Ohio (August); and a museum orientation course hosted by the National Museum of the U.S. Air Force at the Wright-Patterson Air Force Base, Ohio (November). There are several requests for 2007 so get yours in early.

Kelly reports that the Canadian Resources Display Unit (RDU) has a new temporary home at the Royal BC Museum in Victoria, BC. The Canadian RDU is available for loan to Canadian venues for conferences, meetings, workshops and the like. General information on both the US and Canadian RDU's is available at: <http://www.spnhc.org/resource/index.html> and a detailed list of what's on the Canadian unit is available at:

http://www.spnhc.org/opencms/opencms/spnhc/resource/linked_documents/CDNresources.htm.

If you are interested in finding out more about the RDU's or to request a loan, contact Cindy or Kelly. Also, if you have a suggestion regarding its content, something lacking, something obsolete for instance, please let us know. We certainly want to keep up to date on current content and use of resources.

The recently refurbished Resources Display Units are available to be borrowed for display at collections-based meetings, conferences, and workshops. Please contact Cindy or Kelly for more information.

2. Adhesives Workshop Subcommittee

An adhesive workshop is in the planning stages, and is scheduled for the 2008 SPNHC annual meeting at the Sam Noble Oklahoma Museum of Natural History.

3. Adhesives Historical Research Subcommittee

Subcommittee Co-Chairs: Jude Southward and Victoria Book

This subcommittee is new beginning with the Albuquerque meeting and plans are that subcommittee members will record the historic use of adhesives in natural history collections. Some factors to be recorded will include name of adhesive, applicability issues, and aging properties.

4. Citations Subcommittee

Subcommittee Chair: Marcia A. Revelez

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Cyberinfrastructure...

Editors note: *Dr. Gerald "Stinger" Guala was Keeper for the Herbarium at FTG and designed and put online the Virtual Herbarium there in 1998. He then went to NSF where he was Program Director for Biological Databases and Informatics, Assembling the Tree of Life, Information Technology Research and the Biology Directorate Cyberinfrastructure Liaison. He was part of the Research Infrastructure Committee in the NEON design process and is now the North American Representative on the TDWG Executive and a member of the GBIF Science Subcommittee for Collections Digitization. He is currently at the USDA-NRCS National Plant Data Center and an Adjunct Professor at Louisiana State University. This article was produced on his own time, does not constitute official duties, and reflects only his personal views, not those of his employer. He can be contacted at stinger@stingersplace.com.*

- ¹ Atkins, D.E. et al. 2003. Report of the National Science Foundation Blue-Ribbon Advisory Panel on Cyberinfrastructure. (<http://www.nsf.gov/od/oci/reports/toc.jsp>)
- ² National Academies of Science. Workshop in progress at time of writing. Designing Cyberinfrastructure for Collaboration and Innovation. (<http://cyberinfrastructure.us>)
- ³ Wooley, J. et al. 2005. Building a Cyberinfrastructure for the Biological Sciences (CIBIO): A BIO Advisory Committee Workshop (http://research.calit2.net/cibio/archived/CIBIO_Overview_Report.pdf)
- ⁴ National Science Board. 2005. Long-lived Digital Data Collections: Enabling research and education in the 21st century. NSF. (<http://www.nsf.gov/pubs/2005/nsb0540>)
- ⁵ Science and Engineering Infrastructure for the 21st Century: The Role of the National Science Foundation 2003. (<http://www.nsf.gov/nsb/documents/2003>)
- ⁶ Synthesis of Systematic Resources (<http://www.synthesys.info>)
- ⁷ Distributed Generic Information Retrieval (<http://digir.sourceforge.net>)
- ⁸ Global Biodiversity Information Facility (<http://www.gbif.net>)
- ⁹ Mammal Networked Information System (<http://manisnet.org>)
- ¹⁰ Network of Herpetological Collections (<http://www.herpnet.org>)
- ¹¹ ORNithological Information System (<http://www.specifysoftware.org/Informatics/informaticornis>)
- ¹² Ocean Biogeographic Information System (<http://www.iobis.org>)
- ¹³ Fish Specimen Information Network (<http://www.fishnet2.net/index.html>)
- ¹⁴ Biological Collection Access Services (<http://www.biocase.org>)
- ¹⁵ Taxonomic Databases Working Group (<http://www.tdwg.org>)
- ¹⁶ TDWG Access Protocol for Information Retrieval (<http://wiki.tdwg.org/twiki/bin/view/TAPIR>)
- ¹⁷ International Organization for Standardization (<http://www.iso.org>)
- ¹⁸ Open Biomedical Ontologies (<http://obo.sourceforge.net>)
- ¹⁹ Open Geospatial Consortium (<http://www.opengeospatial.org>)
- ²⁰ Legacy Infrastructure Network for Natural Environments (<http://www.flmnh.ufl.edu/linne>)
- ²¹ European Distributed Institute of Taxonomy (<http://www.e-taxonomy.eu>)
- ²² European Distributed Institute of Taxonomy Work Package 5 (<http://wp5.e-taxonomy.eu>)
- ²³ Research Coordination Networks in Biological Sciences (http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=11691)
- ²⁴ SouthEast Network of Expertise and Collections (<http://www.servec.org>)
- ²⁵ Cyberinfrastructure for the Biological Sciences: Plant Science Cyberinfrastructure Collaborative (PSCIC) Program Solicitation NSF 06-594. (<http://www.nsf.gov/pubs/2006/nsf06594/nsf06594.pdf>)
- ²⁶ Herbis is the Erudite Recorded Botanical Information Synthesizer (<http://www.herbis.org>)
- ²⁷ (<http://www.biogeomancer.org>)
- ²⁸ (<http://www.ebird.org>)
- ²⁹ Science Environment for Ecological Knowledge (<http://www.ecoinformatics.org>)
- ³⁰ National Ecological Observatories Network. (<http://www.neoninc.org>)
- ³¹ Major Research Equipment and Facilities and Construction (<http://www.nsf.gov/bfa/docs/mrefcguidelines1206.pdf>)

- ³² Science Case for Large-scale Simulation (<http://www.pnl.gov/scales>)
- ³³ Census of Marine Life (<http://www.comlsecretariat.org>)

SPNHC forging links to two discipline-specific societies

First, Richard Rabeler was approached by the President of the American Society of Plant Taxonomists (ASPT), Dr. Richard Jensen, to serve as a liaison member between ASPT and SPNHC. ASPT has had such a relationship with NSCA and a report on the NSCA meeting is made to Council. Last year, the ASPT representative to NSCA thought it would be a good idea to include a report on SPNHC as well and asked me to report on the London meeting. Now that relationship has been formalized and Rich is pleased to serve both societies.

As some of you know, the American herbarium community is getting very interested in networking, especially on a regional basis, in part to get a better handle on databasing the enormous number of specimens in these institutions. Two organizations, ASPT and the recently founded Society of Herbarium Curators (SHC), both sought roles in trying to support and coordinate the networking efforts. A meeting of the Presidents of ASPT, SHC, and Rich resulted in a compromise situation where the Collections Committee of ASPT will be expanded to include reps from the various regional networks as they form as well as the President of SHC and the SPNHC Rep working cooperatively.

We also have received a request from SHC to affiliate with SPNHC. One of our members, Sula Vanderplank (Rancho Santa Ana Botanic Garden), is the Membership Chair of SHC, so it might be natural for her to serve as a representative from SHC to SPNHC.

Let's hope this is the beginning of a trend!

With sadness...

It is with great sadness that I must inform you of the passing of John Heyning. John succumbed Sunday, 18th February to his long struggle with ALS. Many of you know that John was a tireless supporter of the collections community both at his home base at the LA County Museum and on a national scale. He was a former President of the Natural Science Collections Alliance and presided over the Alliance through one of our most difficult periods. John's enthusiasm and steadfast support for science will be greatly missed but our community will be forever better because of his efforts.

Sadly,

Terry L. Yates,
 President, Natural Science Collections Alliance (NSCA)

Continued from page 7:
.....Conservation Committee

Citations have been assembled and appear in this newsletter. Citations are being developed for web searching, to be uploaded to the new website in summer 2007. All citations listed in previous newsletters will be databased. Many thanks go to Joanna Morton and Lisa Palmer who have been members of the citation committee but are no longer able to continue contributing. Amanda Person has joined the citation committee. The committee continues to seek out new reviewers. If you would like to contribute citations, please email Marcy at mrevez@ou.edu or phone (405) 325-7988.

5. DNA from Formalin Fixed Specimens Subcommittee (an historical survey of collections and their history of formalin fixation in natural history collections).

Subcommittee Co-Chairs: Andrew Bentley, Bob Hanner and David Schindel

A meeting has been planned with David Schindel of Barcode of Life (BCoL) and Jesse Ausubel of the Sloan Foundation for 5th-6th of March in Lawrence, KS, to plan a way forward for the investigation of extraction of DNA from formalin fixed natural history museum specimens. The KU Biodiversity Research Center has been asked to lead this process and discussions will revolve around the implementation of this agreement.

Respectfully submitted,
Jude Southward and Victoria Book

Museum of Northern Arizona IMLS Funded Conservation Project

The Museum of Northern Arizona (MNA), Flagstaff, AZ, recently completed an IMLS funded Conservation Project (\$42,746) that was designed to address the emergency and top priority preservation needs of the MNA vertebrate and invertebrate fluid preserved zoology collection. The storage room was considered a fire and health safety hazard due to the presence of active ignition sources and high ethanol vapor levels escaping from poor specimen storage containers and lids. The specimens were under threat from desiccation due to inadequate preservative concentrations and degradation from storage containers. The goals of the project were to: resolve emergency fire and health safety problems; prevent deterioration of specimens; and implement schedules and procedures to monitor and protect the collection.

With IMLS support a total of 17,302 fluid preserved specimens were re-housed including: 10,184 vertebrates, or 4,946 fish, 1,197 amphibians, 2,767 reptiles, 1,274 mammals, as well as 7,118 vials of invertebrates. 134 Federally Threatened and

Endangered specimens representing seven species of lower vertebrates were identified during the project. These include 126 Federally Endangered fish specimens of *Gila cypha*, *G. elegans*, *G. intermedia*, *Ptychocheilus lucius*, and *Xyrauchen texanus*, 6 Federally Threatened amphibian specimens of *Rana chiricahuensis*, and 2 Federally Threatened reptile specimens of *Gopherus agassizii*.

The following activities were completed during this grant project:

- Prior to removal of these collections from this storage room, air quality tests were performed by an Industrial Hygienist to determine existing ethanol and formaldehyde concentrations in the zoology storage area. Initial tests revealed that ethanol and formaldehyde concentrations were within allowable Occupational Safety and Health Administration (OSHA) threshold limit values, however formaldehyde values measured slightly above (0.01 ppm) safe exposure limits set by the American Conference of Governmental Industrial Hygienists (ACGIH).
- The collection was moved from the storage room to the MNA Biology Lab where specimen processing was completed under fume hoods. While the specimens were being processed room improvements were completed in the permanent storage area.
- Ignition sources were removed from the storage room and an intrinsically safe exhaust fan was installed. The light switch was moved to an outside wall and electrical outlets were disabled and covered.
- New 18-gauge steel shelving units were installed and the units were bolted to the wall to secure the units and prevent displacement from vibration. New steel shelving units with deeper shelves and a shelf loading capacity of 1110 pounds were purchased to better utilize existing storage area floor space. Old steel shelving units were reassembled in an "L" shape that allowed for corner installation and improved space usage in the small room.
- Inappropriate containers and old Bakelite and metal lids were replaced with new flint glass jars and polypropylene lids with polyethylene liners. The Museum also purchased oversized stainless steel storage tanks and polycarbonate pails. As funds and space become available, tank storage will replace the use of polycarbonate pails.
- Specimens in overcrowded jars were transferred into new containers and small specimens in overly large containers were moved to smaller jars to conserve shelf space. The jar-lid junction of jars and pails was sealed with an acrylic adhesive based polypropylene tape to prevent evaporation.
- Ethanol concentration was measured using a digital density meter purchased with IMLS funds. The average measured ethanol concentration was 63.5%. All old ethanol was replaced with new 70% ethanol solution.
- MNA instituted museum best practice by expanding the existing environmental monitoring, light monitoring, and Integrated Pest Management programs to include the fluid preserved collection area. Using IMLS funds MNA pur-

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.....Museum of Northern Arizona IMLS

chased an intrinsically safe Hobo data logger to record temperature and relative humidity in the collection storage room.

- Working with a conservator a schedule to inspect fluid levels and container conditions was developed and a specimen handling guide for fluid preserved collections was produced. A hazardous waste expert from Northern Arizona University aided in the development of a waste alcohol and formalin disposal program. The institution received an EPA ID number from the Arizona Department of Environmental Quality and the local Fire Marshall was consulted during the project.
- MNA brought the Industrial Hygienist back following the completion of this project to re-test the air quality in the renovated fluid preserved storage area. Final sampling revealed ethanol concentrations of <1.8 ppm, a decrease of 43.2 ppm from the initial test.

This Environmental Improvement project resolved the emergency preservation needs of the Museum of Northern Arizona's vertebrate and invertebrate fluid preserved zoology collection. The storage room is now a safe space for both staff and collections. Specimens under threat from desiccation due to inadequate preservative concentrations and poor quality storage containers are now stable and are stored in 70% ethanol. Storage containers are appropriate to the collection needs and pest, light, and environmental monitoring efforts have been expanded. The installation of the fan, coupled with the replacement of poorly sealed storage containers, resolved the health safety issues previously recognized in the area. All Federally Threatened and Endangered specimens are readily identifiable and can be rapidly removed in the event of an emergency requiring specimen evacuation. Brightly colored tape (threatened = yellow tape and endangered = red tape) used to seal the jar-lid junction makes the jars containing these significant holdings immediately recognizable. The Museum is now in compliance with state and federal laws regulating hazardous materials.

The Museum of Northern Arizona is indebted to a number of institutions and individuals who willingly shared their knowledge and expertise throughout this project. We are grateful to the Institute of Museum and Library Services for the support to undertake this project. Mr. John E. Simmons, University of Kansas, Director of the Museum Studies Program, and Collection Manager of the Natural History Museum very kindly answered all our questions with technical advice and easy to follow directions. Mr. L. T. Green, Northern Arizona University, Hazardous Materials and Waste Coordinator, donated many hours evaluating MNA waste, as well as guiding the Museum through the permitting process and the legal documentation required to properly dispose of hazardous materials.

Janet Whitmore Gillette, Assoc. Collection Manager for Natural Science Museum of Northern Arizona, 3101 N. Fort Valley Road, Flagstaff, AZ 86001; jgillette@MNA.mus.az.us; (928) 774-5211 ext 265

CALL FOR PAPERS AND POSTERS

ICOM-CC 15th Triennial Meeting
New Delhi, India
September 22-26, 2008

Theme: Diversity in Heritage Conservation: Tradition, Innovation and Participation

In preparation for the upcoming 15th Triennial Meeting, ICOM-CC is now calling for papers and posters. This will be a two-step process, consisting first of a call for paper and (extended) poster abstracts and second, a call for full papers and updated, short poster abstracts. In order to adhere to the planned selection and editorial process, authors, coordinators, peer review committee and editorial committee members are strongly advised to take into account the "Schedule for Preprint Production" that is available at the ICOM-CC website.

1. Call for paper and (extended) poster abstracts:

The objective of the Triennial Meeting is to present an overview of the current state of conservation research and practice through reports by the ICOM-CC Working Groups. Special attention will be given to papers and posters dealing with problems and progress in conservation in the region hosting the meeting and to papers addressing the congress theme – "Diversity in Heritage Conservation: Tradition, Innovation and Participation".

The world is enriched with many different cultures (national, professional, social, etc.) and the values they assign to their heritage are not identical. It is a daily challenge to recognize and respect this cultural diversity in order to avoid cultural elitism and to integrate this reflection in every aspect of conservation. The ICOM-CC triennial meeting in India is an opportunity to celebrate diversity and differences in approach to conservation. There are various ways in which the theme of diversity in heritage conservation may be considered. For the 2008 Triennial Meeting, ICOM-CC welcomes, for example, contributions which:

- explore the relationship between heritage conservation and local, national or regional traditions;
- compare or contrast approaches to conservation – e.g. low tech versus high tech methodology;
- question or compare standards or best practices across cultures or regions;

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To contribute to a future edition of Collection Forum contact the new Managing Editor, Jean DeMouthe at jdemouthe@calacademy.org or send submissions by mail to Jean at Managing Editor, Collection Forum, California Academy of Sciences, 875 Howard Street, San Francisco, CA 94103.

What can you ship via FedEx and DHL? Sorting out the confusion!

Ellen Paul

Executive Director, The Ornithological Council; ellen.paul@verizon.net;
Ornithological Council Website: <http://www.nmnh.si.edu/BIRDNET>

The reliability and speed of shippers like FedEx and DHL is hard to beat, but each has restrictions – some of them unclear and some of them with murky origins – that may prevent you from taking advantage of their services for the international shipment of specimens. After extensive discussion with FedEx officials, the Ornithological Council wrote a comprehensive explanation of the FedEx rules, which was distributed via the AVECOL and Permit-L listservs. The basics are as follows:

FedEx will **not** carry dead animals, whether museum specimens, trophies, or otherwise. What do they mean by “dead animals”? The policy applies only to whole dead animals and whole parts of dead animals (e.g., wings, feet, heads, skins), for imports to the U.S. and imports or exports to international destinations. FedEx staff provided a list (below) of the materials they will carry, and the procedures that must be followed to ship this material. This does **not** mean that FedEx will carry whole dead animals or whole parts of dead animals between other countries. The country-specific guidelines for other countries all contain the same restriction, and it is probably interpreted the same way. See www.fedex.com/us/international/irc/profiles/?link=2; click on “general import restrictions.”

Some have been told by FedEx staffers at the counters or the airports that you can just write “museum specimen” as the description, and that will enable them to transport whole dead animals or whole parts of dead animals. In fact, that is not true. If the staffer at the counter was to question you about the contents, and you were to tell the staffer that the package contains a whole dead animal, a whole skin, or a whole part of a dead animal, the staffer would be required to refuse the shipment. The term “museum specimen” is too vague a description for the staffer to determine acceptability.

The reasons for this FedEx rule are not clear. The Ornithological Council is working with FedEx staff who are investigating the basis for this FedEx transportation rule to provide them with the information needed in considering whether to change the rule.

What about DHL? No one has reported problems, and they apparently do not prohibit the shipping of dead animals. The DHL policies (www.dhl.com/wrd/commod/commod.html) state:

The following commodities are NOT acceptable for transport by DHL UNDER ANY CIRCUMSTANCES. This is a result of a policy decision, following the full consideration of Operational, Legal and Risk Management implications: Animals...

No distinction is made between dead animals and live animals. However, the country-specific restricted/prohibited lists, seemingly pertain only to live animals. For instance, the UK guidelines (www.dhl.co.uk/publish/gb/en/information/country_details1/import_guidelines.high.html) (click on “standard prohibitions”) advise the customer to contact the local shipping department to clarify shipping requirements for animal skins.

The Canadian list (<http://www.dhl.ca/terms.asp>) is clearer - it specifically states that live animals will not be carried. The U.S. restrictions are equally clear:

The following commodities are NOT acceptable for transport by DHL – UNDER ANY CIRCUMSTANCES, including domestic (USA) moves: Live Animals, Reptiles, Snakes, Birds, Insects (other than those listed below for domestic transit under restricted commodities).

FedEx Rules on Specimen Shipment

Acceptable Commodities and Airway Bill Requirements

FedEx *will* accept for carriage, tissue, skin, fur, feathers, blood, and DNA.

Procedure

When completing the Airway Bill (AWB), describe the material in the description field as follows:

- a) The specific product - e.g., feathers, hair, feces, urine, DNA, PCR product
- b) The common and scientific name of the animal(s) from which the material is derived. The FedEx concern here is the acceptance of the USFWS 3-177 or e-dec. However the USFWS rule [50 CFR 14.62 (d)] with regard to the 3-177 or e-dec allows you to file up to 180 days after import if the specimens are not regulated under:

50 CFR Part 16, Injurious wildlife (Lacey Act)

50 CFR Part 17, Endangered and threatened wildlife and plants

50 CFR Part 18, Marine mammals

50 CFR Part 21, Migratory birds

50 CFR Part 22, Eagles

50 CFR Part 23, Endangered Species Convention (CITES)

Uncertain about species identification at the time of import? Remember: the rule provides that, "The declaration must identify the specimens to the most accurate taxonomic classification reasonably practicable using the best available taxonomic information, and must declare the country of origin. Since FedEx needs as precise and complete a list as possible, and since this information most likely will not fit on the waybill, you may as well complete and submit a 3-177 at the time of import.

- c) Laws/Regulations that apply to the product, e.g., CITES, ESA, MBTA
- d) "Museum research specimen."

A complete and accurate description on the AWB is critical for proper clearance processing by the regulatory agencies and the customs broker. Complete details of the product must be provided on a commercial/pro forma invoice. A pro forma invoice is actually defined as a more informal advice document stating the same data elements as a commercial invoice but isn't technically a bill for use with the commercial transaction. The invoice information may also be provided on letterhead.

Ancillary fees

Ancillary service fees are assessed for all shipments that require USFWS clearance. Until recently, FedEx had no way to charge payers outside the U.S. If the AWB listed the importer's (U.S.) FedEx account, the importer would have been charged, but if the shipper (outside the U.S.) used his own FedEx account number, he wouldn't have been charged. That is no longer the case - the payer will be charged.

Note that the other international express mail carriers charge similar fees.

For more information on FedEx Ancillary Fees, visit:

http://fedex.com/ancillary/go/service?pt=cl&lc=en_US&wcc=US&dc=us

Exports from the U.S.

FedEx does not have a system to identify shipments that require USFWS export clearance prior to exportation from the U.S. Since FedEx cannot properly process these shipments for export, they are a service prohibition. Without USFWS export clearance, both FedEx and the exporter are subject to penalty action. FedEx can accept and move these shipment only if they are pre-cleared by USFWS prior to tendering to FedEx. Therefore, you can't just present a package for export UNLESS you've obtained advance clearance from the USFWS. The USFWS can do "clearance on the paperwork" and so if you are willing to arrange for this advance clearance, and provide all export documents including a "cleared" 3-177 along with your shipment, then FedEx will accept the package(s).

Labeling of packages

Complete the FedEx AWB and place in a waterproof pouch along with your original permits and all other shipping documents and affix the pouch on the outside of the package. You should also have a copy of all documents inside the box. Retain copies of all documents for your records.

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.....ICOM-CC Triennial Meeting

- relate to development, research and education in heritage conservation regionally as well as internationally;
- discuss how professionals communicate the significance of heritage conservation in their local, national or regional contexts; or
- deal with the mechanisms which allow the participation of non-professionals, owners and users in heritage conservation decisions.

Although the theme is focused on diverse approaches and celebrating differences, at the same time it is important to identify common threads and unifying themes. ICOM-CC thus also welcomes contributions which:

- explore convergences in conservation approaches across cultures and across cultural heritage manifestations.

Authors should use the abstract template that can be obtained from www.icom-cc.icom.museum or from the ICOM-CC Secretariat at secretariat@icom-cc.org.

The abstract template provides for a 1000-word description of the proposed paper or poster which must include the title, author and co-author's names, postal addresses and e-mail addresses. It is important to note that, while the initial abstract must be in English or French, the final paper or poster may also be in Spanish. Please indicate clearly which language you will use for the final paper or poster.

Completed abstract templates – in the form of e-mail attachments - must reach the Working Group coordinators by April 13, 2007.

Contact information for coordinators may be obtained from the website or e-mail address mentioned above.

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Visit SPNHC on-line at:



www.spnhc.org

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ICOM-CC Triennial Meeting

The coordinators and the Peer Review Committee will evaluate and rank the abstracts, and the Editorial Committee will make its final selection by June 30, 2007.

The abstracts – and later the full papers – will be reviewed according to the following criteria:

- Relevance to the Working Group's aim and triennial program
- Increase in knowledge base of specialization
- Usefulness for the field
- Relevance to the congress theme "Diversity in Heritage Conservation: Tradition, Innovation and Participation"
- Demonstration of collaboration between disciplines

During the review process, quality, originality and importance of the abstracts will of course also be considered.

2. Full papers and final, short poster abstracts

Authors whose abstracts have been provisionally selected for publication will be invited by the Working Group coordinator to submit a full paper or an updated, print-ready poster abstract. Together with the invitation, the authors will receive the document "Instructions to Authors" or "Instructions for Posters". Please note that final poster abstracts selected for the Pre-prints will be allowed a maximum of 250 words.

Full papers and updated, short poster abstracts must reach the Working Group coordinators by November 9, 2007.

The coordinators will collaborate with the authors on the finalization of the papers and posters, rank and forward them to the Peer Review Committee. The final selection of papers and posters will be made by the Editorial Committee in March 2008, based on the rankings of the coordinators and Peer Review Committee, and authors will be notified immediately afterward.

Submission of a full paper or updated poster abstract does not guarantee its acceptance.

In the event of space limitations, ICOM-CC members and (Student-) Friends of ICOM-CC are given priority in the final selection among manuscripts of equal quality.

This space could be yours.....

SPNHC Newsletter is looking for articles, news items, etc., for the next edition. Articles of 1000 words or less considered. Contact Andy Bentley (ABentley@ku.edu) for information. The deadline for submissions for the next issue is August 1, 2007



The Natural Sciences Collections Association (NatSCA) was formed in 2003 by merger of the Biology Curators' Group and the Natural Sciences Conservation Group, and is a charity registered in England and Wales.

NatSCA provides a forum for individuals and institutions involved in the management, curation, conservation and interpretation of natural science collections and records, and to present the views of professionals and institutions.

The group maintains close links with relevant bodies such as the Museums Association, the Museums, Libraries and Archives Council, the Geological Curators Group, ICON (Institute of Conservation), the National Federation for Biological Recording and the Society for the Preservation of Natural History Collections.

The group aims to act as an advocate for Natural Sciences collections, promoting their protection, development and use, and seeking to help people inside and outside of the profession to understand the value and importance of these collections, and that of understanding the natural world and our relationship to it. We provide, by way of publications, seminars and other events and activities, a means for the exchange of information, the establishment of standards and principles, professional training and the ability for the community to undertake cooperative ventures.

Benefits of membership

- Participation in the community of natural science collections staff
- Network for information exchange
- Publications – three Newsletters a year with news, reviews, articles, ads for courses/seminars and job ads
- Annual conference, sometimes held jointly with other organisations
- Training seminars and workshops, foreign study trips

The following membership rates apply until further notice:

UK Individual members

£15.00

Overseas individual members	£15.00
UK and overseas institutional members	£30.00

Subscription year runs from 1st February to 31st January. Renewal notices are sent out each year.

All payments must be made in sterling or euros. Bank drafts should be drawn with banks that have a branch in the UK. We regret we are unable to accept payment by credit card. USA members can contact the membership secretary for details of an alternative way to pay their subscription.

NatSCA, as a holder of personal information about its members, complies with the Data Protection Act. We hold this information on a database and in hard copy. This information is used only for NatSCA purposes (i.e. mailings of the Newsletter or other information to membership) and is not passed on to any other organisation. You can elect to have your name removed from the database but this will mean we are unable to mail you any information. Please inform us by contacting the membership secretary if you wish to have your name removed from the database.

To join, please visit our website at <http://www.natsca.org> or contact the membership secretary Maggie Reilly, Assistant Curator of Zoology, Hunterian Museum, Glasgow University, GLASGOW, G12 8QQ, United Kingdom; e-mail: mreilly@museum.gla.ac.uk

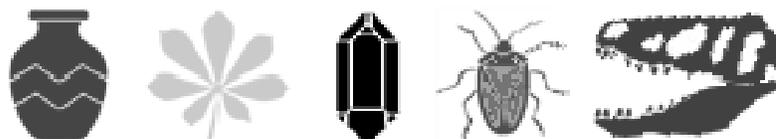
Guide to Collections Management Policies

AAM announces the publication of *Things Great and Small: Collections Management Policies*, by John E. Simmons (paper 208 pp.) This is the first time that all current issues related to collections management policies are collected in one volume.

Drawing on his extensive experience as director of the University of Kansas museum studies program, collections manager at the university's Natural History Museum and Biodiversity Research Center, and surveyor for AAM's Museum Assessment Program, John E. Simmons reviews the issues that a collections management policy should address and the pros and cons of choosing one policy option over another.

Presenting sample policy sections from numerous museums, featuring sad, but true, stories of museums that have appeared in the news in recent years for collections management lapses and dilemmas and enlivened by humorous, apt quotations it was developed with assistance from the AAM Registrars Committee.

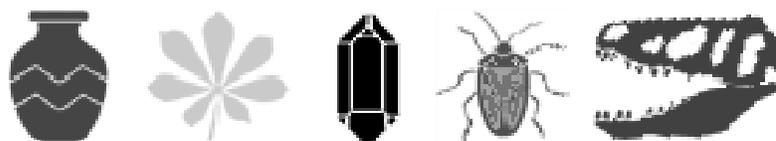
Available from the AAM Bookstore (www.aam-us.org) at \$30 [member] \$40 [non-member] quantity discount available.



“How To” Series

Many thanks to Jeff Stephenson (Denver Museum of Nature and Science) for authoring “How To” No. 1, *Introduction to Insect Storage Techniques for Small Collections*, the first submission in this new series. Jeff’s name was inadvertently left off of this insert, when it was published in the September 2006 volume of the SPNHC Newsletter. The second in the series – How to Prepare Seaweed Specimens by Rob Huxley and Jenny Bryant of The Natural History Museum, London appears as in insert in this newsletter.

The “How To” series is intended to provide basic, introductory information regarding particular collections or specific collections management techniques. This information is intended to assist those who may be caring for one or more collections for which they may have limited or no expertise. Readers should seek out detailed information (as needed) to supplement what is provided as part of the “How To” series. Please send submissions for this series to Carol Butler (butlercr@si.edu) and Linda Hollenberg (hollenbergl@si.edu).





**Science
Museum
of Minnesota®**

SPNHC 22nd Annual Meeting 2007

Building for the Future: Museums of the 21st Century

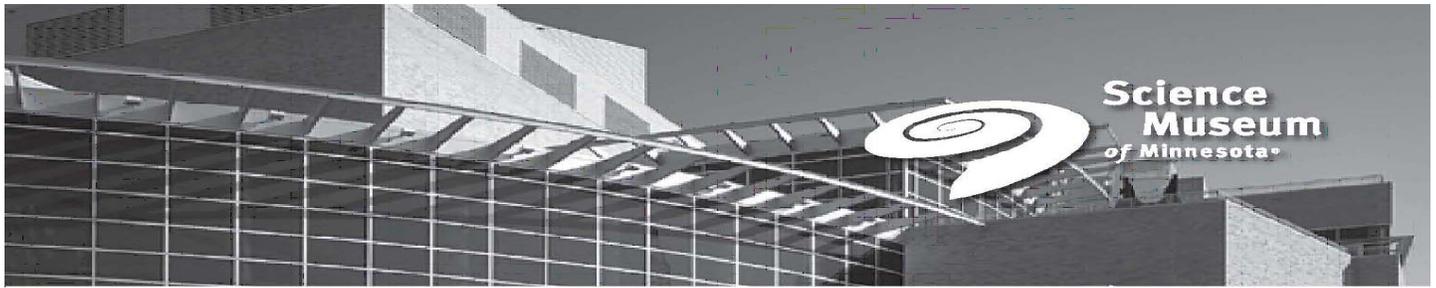
Dates: May 21-26, 2007

Welcome to the Science Museum of Minnesota, on the banks of the Mississippi River in the heart of downtown Saint Paul, Minnesota. Join us to celebrate our institution's 100th Anniversary and the advent of spring. Minnesota is gorgeous in the spring. Bathing suits and moon boots are encouraged.

The theme of this year's conference is *Building for the Future: Museums of the 21st Century*, with a special focus on capital projects. The program is developing nicely, with a great range of talks on everything from space planning and capital pitfalls, to performance based specifications and sustainable design, including specific case studies. A series of panel discussions will cover a wide range of subjects including off-site storage, rigging and moving, and development of the Science Museum architectural program. Come and hear old friends and new ones!

Tuesday May 22 will be devoted to **field trips and collections tours**. Family members and friends accompanying you to Minnesota may join you on field trips without registering for the Annual Meeting. In the morning, traverse over 30,000 acres of Minnesota ecosystems at the Sherburne National Wildlife Refuge or explore geological features – including caves, fossil beds, and quarries – of the Mississippi River. Spend the afternoon touring the facilities and collections of premiere Twin Cities museums: natural history at the Bell Museum, paleontological, biological, and anthropological collections at the Science Museum of Minnesota, local manuscripts and artifacts at the Minnesota Historical Society, art from around the world at the Minneapolis Institute of Art, and modern conservation facilities and practices at the Midwest Art Conservation Center. (If you just can't get enough collections tours, trips to the Bell and Science Museum/Historical Society are offered in the morning as well.) Or, escape the cities for the entire day to join Science Museum scientists on a birding excursion to historic Red Wing or for a canoe adventure on the St Croix River. All trips are offered on a first-come, first-served basis, so register early (www.smm.org/spnhc/registration.php) to reserve your spot.

After the sessions, on Friday May 25th and Saturday May 26th, the workshop **Build It and They Will Come: What you need to know BEFORE you begin museum construction or renovation** will commence. Most museum professionals take part in only one major construction or renovation project during the span of a career. Nearly all administrators, curators, collections managers and conservators are therefore neophytes in the world of architects, engineers and contractors. This workshop will



demystify the process and explain the essentials so that as a more informed consumer, you will be in a better position to advocate for your collections, influence the outcome and, in the end, have a project that achieves your goals.

Your exploration of new facilities and capital projects doesn't have to end when the sessions are over! In the past five years, many Twin Cities institutions have moved to new or enhanced facilities. Catch a play or indulge in a cocktail at the nationally recognized Guthrie Theater, where the building itself is a work of art. Send your spouse on a reconnaissance mission to the modern art galleries and sculpture garden at the Walker Art Museum, or entertain your children at the Minnesota Children's Museum. Check out the brand new Minneapolis Central Library and the newly renovated historic Saint Paul Central Library, which is located directly across the street from the Science Museum of Minnesota!

What would a SPNHC meeting be without great social events! The **Ice Breaker** will be held Tuesday night at the Bell Museum of Natural History on the University of Minnesota campus. The Bell is a classic natural history museum with incredible dioramas. The Bell Museum's dioramas bring nature within your reach. Two floors of dioramas display all of Minnesota's habitats, along with the birds, animals, plants and insects that populate the state. Enjoy drinks, hors d'oeuvres and the Clint Hoover Jazz Trio while strolling through Minnesota's wide range of natural environments.

The next night join us at the Wabasha Street Caves, home to mushrooms, mobsters, speakeasies, live big-bands, and the SPNHC 2007 **Banquet**. After dinner let Jumbo Ya Ya entice you to the large hardwood dance floor. This promises to be an unforgettable evening; 1920s and 30s theme dress is encouraged! Other entertainments are promised as well.

For additional details on any of these exciting events and activities, go to www.smm.org/spnhc, or feel free to contact one of the local committee members. This website will be updated regularly as more information becomes available so check back frequently. Follow the loon icon to track updates.

See you in May!

Gretchen Anderson & Jackie Hoff

Co-Chairs, SPNHC 2007

SPNHC 2007 would like to thank Delta Designs, Ltd. for their platinum sponsorship. For a listing of our other sponsors, please see www.smm.org/spnhc/sponsors.php.



BELL MUSEUM
of Natural History



MINNESOTA HISTORICAL SOCIETY

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Position Announcements

If you would like to submit job descriptions, please send postings to the Newsletter Editor. See the SPNHC web site, www.spnhc.org, for current postings

Division Head, Science Division, Science Museum of Minnesota, #2006-0025 DIVISION HEAD, SCIENCE DIVISION. Full-time/Salaried/Exempt. EEO 1. The Division Head, Science will provide the vision and leadership for promoting, developing, and sustaining a focused and growing program of collection study and care, education, research, and outreach in the areas of archaeology, biology, environmental science, ethnology, and paleontology that is integrated into the exhibits and programming of the museum. **Responsibilities:** Develop, implement, and appropriately update plans that articulate a clear vision that will continue to guide and sustain the growth of Science Division programs within the context of the museum's mission; provide the leadership to promote the integration of the Science Division program into the overall mission and direction of the museum; seek out and develop cooperative agreements, and promote an active program of cooperation with other public and private institutions, agencies, and individuals as appropriate; manage the general operations of the division by working with staff to develop annual work plans, project tracking tools, proposals, budgets, etc.; seek out and secure funding and support to implement the divisions' long-range goals and strategies; represent the interests of the division and the museum as a member of the senior management team. **Requirements:** Masters degree or Ph.D. in a scientific discipline; proven ability to effectively manage programs and facilities with a preferred minimum 5 years experience in management at a department or division level. Excellent oral, written, and interpersonal communication skills with scientific and lay communities; creative, collaborative, and entrepreneurial with the energy to develop new programs and carry them to successful conclusion; able to provide inspired leadership and coaching for staff. Highly desired experience included ability to generate object based museum programs with a record of successful funding and experience working with museum collections and museum procedures. **Salary Grade:** 14. **Application review to begin:** April 4, 2007. **For full job description go to <http://www.smm.org/getinvolved/jobs/2006-0025.php>.**

Scientific Assistant, American Museum of Natural History, Division of Paleontology. The Scientific Assistant will assist with day to day curation and management activities in the four Paleontology collections, including specimen rehousing, cataloging, entering data into collections-related databases, specimen loans, visitor support, planning and executing collection moves, and dealing with academic and public enquiries; carry out environmental monitoring and pest management in the collections; assist the Director of Collections and Archives with the collection of statistics and preparation of reports related to collection operations in Paleontology; and perform other duties as assigned. BS or equivalent, ability to work with paleontological research collections, ability to perform tasks requiring physical strength and high manual dexterity, proficiency in use of PC based software, including spreadsheets, SQL databases, and HTML editing software, good organizational and interpersonal skills, and ability to work independently. Please send résumé and cover letter specifying vacancy, together with the names of 3 referees, to: Human Resources, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024-5192; Fax Number: (212) 769-5199; hrdesk@amnh.org (preferred method)

Division of Paleontology, American Museum of Natural History is offering a small number of full-time, 8-week internships for graduate or undergraduate students in paleontology, life sciences, museum studies, or related fields (July 1 start). The interns will participate in an NSF-funded project to upgrade the fossil mammal collections at AMNH. Details of the two aspects of the project can be found on the Division of Paleontology website via the following links:
<http://paleo.amnh.org/projects/ProjectFMTypes.htm>
<http://paleo.amnh.org/projects/ProjectFMPeris.htm>
 The interns will work with collection management, preparation, and conservation staff to carry out collection inventories; construct archival quality housings for specimens and associated labels; georeference specimen

localities; and upgrade on-line collections data. A stipend will be provided as support over the internship period. Interested parties should email a CV and cover letter to be received no later than March 30, 2006 to: Christopher A. Norris, Director of Collections & Archives, Division of Paleontology, Norris@amnh.org

Publications of Interest

This section is from the Citations Sub-Committee of the Conservation Committee and is chaired by Marcia A. Revelez. Citations were submitted by Victoria Book (VB), Diana Dicus (DD), Jennifer Holt (JH), Barbara Moore (BM), Ann Pinzl (AP), Amanda Cordes-Person (ACP), Marcia Revelez (MR), John Simmons (JS), and Christina Wolfe (CW). Contributions, suggestions, and comments may be submitted to Marcia A. Revelez, Sam Noble Oklahoma Museum of Natural History, 2401 Chautauqua, Norman, OK 73072; (405) 325-7988 (voice); (405) 325-7699 (fax); mrevelez@ou.edu (e-mail).

- Allington, Lu. 2006. Investigation into the deterioration of palaeontological specimens stored in glycerol. *Studies in Conservation* 51(3):199-204. (BM)
- American Association of Museums. 2006. *A masterpiece: the museum cartoon collection*. 87 pp. (MR)
- American Association of Museums. 2006. *Museum financial information, 2006*. 199 pp. (MR)
- Austin, M., N. Firnhaber, L. Goldberg, G. Hansen, and C. Magee. 2005. The legacy of anthropology collections care at the National Museum of Natural History. *Journal of the American Institute for Conservation* 44(3):185-202. (BM)
- Baca, M., P. Harpring, E. Lanzi, and L. McRae. (eds.). 2006. *Cataloging cultural objects: a guide to describing cultural works and their images*. American Library Association/Visual Resources Association. 432 pp. (MR)
- Baker, J. 2006. Monumental endeavor: the life and times of the antiquities act. *Common Ground* 11(2x):14-27 (JS)
- Barnes, I. and M.G. Thomas. 2006. Evaluating bacterial pathogen DNA preservation in museum osteological collections. *Proceedings of The Royal Society B - Biological Sciences* 273(1587):645-653. (CW)
- Barr, E. 2006. From open-air bazaar to buyer beware: evolution of the antiquities trade. *Museum News* 85(6):48-53. (AP)
- Bradley, S. 2005. Preventive conservation research and practice at the British Museum. *Journal of the American Institute for Conservation* 44(3):159-173. (BM)
- Brooks, M. M. and D. Eastop. 2006. Matter Out of Place: Paradigms for Analyzing Textile Cleaning. *Journal of the American Institute for Conservation* 45(3):171-181. (VB)
- Brophy, S. and E. Wylie. 2006. It's easy being green: museums and the green movement. *Museum News* 85(3):38-45. (AP)
- Carmichael, T. 2006. Museums & intellectual property in the multimedia age. *ICOM News* 59(2):3-4. (JS)

- Cummins, A. 2006. Promoting the use of mediation in resolution of disputes over the ownership of objects in museum collections. *ICOM News* 59(1):11. (JS)
- D'Acquisto, L. 2006. *Learning on display: student-created museums that build understanding*. Association for Supervision and Curriculum Development. 192 pp. (MR)
- Davis, M.J. et al (eds.) 2004. *Mitigation of construction impact on archaeological remains. Vol 1. Main report. Vol 2. Database of archaeological mitigation strategies*. London: English Heritage ISBN 1-901992-47-0
- Study commissioned by English heritage discussing ways to avoid or limit damage and disturbance to archaeological sites and in situ remains that are subject to development works or construction projects. (AP)
- deVille de Goyet, C. Epidemics after Natural Disaster: A Highly Contagious Myth. *Natural Hazards Observer* XXXI (3):4-6.
- Second in a series. A no-nonsense approach to the realities of natural disaster. Useful bibliographic resource list. Author contact: cdevill@attglobal.net Consultant on Risk Management and Former Director, Emergency Preparedness Program, Pan American Health Organization. (DD)
- Down, J.L. and E. Kaminska. 2006. A preliminary study of the degradation of cyanoacrylate adhesives in the presence and absence of fossil material. *Journal of Vertebrate Paleontology* 26(3): 519-525. (ACP)
- Drewitt, E. 2006. Stuffed animals are still in fashion! (Well for kids in museums anyway). *NatSCA News* 10:5-7. (JS, AP)
- Fras, B. 2006. Body Worlds 2: The anatomical exhibition of real human bodies. *Curator* 49(1):477-482. (AP)
- Review of installation at the Ontario Science Center.
- Garside, P. and P. Wyeth. 2006. Identification of cellulosic fibres by FTIR spectroscopy: differentiation of flax and hemp by polarized ATR FTIR. *Studies in Conservation* 51(3):205-211. (BM)
- Grange, B. 2006. Mounted birds from the old Burton Museum. *NatSCA News* 10:3-4. (JS, AP)
- Greene, V.. 2006. Using Case Studies to Examine the Decision-Making Process for Cleaning Ethnographic Objects. *Journal of the American Institute for Conservation* 45(3):183-199. (VB)
- Hawkins, K. 2006. How to accommodate a whale: Manx National Heritage's new Natural History Gallery. *NatSCA News* 10:8-10. (JS, AP)
- Heritage Preservation. 2006. *Field Guide to Emergency Response*. Heritage Preservation. 58 pp with DVD. (AP)
- Hoffman, B.T. (ed.). 2006. *Art and cultural heritage: law, policy and practice*. Cambridge University Press. 562 pp. (MR)
- Holland, D.K. 2006. *Branding for nonprofits: developing identity with integrity*. Allworth Press. 196 pp. (MR)
- Hunter, G. 2006. Curation of Insect Specimens. *Conserve O Gram* 11(8)
-Notes about storing of dry specimens including envelopes and relaxing and pinning, fluid-preserved specimens, labeling and shipping. (VB, JS)
- Hutt, S. (ed.). 2006. *Yearbook of cultural property law 2006*. Left Coast Press. 215 pp. (MR)
- Kalsbeek, N. and J. Richter. 2006. Preservation of burned bones: an investigation of the effects of temperature and pH on hardness. *Studies in Conservation* 51(2):123-138. (BM, VB)
- Kaplan, E., L. Williamson, R. P. Arenstein, A. Y. McGrew, and M. Feitl. 2005. Integrating preventive conservation into a collections move and rehousing project at the National Museum of the American Indian. *Journal of the American Institute for Conservation* 44(3):217-232. (BM)
- Kosek, J. 2006. *Conservation mounting for prints and drawings*. Archetype Books. 185 pp. (JH)
- Koutsika, G. 2006. Museum visitors and dinosaurs. *NatSCA News* 10:25. (JS)
- Lee, A. 2006. Inspiring secondary science students. *NatSCA News* 10:16. (JS)
- Limbirt, M. 2003. *The uses and curation of birds' egg collection: an examination and bibliography*. Peregrine Books. (AP)
- Lipscomb, B. and R. Russell. 2006. The blossoming relationship: the Department of Botany hosts Earthwatch Institute volunteers. *The Plant Press* 9(4):6.
- Report on databasing and imaging ethnobotanical specimens.
- MacDonald, G. 2006. Health and Safety Issues with Geological Specimens. *Conserve O Gram* 11(11):1-5.
- Expansion of Health Hazards in Geological Storage Areas in COG section 11/2. Includes toxic gases, mineral dust, and asbestos. Handling guidelines and storage labeling tips are also included. (VB, JS)
- MacDonald, G. 2006. Radioactive Minerals. *Conserve O Gram* 11(10):1-3.
- Summary of the nature of radioactive minerals and common occurrence, and standard precautions for working with radioactive specimens. (VB, JS)
- MacDonald, H. G. 2006. Vertebrate Skeletons: Preparation and Storage. *Conserve O Gram* 11(7):1-8.
- Notes about tissue removal, dermestid use, degreasing techniques, storage and labeling. (VB, JS)
- Mandrioli, M., F. Borsatti, and L. Mola. 2006. Factors affecting DNA preservation from museum-collected lepidopteran specimens. *Entomologia Experimentalis Et Applicata* 120(3):239-244. (CW, JH)
- Mangan, M. 2006. Loosen up or sue me. *Museum News* 85(6):31-33 + 67.
- Strong case to make collections more available on the web to stay relevant to today's audience (reading audience assumed to be from art museums). (AP)
- Martin, G. 2006. The impact of frozen tissue and molecular collections on natural history museum collections. *NatSCA News* 10:31-47. (JS)
- Martinkova, N. and J.B. Searle. 2006. Amplification success rate of DNA from museum skin collections: a case study of stoats from 18 museums. *Molecular Ecology Notes* 6(4):1014-1017. (CW)
- Measures, K. 2006. Biological recording and natural science collection workshops Yorkshire, Summer 2006. *NatSCA News* 10:22-23. (JS)
- Merritt, E. 2006. This is not a test; museums and heritage preservation. *Museum News* 85(6):42-47. (AP)
- Moore, S. 2006. Overcoming problems with polyester resin blocks. *NatSCA News* 10:17-21.
- Discussion of "plastic embedding" and bubbles. (AP, JS)

... Continued from page 19

- Muething, G., R. Waller, and F. Graham. 2005. Risk assessment of collections in exhibitions at the Canadian Museum of Nature. *Journal of the American Institute for Conservation* 44(3):233-243. (BM)
- Odsjo, T. 2006. The environmental specimen bank, Swedish Museum of Natural History - A base for contaminant monitoring and environmental research. *Journal of Environmental Monitoring* 8 (8):791-794. (CW)
- Peters, M. 2006. Featured herbarium: HUH Harvard University Herbaria. *The Vasculum* 1(2):3-5.
- General history of HUH and its 6 components: GH, A, ECON, AMES, FH, and NEBC; photos. (AP)
- Qinglin, M., A. Portmann, F. Wild, and H. Berke. 2006. Raman and SEM Studies of Man-made Barium Copper Silicate Pigments in Ancient Chinese Artifacts. *Studies in Conservation* 51(2):81-98. (VB)
- Ramotnik, C.A. 2006. Handling and Care of Dry Bird and Mammal Specimens. *Conserve O Gram* 11(9).
- Notes include organization in storage, handling of mounts, eggs and nests, and skulls and skeletons, and collection maintenance. (VB)
- Raphael, T.J. 2005. Preventive conservation and the exhibition process: development of exhibit guidelines and standards for conservation. *Journal of the American Institute for Conservation* 44(3):245-257. (BM)
- Resources. Citations of resources on hazards and disasters that have recently come to the attention of the Natural Hazards Center. Direct Web links are provided for items that are available free online. Other materials can be purchased through the publisher and/or local and online booksellers. *Natural Hazards Observer* XXXI (3):14-21.
- Well worth looking through the list. Excellent background and full perspective for disaster planning within any type of institution. (DD)
- Ringgaard, M. et al. (eds.) 2005. *Magasinbygningens, fysik og funktion*: postprint. (Hvidovre, Denmark: Nordisk Konservatorforbund, danske afeling) ISBN 87-990583-8.
- Papers from 2004 course on museum storage, including facilities design, risk management, environmental monitoring, collections management, and more. (AP)
- Ryhl-Svendsen, M. 2006. Indoor Air Pollution in Museums: Prediction Models and Control Strategies. *Reviews in Conservation* 7:27-41. (VB)
- Schwarzer, M. 2006. *Riches, rivals and radicals: 100 years of museums in America*. American Association of Museums. 263 pp. DVD sold separately or in set. (MR)
- Selwyn, L.S., and W.R. McKinnon. 2006. Removing Charged Species from Porous Archaeological Material: Diffusion, Electromigration, Electrophoresis and Electro-osmosis in Fully Immersed Objects. *Reviews in Conservation* 7:83-93. (VB)
- Seo, H. and T. Zanish-Belcher. 2005. Pitfalls, progress, and partnership: Collaboration between special collections and preservation in academic libraries. *Collection Management* 30(3):3-19. (JH)
- Smith, G.F. 2006. Herbaria in the real world. *Taxon* 55(3):571-572. (AP)
- Steinheimer, F.D. and W.R.J. Dean. 2007. Avian type specimens and their type localities from Otto Schutt's and Friedrich von Mechow's Angolan collections in the Museum für Naturkunde of the Humboldt-University of Berlin. *Zootaxa* (1387):1-25. (CW)
- Stratis, H. 2006. *Broad spectrum: Studies in the materials, techniques and conservation of color on paper*. Archetype Books. 264 pp. (JH)
- Tanasi, M.T. et al (eds.) 2005. *Scelte e strategie per la conservazione della memoria* (Choices and strategies for preservation of the collective memory) Bolzano: Archivio di Stato ISBN 88-7574-048-8.
- Papers from 2002 convention covering risk assessment, disaster measures and more. (AP)
- Tanner, J. 2006. The interpretation of botany at the Haselmere Educational Museum. *NatSCA News* 10:11-14.
- Discussion of botany interpretation, and exhibits & educational leaflets developed. (AP, JS)
- Teitel, M. 2006. "Thank you for submitting your proposal": a foundation director reveals what happens next. *Emerson and Church*. 150 pp. (MR)
- Townsend, A. 2006. Bags of fun—Sachau o hwyl. "Family activity bags to help you explore The National Museum Cardiff." *NatSCA News* 10:15. (JS)
- Xarrie, M. 2006. *Glossary of conservation II*. Balaam. 189 pp. (MR)
- Xarrie, M. 2006. *Glossary of conservation III*. Balaam. 189 pp. (MR)
- Yasko, J. 2006. Podcasting in museums. *CLS Journal of Museum Studies*. 1(1):1-47. (MR)
- Announcement:
- The University of Oklahoma Museum Studies Program would like to announce the launching of the e-Journal, CLS Journal of Museum Studies (<http://www.ou.edu/cls/jms/>). The journal is intended initially for faculty and students in the Museum Studies Program of the College of Liberal Studies of the University of Oklahoma. Thus at the present time publication in the journal is not open to people outside the CLS Museum Studies Program. As the journal develops, it may become available for people associated with the many museums and collections of the University of Oklahoma and may ultimately be available to other museum professionals.

Calendar of Events

The Calendar of Events is maintained by Christine Chandler of the Documentation Committee. Application deadlines, conferences and symposia relevant to collection management, computerization and conservation of natural history collections are listed. Notices may be submitted to Christine at Putnam Museum of History and Natural Science, 1717 West 12th Street, Davenport, IA 52804; (563) 324-1054 ext. 226; email: chandler@putnam.org or dinoceras@juno.com.

2007

February 2007

February 21 - 23, 2007. 2007 California Association of Museums (CAM) Conference, Long Beach, California, USA. For more details, check out CAM's website at <http://www.calmuseums.org>.

February 25 - 27, 2007. Small Museum Association (SMA) 2007 Winter Conference, Stayin' Alive, Clarion Fontainebleau, Ocean City, Maryland, USA.

For more information, email conference@smallmuseum.org or check out the website <http://www.smallmuseum.org>.

February 25 - March 24, 2007. Northern States Conservation Center Museum Studies Online class, The Basics of Museum Registration. For more information on this and other NSCC online offerings, go to <http://www.museumclasses.org>.

February 26 - March 3, 2007. University of Victoria, Continuing Studies, On-campus, 6-day Immersion Course, Museum Information Management. For more information: Cultural Resource Management Program, University of Victoria, Division of Continuing Studies, PO Box 3030 STN CSC, Victoria, BC V8W 3N6, Canada; (250) 721-8462 Phone; (250) 721-8774 FAX; crmp@uvcs.uvic.ca.

February 28 - March 2, 2007. North Carolina Museums Council (NCMC) Annual Meeting, Museums: Makers of Meaning, Hickory, North Carolina, USA. For more information: <http://www.ncmuseums.org>.

March 2007

March 5 - April 13, 2007. Northern States Conservation Center Museum Studies Online class, Disaster Plan Research and Writing. For more information on this and other NSCC online offerings, go to <http://www.museumclasses.org>.

March 5 - April 30, 2007. Northern States Conservation Center Museum Studies Online class, Storage for Infinity: An Overview of Museum Storage Principles. For more information on this and other NSCC online offerings, go to <http://www.museumclasses.org>.

March 14, 2007. Northern States Conservation Center Museum Studies Online class, Collection Protection - Are You Prepared? For more information on this and other NSCC online offerings, go to <http://www.museumclasses.org>.

March 14 - 16, 2007. 35th Annual American Law Institute - American Bar Association Course of Study, Legal Issues in Museum Administration. More information: <http://www.aam-us.org>.

March 18 - 22, 2007. Association of Partners for Public Lands Convention, New Frontiers, Next Stages, Sacramento, California, USA. Meeting details at http://www.appl.org/training_conventions/2007/home.htm or call (877) 647-2775.

April 2007

April 11 - 14, 2007. Museums and the Web 2007, San Francisco, California, USA. Details available at <http://www.archimuse.com/mw2007>.

April 11 - 14, 2007. Museum Association of Arizona (MAA) 25th Annual Meeting, Why Museums Matter, Prescott, Arizona, USA. Check out the MAA website for details: <http://www.azmuseums.org>.

April 11 - 17, 2007. Texas Association of Museums (TAM) Annual Meeting, Becoming Somewhere: Museums in the Mix, Austin, Texas, USA. For more information: <http://www.io.com/~tam/>.

May 2007

May 9 - 12, 2007. Campbell Center for Historic Preservation Studies course, Care of Basketry. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

May 13 - 17, 2007. AAM Annual Meeting and MuseumExpo™2007, Why Museums Matter, Chicago, Illinois, USA. Check out meeting details at <http://www.aam-us.org>.

May 17 - 20, 2007. Museums Australia National Conference, Museums in a Changing Climate: Sustainability, Technology & Collections, Canberra, Australia. Watch the Museums Australia website <http://www.museumsaustralia.org.au> for updates.

May 21 - 26, 2007. SPNHC 2007, Building for the Future, Museums of the 21st Century, St. Paul, Minnesota, USA. For information: <http://www.spnhc.org>.

June 2007

June 5 - 8, 2007. Campbell Center for Historic Preservation Studies course, Environmental Monitoring & Control. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 6 - 9, 2007. Campbell Center for Historic Preservation Studies course, Design and Construction of Mounts for Exhibition. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 6 - 10, 2007. 87th Annual Meeting of the American Society of Mammalogists, Albuquerque, New Mexico, USA. For more information: <http://asm007.unm.edu>.

June 11 - 14, 2007. Campbell Center for Historic Preservation Studies course, Exhibit Design for the Small Museum. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 11 - 14, 2007. Campbell Center for Historic Preservation Studies course, Packing and Shipping. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 18 - 20, 2007. Campbell Center for Historic Preservation Studies course, Exhibition Lighting. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 18 - 21, 2007. Campbell Center for Historic Preservation Studies course, Care of Leather and Fur. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

June 21 - 23, 2007. Campbell Center for Historic Preservation Studies course, Introduction to Exhibit Development & Design. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

July 2007

July 7 - 11, 2007. Plant Biology and Botany 2007, Annual Meeting for the American Society of Plant Taxonomists, Botanical Society of America, American Society of Plant Biologists, American Fern Society, and Phytochemical Society of America, Chicago, Illinois, USA. For more information: <http://www.aspb.org/meetings/pb-2007>.

July 9 - 12, 2007. Campbell Center for Historic Preservation Studies course, Emergency Preparedness, Response & Recovery. For more information, contact The Campbell Center for Historic Preservation Stud-

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ies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

July 11 - 16, 2007. Joint Meeting of Ichthyologists and Herpetologists (23rd Annual Meeting of the American Elasmobranch Society, 87th Annual Meeting of the American Society of Ichthyologists and Herpetologists, 65th Annual Meeting of the Herpetologists League, and 50th Annual Meeting of the Society for the Study of Amphibians and Reptiles), St. Louis, Missouri, USA. More information: <http://www.dce.k-state.edu/jointmeeting>.

July 26 - 28, 2007. Campbell Center for Historic Preservation Studies course, Funding Collections Care: Grant Writing Workshop. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

August 2007

August 9 - 11, 2007. Campbell Center for Historic Preservation Studies course, Computer Software for Collection Management. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

August 13 - 17, 2007. Campbell Center for Historic Preservation Studies course, Collection Management in Storage. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

August 19 - 24, 2007. ICOM 21st General Conference, Museum and Universal Heritage, Vienna, Austria. Contact: Armine Wehdorn, ICOM-Österreich, c/o Geldmuseum der Österreichischen Nationalbank, Otto-Wagner-Platz 3, A-1090 Wien, Austria; +43 1 404 20 6631 Phone; +43 1 404 20 6695 FAX; armine.wehdorn@oenb.co.at; <http://austria.icom.museum/2007/index.html>.

September 2007

September 24 - 28, 2007. Preserving Aboriginal Heritage: Technical and Traditional Approaches, Ottawa, Ontario, Canada. More details available at: http://www.cci-icc.gc.ca/symposium/index_e.aspx.

September 25 - 28, 2007. Association of Midwest Museums 2007 Annual Conference, No Museum is an Island, Mackinac Island, Michigan, USA. For more information see: <http://www.midwestmuseums.org/>.

September 29 - 27, 2007. 5th European Congress of Mammalogy, Gosseto, Italy. For more information see: <http://www.euromammalcongress.org/>

October 2007

October 1 - 5, 2007. Campbell Center for Historic Preservation Studies course, Spot Testing. For more information, contact The Campbell Center for Historic Preservation Studies, 203 East Seminary, Mount Carroll, IL 61053; (815) 244-1173 Phone; (815) 244-1619 FAX; registrations@campbellcenter.org; <http://www.campbellcenter.org>.

October 10 - 14, 2007. Shake it Up, Museums Activate and Innovate, 2007 WAM Annual Meeting, Oakland, California, USA. More Information: http://www.westmuse.org/future_conf.htm.

October 17 - 20, 2007. 67th Meeting of the Society of Vertebrate Paleontology, Austin, Texas, USA. Information available at <http://www.vertpaleo.org>.

October 22 - 24, 2007. Museums Association Annual Conference and Exhibition 2007, Scottish Exhibit and Conference Center, Glasgow, Scotland, UK. Check for meeting details at <http://museumsassociation.org>.

October 28 - 31, 2007. The Paleontological Society (PS) Annual Meeting at the Geological Society of America (GSA) Annual Meeting, Denver, Colorado, USA. More information: http://www.paleosoc.org/2007_Denver_GSA.html.

November 2007

November 7 - 10, 2007. Museum Computer Network (MCN) Annual Conference, Building Content, Building Community: 40 Years of Museum Information and Technology, Chicago, Illinois, USA. Online proposal submissions accepted Feb. 5 - Mar. 2, 2007. Details at <http://www.mcn.edu>.

2008

April 27 - May 1, 2008. AAM Annual Meeting and MuseumExpo™2008, Denver, Colorado, USA. Check out meeting details at <http://www.aam-us.org>.

September 17 - 21, 2008. 2008 WAM Annual Meeting, Anchorage, Alaska, USA. More Information: http://www.westmuse.org/future_conf.htm.

September 22 - 26, 2008. ICOM-CC Triennial Meeting, New Delhi, India. Diversity in Heritage Conservation: Tradition, Innovation and Participation. For more information see: <http://www.icom-cc.org/TriennialMeetings>.

October 15 - 18, 2008. 68th Meeting of the Society of Vertebrate Paleontology, Cleveland, Ohio, USA. Information available at <http://www.vertpaleo.org>.

October 18 - 21, 2008. Association of Science-Technology Centers (ASTC) 2008 Annual Conference, Philadelphia, Pennsylvania, USA. Conference information: <http://www.astc.org/conference/future.htm>.

2009

April 30 - May 4, 2009. AAM Annual Meeting and MuseumExpo™2009, Philadelphia, Pennsylvania, USA. Check out meeting details at <http://www.aam-us.org>.

October 31 - November 3, 2009. Association of Science-Technology Centers (ASTC) 2009 Annual Conference, Fort Worth, Texas, USA. Conference information: <http://www.astc.org/conference/future.htm>.

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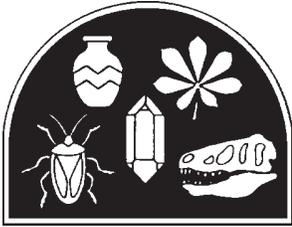
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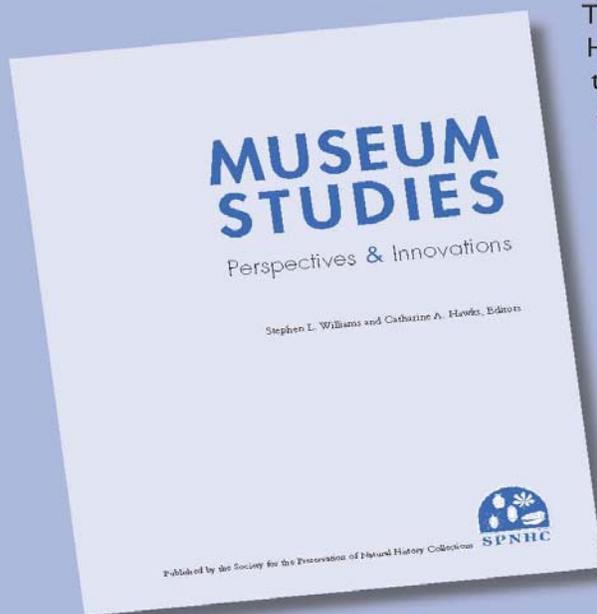
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MUSEUM STUDIES: Perspectives & Innovations

Stephen L. Williams and Catharine A. Hawks, Editors

ISBN: 9780963547637



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